

U.S. Governmentwide Food Quality Assurance Program 1400 Independence Avenue, SW Telephone 202-720-9939 Stop 0243 Fax 202-690-0102 Washington, D.C. 20250-0243 E-mail john.lund@usda.gov

United States Department of Agriculture

April 21, 2005

Marketing and Regulatory Programs

Agricultural Marketing Service

Fruit & Vegetable Programs Mr. John Woloszyn, Chief Standardization Management Services Product Services Office Directorate of Subsistence Defense Supply Center Philadelphia ATTN: DSCP-FTSL 700 Robbins Avenue, Building 6 Philadelphia, Pennsylvania 19111-5098

Dear Mr. Woloszyn:

The proposed revised Commercial Item Description (CID) for Mayonnaise, Salad Dressing, and Tartar Sauce, A-A-20140C was coordinated with appropriate inspection and procurement activities within the Department of Agriculture. We have not received comments from the Kansas City Commodity Office, Farm Services Agency (FSA). They procure salad dressing for various USDA feeding programs, including the National School Lunch Program. When we receive their comments, we will forward them. We have the following essential comments.

1. Page1, Paragraph 2.2, 1st Line, ESSEN

Change the line to read: "... (Sec. 10.1 with 10.1.1), (Sec. 10.1 with 10.1.2), (Sec. 10.1 with 10.1.3)."

JUSTIFICATION: The USDA, FSA purchases this product and requires TQSA audits for their purchases.

2. Page 3, Paragraph 6.2.1.2, 3rd Line, ESSEN

Change the third line to read: "... posses egg yolk *in accordance with Sec. 6.2.3.*" **JUSTIFICATION:** There are no egg "notes".

Keep as is. PKG & QAP refer to odor and flavor as having "egg yolk notes" in section C-2, paragraph E and Table I, footnote $\underline{3}/$.

3. Page 4, Paragraph 6.2.3, 1st Line, ESSEN

Change the first line to read: "... shall be reported as *Salmonella*, not detected, or as *Salmonella*, not isolated and shall be in compliance ..."

JUSTIFICATION: Laboratories no longer report *Salmonella* as *Salmonella* negative, but as *Salmonella*, not detected, or as *Salmonella*, not isolated.

Mr. John Woloszyn

4. Page 5, Paragraph 10, ESSEN

Change the paragraph to read: "... with 10.1.2 or 10.1.1 with 10.1.3." **JUSTIFICATION:** Matches the changes on pages 1 and 6 of the CID.

Should read "...with 10.1.2, or 10.1 with 10.1.3"

5. Page 6, Paragraph 10.1.2, ESSEN

After paragraph 10.1.2 add the following new paragraph:

"10.1.3 <u>Total Quality Systems Audit</u>. A total quality systems audit (TQSA) conducted by USDA/Farm Service Agency (FSA), or another survey performed by a third party auditing service is required within 12 months prior to the date of the awarding of the contract. (A FSA TQSA verifies the manufacturer's capability to produce products in a clean, sanitary environment in accordance with Title 21 Code of Federal Regulations Part 110 - Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food, and verifies that the manufacturer has in place an internal quality assurance program. The FSA TQSA determines the manufacturer's ability to produce under this CID, if the products of interest are identified at the time of the TQSA.)" JUSTIFICATION: Matches the changes on pages 1 and 5 of the CID.

6. Page7, Paragraph 13.1, ESSEN

Make the following changes to paragraph 13.1:

"13.1 USDA certification contacts.

13.1.1 <u>Agricultural Marketing Service</u>. For USDA, AMS certification, contact the Branch Chief, Processed Products Branch (PPB), Fruit and Vegetable Programs (FVP), AMS, USDA, STOP 0247, 1400 Independence Avenue, SW, Washington, DC 20250-0247 telephone (202) 720-4693, Fax (202) 690-1527, or via E-mail: terry.bane@usda.gov.

13.1.2 <u>USDA FSA Total Quality Systems Audit contact</u>. Inquiries about services and fees should be directed to: Warehouse Licensing and Examination Division, Stop 9148, Kansas City Commodity Office, 6501 Beacon Drive, Kansas City, Missouri 64133-6476, telephone (816) 926-6417 or Fax (816) 926-1774, Website: <u>www.fsa.usda.gov/daco/TQSA/tqsa.htm</u>."

JUSTIFICATION: Matches the changes on pages 1, 5. and 6 of the CID.

Website should read "www.fsa.usda.gov/daco/pdd/tqsa.htm."

Mr. John Woloszyn

If you have any questions, you may contact Mrs. Lynne E. Yedinak, Food Technologist, Food Quality Assurance Staff, on (202) 690-4941.

Sincerely,

/s/

John W. Lund, Head Food Quality Assurance Staff Fruit and Vegetable Programs Distribution List Name: Mayo, Salad Dressing, & Tartar Sauce POCs

Members:

Anthony Basille (JBasille@cataniausa.com) JBasille@cataniausa.com Richard.Boyd@usda.gov Boyd, Richard Charles Morris (charles_morris@admworld.com) charles_morris@admworld.com Cleveland, Rosalind rosalind.cleveland@fns.usda.gov Collins, Gerald jcollins@bop.gov Felicia Billingslea (felicia.billingslea@fda.hhs.gov) felicia.billingslea@fda.hhs.gov Greenwood, Henry C Henry.Greenwood@usda.gov Hadder, Sharon -FSA Sharon.Hadder@usda.gov Ho, Jane Jane.Ho@usda.gov Jason Chesney (jchesney@cfsauer.com) jchesney@cfsauer.com john.woloszyn@dla.mil john.woloszyn@dla.mil Karen Brister (kbrister@calwesternpkg.com) kbrister@calwesternpkg.com Kathy Miller (kmiller@columbusfoods.com) kmiller@columbusfoods.com Lorraine Williams (fsqa.inquires@unilever.com) fsqa.inquires@unilever.com March, William -FSA William.March@usda.gov Melissa (melissa@arcdiversified.com) melissa@arcdiversified.com Patricia Faison (pfaison@kellencompany.com) pfaison@kellencompany.com ray.valvano@us.army.mil ray.valvano@us.army.mil sally.a.gallagher@dla.mil sally.a.gallagher@dla.mil Sheldon Gordon (sheldon.gordon@fns.usda.gov) sheldon.gordon@fns.usda.gov Sussman, Michael Michael.Sussman@usda.gov Virginia Boyett (virginia.boyett@mail.va.gov) virginia.boyett@mail.va.gov Wagner, Darrell Darrell.Wagner@usda.gov William Brown, Jr. brownw@od.nih.gov William Francesco (wfrancesco@bop.gov) wfrancesco@bop.gov

From: DougherL@OD.NIH.GOV [mailto:DougherL@OD.NIH.GOV]
Sent: Wednesday, May 21, 2008 3:33 PM
To: Yedinak, Lynne
Subject: Proposed CID for Mayonnaise, Salad Dressings, and Tartar Sauce, A-A-20140D

Mr. William Brown, Jr. of the National Institutes of Health has no comments on the proposed CID for Mayonnaise, Salad Dressings, and Tartar Sauce, A-A-20140D. Mr. Brown can be reached on 301-435-3916.

SECTION C

This document covers mayonnaise packaged in a flexible pouch for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR CID A-A-20140D, MAYONNAISE, SALAD DRESSING, AND TARTAR SAUCE

Type and style.

Type I - Mayonnaise

Style C - Fat Free (21 CFR § 101.62)

C-2 PERFORMANCE REQUIREMENTS

A. <u>Product standard</u>. A sample shall be subjected to first article (FA) or product demonstration model (PDM) inspection as applicable, in accordance with the tests and inspections of Section E of this Packaging Requirements and Quality Assurance Provisions document. The approved sample shall serve as the product standard. Should the contractor at any time plan to or actually produce the product using different raw material or process methodologies from the approved product standard, which result in a product noncomparable to the product standard, the contractor shall submit a replacement FA or PDM for approval. In any event, all product produced must meet all requirements of this document including product standard comparability.

B. <u>Shelf life</u>. The packaged product shall meet the minimum shelf life requirement of 36 months at 80°F.

C. Appearance. The finished product shall be homogenous.

D. Odor and flavor. The packaged food shall be free from foreign odors and flavors.

E. <u>Palatability and overall appearance</u>. The finished product shall be equal to or better than the approved product standard in palatability and overall appearance.

F. Net weight. The net weight of one serving of product shall be 28 grams.

G. <u>Analytical requirements</u>. The salt content shall be not less than 1.65 percent and not greater than 2.70 percent. The pH requirement, procedure, and testing shall be in accordance with A-A-20140D.

H. <u>Emulsion stability</u>. The emulsion stability requirements and procedures shall be in accordance with A-A-20140D.

SECTION D

D-1 PACKAGING

A. <u>Packaging</u>. Twenty-eight grams of product shall be filled into a preformed barrier pouch.

(1) <u>Preformed pouch</u>.

a. <u>Pouch material</u>. The preformed pouches shall be fabricated from 0.002 inch thick polyolefin film laminated or extrusion coated to 0.00035 inch thick aluminum foil which is then laminated to 0.0005 inch thick polyester. The three plies shall be laminated with the polyester on the exterior of the pouch. The polyolefin layer of bag material shall be suitably formulated for hot fill or post-fill processing. Tolerances for thickness of plastic films shall be plus or minus 20 percent and tolerance for the foil layer shall be plus or minus 10 percent. The material shall show no evidence of delamination, degradation, or foreign odor when heat sealed or fabricated into pouches. The material shall be suitably formulated for food packaging and shall not impart an odor or flavor to the product. The complete exterior surface of the pouch shall be uniformly colored in the range of 20219, 30219, 30227, 30279, 30313, 30324, or 30450 of FED-STD-595, Colors Used in Government Procurement.

b. <u>Pouch construction</u>. The pouch shall be a flat style preformed pouch having maximum inside dimensions of 2-7/8 inches wide by 5-3/8 inches long. The pouch shall be made by heat sealing three edges with 3/8 inch (-1/8 inch, +3/16 inch) wide seals. The side and bottom seals shall have an average seal strength of not less than 6 pounds per inch of width and no individual specimen shall have a seal strength of less than 5 pounds per inch of width. Alternatively, the filled and sealed pouch shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective closure seal width to less than 1/16 inch when tested for internal pressure resistance. A tear nick, notch or serrations shall be provided on one outside edge or two opposite outside edges of the pouch to facilitate

easy opening of the filled and sealed pouch. A 1/8 inch ($\pm 1/16$ inch) wide lip may be incorporated at the open end of the pouch to facilitate opening and filling of the pouch.

c. <u>Pouch filling and sealing</u> Twenty-eight grams of the fat free mayonnaise shall be filled into the pouch and the filled pouch shall be sealed. The closure seal shall be free of foldover wrinkles or entrapped matter that reduces the effective closure seal width to less than 1/16 inch. Seals shall be free of impression or design on the seal surface that would conceal or impair visual detection of seal defects. The average seal strength shall be not less than 6 pounds per inch of width and no individual specimen shall have a seal strength of less than 5 pounds per inch of width. Alternatively, the filled and sealed pouch shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective closure seal width to less than 1/16 inch when tested for internal pressure resistance.

D-2 LABELING

A. <u>Pouches</u>. Each pouch shall be correctly and legibly labeled. Printing ink shall be permanent black ink or other dark contrasting color which is free of carcinogenic elements. The label shall contain the following information:

- (1) Name and flavor of product (letters not less than 1/8 inch high)
- (2) Ingredients
- (3) Date 1/
- (4) Net weight
- (5) Name and address of packer
- (6) "Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA regulations.

1/ Each pouch shall have the date of pack noted by using a four digit code beginning with the final digit of the current year followed by the three digit Julian day code. For example, 14 February 2013 would be coded as 3045. The Julian day code shall represent the day the product was packaged into the pouch.

D-3 PACKING

A. <u>Packing</u>. Not more than 40 pounds of product shall be packed in a fiberboard shipping box constructed in accordance with style RSC-L of ASTM D5118/D5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The fiberboard shall conform to type CF, class D, variety SW, burst grade 200 or ECT grade 32 of ASTM D4727/D4727M, Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade)

and Cut Shapes. Each box shall be closed in accordance with ASTM D1974/D1974M, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

D-5 MARKING

A. <u>Shipping containers and unit loads</u>. Shipping containers and unit loads shall be marked in accordance with DLA Troop Support Form 3556, Marking Instructions for Boxes, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence.

SECTION E INSPECTION AND ACCEPTANCE

The following quality assurance criteria, utilizing ANSI/ASQ Z1.4, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, single sampling plans indicated in ANSI/ASQ Z1.4 will be utilized. When required, the manufacturer shall provide the Certificate(s) of Conformance to the appropriate inspection activity. Certificate(s) of Conformance not provided shall be cause for rejection of the lot.

A. Definitions.

(1) <u>Critical defect</u>. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the item.

(2) <u>Major defect</u>. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) <u>Minor defect</u>. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

B. <u>Classification of inspections</u>. The inspection requirements specified herein are classified as follows:

(1) <u>Product standard inspection</u>. The first article or product demonstration model shall be inspected in accordance with the provisions of this document and evaluated for appearance, odor, flavor and texture. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection of the lot. The approved first article or product demonstration model shall be used as the product standard for periodic

review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

US Army Research, Development and Engineering Command Natick Soldier Research, Development and Engineering Center RDNS-CFF 15 Kansas Street Natick, MA 01760-5056

One lot shall be randomly selected during each calendar month of production or as otherwise specified in the contract. Six (6) sample units shall be randomly selected from that one production lot. The six (6) sample units shall be shipped to Natick within five (5) working days from the end of the production month from which they are randomly selected and upon completion of all USDA inspection requirements. The sample units will be evaluated for overall quality against the current first article or product demonstration model.

(2) <u>Conformance inspection</u>. Conformance inspection shall include the product examination and the methods of inspection cited in this section.

E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. <u>Product examination</u>. The finished product shall be examined for compliance with the performance requirements in A-A-20140D and specified in Section C of this Packaging Requirements and Quality Assurance Provisions document utilizing the double sampling plans indicated in ANSI/ASQ Z1.4. The lot size shall be expressed in pouches. The sample unit shall be the contents of one pouch. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 1.5 for major defects and 4.0 for minor defects. Defects and defect classifications are listed in table I.

TABLE I. Product defects 1/ 2/		
Category		Defect
<u>Major</u>	Minor	
		Appearance
101		Product not type or not style as specified.
	201	Mayonnaise not homogenous or not off-white to light cream in color or does not have a slight surface sheen.
		Odor and flavor
102		Not a slight vinegar odor or flavor with a pleasing spice note. $\underline{3}/$
		Texture
	202	Not moderately thick or not creamy smooth.
	203	Mayonnaise shows evidence of lumps or grittiness or gassiness.
		Net weight
	204	Net weight of an individual pouch less than 28 grams.

1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, glass, wood, or metal, or any foreign odors or flavors such as, but not limited to burnt, scorched, rancid, sour, stale, musty or moldy shall be cause for rejection of the lot.

2/ Finished product not equal to or better than the approved product standard in palatability and overall appearance shall be cause for rejection of the lot.

 $\underline{3}$ / May have egg yolk flavor notes.

B. Methods of inspection.

(1) <u>Shelf life</u>. The contractor shall provide a Certificate of Conformance that the product has a 36 month shelf life when stored at 80°F. Government verification may include storage for 6 months at 100°F or 36 months at 80°F. Upon completion of either storage period, the product will be subjected to a sensory evaluation panel for appearance and

palatability and must receive an overall score of 5 or higher based on a 9 point quality scale to be considered acceptable.

(2) <u>Net weight examination</u>. The net weight of the filled and sealed pouches shall be determined by weighing each sample on a suitable scale tared with a representative empty pouch. Results shall be reported to the nearest gram.

(3) <u>Analytical</u>. The sample to be analyzed shall be a composite of eight filled and sealed pouches which have been selected at random from the lot. The composite sample shall be prepared and analyzed in accordance with the following method of the Official Methods of Analysis (OMA) of AOAC International:

Test	Method Number
Salt	941.13

Test results shall be reported to the nearest 0.01 percent. Government verification will be conducted through actual testing by a Government laboratory. Any result not conforming to the analytical requirements shall be cause for rejection of the lot.

E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS)

A. Packaging.

(1) <u>Pouch material certification</u>. The pouch material shall be tested for these characteristics. A Certificate of Conformance (CoC) may be accepted as evidence that the characteristics conform to the specified requirements.

Characteristic Thickness of films for laminated material	<u>Requirement paragraph</u> D-1,A(1)a	<u>Test procedure</u> ASTM D2103 <u>1</u> /
Aluminum foil thickness	D-1,A(1)a	ASTM B479 <u>2</u> /
Laminated material Identification and construction	D-1,A(1)a	Laboratory evaluation
Color of laminated material	D-1,A(1)a	FED-STD-595 <u>3</u> /

1/ Standard Specification for Polyethylene Film and Sheeting

2/Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil for Flexible Barrier, Food Contact, and Other Applications

<u>3</u>/ Colors Used in Government Procurement

(2) <u>Unfilled preformed pouch certification</u>. A CoC may be accepted as evidence that unfilled pouches conform to the requirements specified in D-1,A(1) a and b. When deemed necessary by the USDA, testing of the unfilled preformed pouches for seal strength shall be as specified in E-6,B(1)a.

(3) <u>Filled and sealed pouch examination</u>. The filled and sealed pouches shall be examined for the defects listed in table II. The lot size shall be expressed in pouches. The sample unit shall be one pouch. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major defects and 2.5 for minor defects.

		TABLE II. Filled and sealed pouch defects 1/
Category		Defect
<u>Major</u> 101	<u>Minor</u>	Tear or hole or open seal.
102		Seal width less than $1/16$ inch. $2/$
103		Presence of delamination. $\underline{3}/$
104		Unclean pouch. <u>4</u> /
105		Pouch has foreign odor.
106		Any impression or design on the heat seal surfaces which conceals or impairs visual detection of seal defects. $5/$
107		Not packaged as specified.
	201	Label missing or incorrect or illegible.
	202	Tear nick or notch or serrations missing or does not facilitate opening.
	203	Seal width less than 1/8 inch but greater than or equal to 1/16 inch. $\underline{2}/$
	204	Presence of delamination. $\underline{3}/$

1/ Any evidence of rodent or insect infestation shall be cause for rejection of the lot.

2/ The effective closure seal is defined as any uncontaminated, fusion bonded, continuous path, minimum 1/16 inch wide, from side seal to side seal that produces a hermetically sealed pouch.

<u>3</u>/ Delamination defect classification:

<u>Major</u> - Delamination of the outer ply in the pouch seal area that can be propagated to expose aluminum foil at the food product edge of the pouch after manual flexing of the

delaminated area. To flex, the delaminated area shall be held between the thumb and forefinger of each hand with both thumbs and forefingers touching each other. The delaminated area shall then be rapidly flexed 10 times by rotating both hands in alternating clockwise - counterclockwise directions. Care shall be exercised when flexing delaminated areas near the tear notches to avoid tearing the pouch material. After flexing, the separated outer ply shall be grasped between thumb and forefinger and gently lifted toward the food product edge of the seal or if the separated area is too small to be held between thumb and forefinger, a number two stylus shall be inserted into the delaminated area and a gentle lifting force applied against the outer ply. If separation of the outer ply can be made to extend to the product edge of the seal with no discernible resistance to the gentle lifting, the delamination shall be classified as a major defect. Additionally, spot delamination of the outer ply in the body of the pouch that is able to be propagated beyond its initial borders is also a major defect. To determine if the laminated area is a defect, use the following procedure: Mark the outside edges of the delaminated area using a bold permanent marking pen. Open the pouch and remove the contents. Cut the pouch transversely not closer than 1/4 inch (+1/16 inch) from the delaminated area. The pouch shall be flexed in the area in question using the procedure described above. Any propagation of the delaminated area, as evidenced by the delaminated area exceeding the limits of the outlined borders, shall be classified as a major defect.

<u>Minor</u> - Minor delamination of the outer ply in the pouch seal area is acceptable and shall not be classified as a minor defect unless it extends to within 1/16 inch of the food product edge of the seal. All other minor outer ply delamination in the pouch seal area or isolated spots of delamination in the body of the pouch that do not propagate when flexed as described above shall be classified as minor defects.

4/ Outer packaging shall be free from foreign matter which is unwholesome, has the potential to cause pouch damage (for example, glass, metal filings) or generally detracts from the clean appearance of the pouch. The following examples shall not be classified as defects for unclean:

a. Foreign matter which presents no health hazard or potential pouch damage and which can be readily removed by gently shaking the package or by gently brushing the pouch with a clean dry cloth.

b. Dried product which affects less than 1/8 of the total surface area of one pouch face (localized and aggregate).

5/ If doubt exists as to whether or not the sealing equipment leaves an impression or design on the closure seal surface that could conceal or impair visual detection of seal defects, samples shall be furnished to the contracting officer for a determination as to acceptability.

B. Methods of inspection.

(1) <u>Seal testing</u>. The pouch seals shall be tested for seal strength as required in a, b, or c, as applicable.

a. <u>Unfilled preformed pouch seal testing</u>. The seals of the unfilled preformed pouch shall be tested for seal strength in accordance with ASTM F88/F88M, Standard Test Method for Seal Strength of Flexible Barrier Materials. The lot size shall be expressed in pouches. The sample size shall be the number of pouches indicated by inspection level S-1. Three adjacent specimens shall be cut from each of the three sealed sides of each pouch in the sample. The average seal strength of any side shall be calculated by averaging the three specimens cut from that side. Any average seal strength of less than 6 pounds per inch of width or any test specimen with a seal strength of less than 5 pounds per inch of width shall be cause for rejection of the lot.

b. <u>Pouch closure seal testing</u>. The closure seals of the pouches shall be tested for seal strength in accordance with ASTM F88/F88M. The lot size shall be expressed in pouches. The sample size shall be the number of pouches indicated by inspection level S-1. For the closure seal on preformed pouches, three adjacent specimens shall be cut from the closure seal of each pouch in the sample. The average seal strength of any side, end or closure shall be calculated by averaging the three specimens cut from that side, end or closure. Any average seal strength of less than 6 pounds per inch of width or any test specimen with a seal strength of less than 5 pounds per inch of width shall be cause for rejection of the lot.

c. <u>Internal pressure test</u>. The internal pressure resistance shall be determined by pressurizing the pouches while they are restrained between two rigid plates. The sample size shall be the number of pouches indicated by inspection level S-1. If a three seal tester (one that pressurizes the pouch through an open end) is used, the closure seal shall be cut off for testing the side and bottom seals of the pouch. For testing the closure seal, the bottom seal shall be cut off. The pouches shall be emptied prior to testing. If a four-seal tester (designed to pressurize filled pouches by use of a hypodermic needle through the pouch wall) is used, all four seals can be tested simultaneously. The distance between rigid restraining plates on the four-seal tester shall be equal to the thickness of the product +1/16 inch. Pressure shall be applied at the approximate uniform rate of 1 pound per square inch gage (psig) per second

until 14 psig pressure is reached. The 14 psig pressure shall be held constant for 30 seconds and then released. The pouches shall then be examined for separation or yield of the heat seals. Any rupture of the pouch or evidence of seal separation greater than 1/16 inch in the pouch manufacturer's seal shall be considered a test failure. Any seal separation that reduces the effective closure seal width to less than 1/16 inch (see table II, footnote 2/) shall be considered a test failure. Any test failure shall be cause for rejection of the lot.

B. Packing.

(1) <u>Shipping container and marking examination</u>. The filled and sealed shipping containers shall be examined for the defects listed in table III. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

Category		Defect
<u>Major</u>	Minor	
101		Marking missing or incorrect or illegible.
102		Inadequate workmanship. <u>1</u> /
	201	More than 40 pounds of product.

TABLE III. Shipping container and marking defects

1/Inadequate workmanship is defined as, but not limited to, incomplete closure of container flaps, loose strapping, inadequate stapling, improper taping, or bulged or distorted container.

SECTION J REFERENCE DOCUMENTS

Unless otherwise specified, the applicable version of these documents is that which is active on the date of the solicitation or contract.

DLA Troop Support Forms

Form 3556 Marking Instructions for Boxes, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence

FEDERAL STANDARD

FED-STD-595 Colors Used in Government Procurement

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ) www.asq.org

ANSI/ASQ Z1.4	Sampling Procedures and Tables for Inspection by
	Attributes

ASTM INTERNATIONAL www.astm.org

B479	Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil for Flexible Barrier, Food Contact, and Other Applications
D1238	Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
D1974/D1974M	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes
D2103	Standard Specification for Polyethylene Film and Sheeting
D4727/D4727M	Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes

D5118/D5118M	Standard Practice for Fabrication of Fiberboard
	Shipping Boxes

F88/F88M Standard Test Method for Seal Strength of Flexible Barrier Materials

AOAC INTERNATIONAL www.aoac.org

Official Methods of Analysis (OMA) of AOAC International



U.S. Governmentwide Food Quality Assurance Program 1400 Independence Avenue, SW Telephone 202-720-9939 Stop 0243 Fax 202-690-0102 Washington, D.C. 20250-0243 E-mail john.lund@usda.gov

United States Department of Agriculture

Marketing and Regulatory Programs

Agricultural Marketing Service

Fruit & Vegetable Programs April 21, 2005

Mr. John Woloszyn, Chief Standardization Management Services Product Services Office Directorate of Subsistence Defense Supply Center Philadelphia ATTN: DSCP-FTSL 700 Robbins Avenue, Building 6 Philadelphia, Pennsylvania 19111-5098

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Change the line to read: "... (Sec. 10.1 with 10.1.1), (Sec. 10.1 with 10.1.2), (Sec. 10.1 with 10.1.3)."

JUSTIFICATION: The USDA, FSA purchases this product and requires TQSA audits for their purchases.

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Change the third line to read: "... posses egg yolk *in accordance with Sec. 6.2.3.*" **JUSTIFICATION:** There are no egg "notes".

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JUSTIFICATION: Laboratories no longer report *Salmonella* as *Salmonella* negative, but as *Salmonella*, not detected, or as *Salmonella*, not isolated.

Mr. John Woloszyn

4. Page 5, Paragraph 10, ESSEN

Change the paragraph to read: "... with 10.1.2 or 10.1.1 with 10.1.3." **JUSTIFICATION:** Matches the changes on pages 1 and 6 of the CID.

5. Page 6, Paragraph 10.1.2, ESSEN

After paragraph 10.1.2 add the following new paragraph:

"10.1.3 <u>Total Quality Systems Audit</u>. A total quality systems audit (TQSA) conducted by USDA/Farm Service Agency (FSA), or another survey performed by a third party auditing service is required within 12 months prior to the date of the awarding of the contract. (A FSA TQSA verifies the manufacturer's capability to produce products in a clean, sanitary environment in accordance with Title 21 Code of Federal Regulations Part 110 - Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food, and verifies that the manufacturer has in place an internal quality assurance program. The FSA TQSA determines the manufacturer's ability to produce under this CID, if the products of interest are identified at the time of the TQSA.)" JUSTIFICATION: Matches the changes on pages 1 and 5 of the CID.

6. Page7, Paragraph 13.1, ESSEN

Make the following changes to paragraph 13.1:

"13.1 USDA certification contacts.

13.1.1 <u>Agricultural Marketing Service</u>. For USDA, AMS certification, contact the Branch Chief, Processed Products Branch (PPB), Fruit and Vegetable Programs (FVP), AMS, USDA, STOP 0247, 1400 Independence Avenue, SW, Washington, DC 20250-0247 telephone (202) 720-4693, Fax (202) 690-1527, or via E-mail: terry.bane@usda.gov.

13.1.2 <u>USDA FSA Total Quality Systems Audit contact</u>. Inquiries about services and fees should be directed to: Warehouse Licensing and Examination Division, Stop 9148, Kansas City Commodity Office, 6501 Beacon Drive, Kansas City, Missouri 64133-6476, telephone (816) 926-6417 or Fax (816) 926-1774, Website: <u>www.fsa.usda.gov/daco/TQSA/tqsa.htm</u>."

JUSTIFICATION: Matches the changes on pages 1, 5. and 6 of the CID.

Mr. John Woloszyn

If you have any questions, you may contact Mrs. Lynne E. Yedinak, Food Technologist, Food Quality Assurance Staff, on (202) 690-4941.

Sincerely,

/s/

John W. Lund, Head Food Quality Assurance Staff Fruit and Vegetable Programs From: Yedinak, Lynne
Sent: Thursday, July 15, 2004 2:02 PM
To: Leah Eason (leah.eason@dla.mil); Sally Gallagher (sally.a.gallagher@dla.mil)
Subject: Changes for Mayo and Peanut Butter
Importance: High

Leah and Sally,

Both PPB and I reviewed the proposed changes for the two CIDs. We do not see any problems.

Have a great day.

Lynne

Having trouble viewing this email? Click here

? Industry Friends, I wanted to provide an update on AEB's actions in response to the increased media coverage surrounding the new egg replacer from Hampton Creek Foods. AEB has been working diligently on your behalf to respond and defend REAL eggs. As you may have seen, the media coverage has primarily been in the technology and business press. As we all know, there have been egg replacers before Hampton Creek Foods came along, and there will be egg replacers that come after them, but the media seems enamored with this company because of high-profile investors Bill Gates, Peter Thiel and Vinod Khosla. We are continually monitoring mainstream media along with social channels to keep a pulse on the coverage of Beyond Eggs. As news of Beyond Eggs increased over the past couple weeks due to two syndicated media articles, we conducted an analysis of the media landscape to compare whole shell egg coverage volume to that of Beyond Eggs. Despite the recent increase of Beyond Eggs news, REAL eggs remain at the forefront of overall coverage and conversations, being talked about 87 percent more than Beyond Eggs. Our current holiday baking promotional campaign, featuring advertising, in-store, search, as well as traditional and social media outreach, is clearly outpacing Hampton Creek in the consumer marketplace. However, we do expect media coverage of the company will continue to be picked up by journalists (albeit on a less frequent basis) because it is new, well-funded, and therefore interesting. But, it is untested. Our approach is to continue to tell the good news of the tried and true good egg, focusing on the 50-Year Environmental Study along with the many benefits of REAL eggs to drive egg purchase and consumption. We are continually reviewing traditional media coverage/social media commentary that offers inaccurate portrayals of the natural egg industry and responding on a case-by-case basis with letters to the editors, media statements, and where appropriate, media interviews. We are also utilizing online technology tools to help maintain the focus on REAL eggs that includes: Engaging a handful of influential bloggers providing third-party recommendations to showcase the many benefits of eggs from nutrition, to environmental footprint, to animal care. By enlisting blogger advocates, we are able to reach consumers via outlets they implicitly trust and look to for information about foods they purchase for their families and recommend to friends, etc. 2. Leveraging paid search on Google, Bing and Yahoo. When consumers search for terms related to Beyond Eggs, they will also see a link to IncredibleEgg.org's section on the 50-Year Environmental Study. 3. Using behavioral and content targeting, AEB will position links to positive egg industry information that users viewing content about Beyond Eggs will see. Food Manufacturers AEB's major initiative to address Beyond Egg is targeting food manufacturers such as General Mills, Unilever, Kraft, etc. Beyond Eggs is a plant-based egg replacer, and as I have already stated, egg replacers have been around for years. It is nothing new. AEB's strategic response campaign targets food manufacturers and highlights the benefits of using REAL eggs

versus egg replacer ingredients. AEB's objectives are to:

- * Convince food manufacturers to continue to use REAL eggs within their formulations and be inspired to develop new products with egg ingredients.
- * Discourage food manufacturers from considering egg replacers or, at the very least, question the viability of that option.

AEB aims to educate this market segment about the breadth and versatility of eggs' functional aspects. Food manufacturers don't always realize that eggs are multi-functional performing several roles in food formulations. Most egg replacers are single-function. Without eggs, a more complex and lengthy ingredient statement occurs.

Today's consumers demand transparency and simplicity in their food products. The number of consumers interested in the contents of ingredient labels continues to climb, and they are looking for very specific information. According to the 2013 International Food Information Council "Health and Wellness" annual survey, 93 percent of consumers prefer to see familiar ingredients, such as eggs, on food labels.

A print and digital ad campaign launched in October will continue throughout 2014 in *Prepared Foods*, *Food Processing*, and *Food Technology* ingredient trade publications and digital advertising on those publications websites as well as FoodNavigator-USA.com, Bakeryandsnacks.com, Foodproductdesign.com, and Foodbusinessnews.net promoting eggs as a familiar, trustworthy ingredient that can make a difference in the quality of packaged goods and consumer buying decisions.

This campaign will generate more than 665,000 impressions with the target audience of food manufacturers. Both the print and digital ads will contain links to access the digital version of "<u>The Egg & Clean Labeling</u>" white paper. On social media, this target audience will read these messages through Twitter and blog posts.

Elements of this surround-sound campaign include a white paper titled "The Egg & Clean Labeling" that outlines the relevance and importance of eggs in today's marketplace and their power to build trust with consumers. The white paper has been posted on <u>AEB.org/RealEggs</u>.

In 2014, AEB will leverage video testimonials from food manufacturers who tried replacers but were disappointed with the results. Additional tactics for next year include:

- * Webinar showcasing how eggs contribute to clean labels
- * Web-based animated infographic
- * Press releases and social media
- * Additional white papers

All these efforts and those still in development reinforce that REAL eggs are valuable in meeting diverse formulation requirements, while providing the clean labels consumers insist on. It is important that food manufacturers understand that consumers will not purchase products made with synthetic egg replacers, and thus, they should not be considered for their food applications.

If you have any questions or comments, please do not hesitate to contact me.

Best,

?

President and CEO American Egg Board

Forward this email

?

This email was sent to jhoweth@aeb.org by jivy@aeb.org | Update Profile/Email Address | Instant removal with <u>SafeUnsubscribe™ | Privacy Policy</u>.

American Egg Board | 1460 Renaissance Drive | Park Ridge | IL | 60068

From: Sent: To: Subject: Joanne Ivy Thursday, September 12, 2013 5:25 PM John Howeth Beyond Eggs

I am going to say something to the industry press about Beyond Eggs. I have ask Edelman to assist me with a release.

I may want to add something about AEB's approach. Would you provide information on our strategy and campaign to address egg replacers, including the Beyond Egg product. I hope to get out the release mtomorrow afternoon, so could you write something at your earliest convenience by 11:00 am tomorrow. Thanks. Joanne

Sent from my iPhone

From:
Sent:
To:
Cc:
Subject:

John Howeth Thursday, September 12, 2013 8:11 AM Terry Schroff; Patrick McDonough Elisa Maloberti Beyond Eggs

Hi guys, we are getting an awful lot of inquiries from producers about the Beyond Eggs press releases. We need to escalate our program as quickly as possible, web pages and any banners we can start now. I'm open to ideas, this is just becoming super critical for us. I'm in Boston and available until 10 CDT to talk. Elisa will be in touch about the landing page image soon.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> Park Ridge, IL 60068 Office: <u>847.296.7043</u> Direct: <u>224.563.3705</u> www.AEB.org

From:	Maher, Missy <missy.maher@edelman.com></missy.maher@edelman.com>
Sent:	Monday, November 25, 2013 5:31 PM
То:	Joanne Ivy; Kevin Burkum; John Howeth; Kristin Livermore
Cc:	Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts
Subject:	Beyond Eggs

Hi there, we've regrouped internally to provide thought starters on how we can address the growing coverage of Beyond Eggs and associated industry views. We expect this story will continue to be picked up by journalists as it's backed by Bill Gates and other high profile investors (Kholsa Investors), and also features the CEO of Twitter who is talking about the latest/newest advances in <u>Food Technology</u>.

While it may not be top of mind for consumers at this point, we understand the concern about industry image. Following are a few recommendations we can talk though, or of course send us any immediate thoughts. Once we align on action, we can detail next steps and scope.

- IMMEDIATE ACTION: Submit an op-ed/letter to the editor to both the Huffington Post and Wall Street Journal from egg farmer Bob Krouse, that addresses the misconceptions about the egg industry, using key points from the environmental study and his experience with retailers.
 - This brings the industry to life through a hard-working egg farmer, while putting facts in front of readers that help correct the misconceptions.
 - o We can help draft this piece
- Compile a list of Tech Editors (the technology angle is what's also taken off) who have covered the Beyond Eggs Story and reach back out to them with the Environmental Study key facts and offer up interviews with Bob Krouse/AEB.
- Work with a handful of influential, high-reach consumer/food bloggers to proactively address the consumer preference for real eggs vs. egg substitutes. We can also tap current blog partners to reinforce advocacy for real eggs vs. egg substitutes.
 - Look at high level of influencers and consider sponsored posts
 - By enlisting blogger advocates (both consumer and HP), we reach consumers via outlets they implicitly trust and look to for information about foods they purchase for their families and recommend to friends, etc.
- Go back out to the top 25 print outlets (food, features and health editors) and re-offer up the Environmental Study information in light of increasing coverage about Beyond Eggs; offer interviews with Bob Krouse/AEB.

We will of course continue to respond in real-time to traditional media coverage/social media commentary that offer inaccurate portrayals of the natural egg industry's environmental impact by providing proof points from Environmental Study.

Let's connect soon! Joanne, any word from Forbes? If no response, let's also talk about when we reach out to his editor.

From:	Englert, Jenny
To:	Joanne Ivy; Kevin Burkum; Serena Schaffner; Mia Roberts; Jacinta LeDonne; Ashley Richardson; Sheryl Slagle;
	Mitch Kanter; John Howeth
Cc:	<u>Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Waltz, Allison; Burch, Kellie</u>
Subject:	Beyond Eggs Article 7.25
Date:	Friday, July 25, 2014 11:50:34 AM
Attachments:	image001.png

Hi all –

We want to flag a new <u>article</u> featuring Hampton Creek Foods in Business Insider entitled, "A San Francisco Startup Has Plans To Blow Up The Egg Industry." The article gives an overview of the company as well as quotes Tetrick saying, "The cost of an egg comes from feed. Unless egg makers are willing to lose money, they don't have a structure to compete with us."

Additionally, we want to flag that Hampton Creek has also released an infographic (featured in the article) explaining how to make scrambled eggs with Just Scramble, their plant based egg substitute.

Please let us know if you have any questions, and we will continue to monitor for any updates.

Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com



From:	Englert, Jenny
To:	Joanne Ivy; Kevin Burkum; Kristin Livermore; Mia Roberts; Jacinta LeDonne; John Howeth
Cc:	Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer
Subject:	Beyond Eggs HuffPo Interview
Date:	Tuesday, November 19, 2013 3:38:00 PM
Attachments:	image001.png

Hi all,

We wanted to quickly flag a new <u>video interview</u> with Hampton Creek's Josh Tetrick that takes Huffington Post viewers behind the scenes of the Beyond Eggs production process. Josh walks a Huffington Post reporter through the plant where Beyond Eggs are made and demonstrates the multiple tests that the fake egg product has gone through to ensure its consistency and taste is similar to that of real eggs. We are continuing to keep our eyes out for additional top tier coverage including the Forbes story that Joanne provided and interview for yesterday. Please let us know if you have any questions in the meantime!

Best,

Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com

?

From: Sent: To: Cc: Subject: John Howeth Monday, September 30, 2013 9:54 AM Jerry Smiley (b) (6) John Howeth Beyond Eggs Write Up

Any chance I can get that by end of day or first thing in the AM? Joanne is back today and I need to give her an update. Thanks.

John Howeth | Vice President of Ingredient & Commercial Marketing

 American Egg Board

 0 847.296.7043 | D 224.563.3705 | F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

 IncredibleEgg.org
 AEB.org



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From: Sent:	Jensen, Elizabeth (Schreiber) <elizabeth.jensen@edelman.com> Wednesday, December 04, 2013 7:14 PM</elizabeth.jensen@edelman.com>
То:	Joanne Ivy; Kevin Burkum; John Howeth; Mia Roberts; Kristin Livermore
Cc:	Maher, Missy; Grosshandler, Jennifer; Schaffner, Serena; Torvik, Erika; Englert, Jenny; Jaffe, Brad; Liuzzi, Andrew; Singer, Jamie
Subject:	Beyond Eggs

Hi everyone,

We are moving full steam ahead on the Beyond Eggs outreach. Please see below for the plan of action:

- Starting tomorrow, we'll send over coverage monitoring reports twice daily one in the morning and one towards the end of the day.
- We'll evaluate coverage and determine if a response or any next steps, etc. are needed.
- We'll ramp up our pitching efforts tomorrow and will keep you posted on progress.
- We have compiled an initial list of potential blog partners. We're taking a closer look at the blogs and will provide partner recommendations by Friday at the latest.
- In the meantime, we will start to reach out to bloggers to gauge interest along with fees/rates. Once we have AEB feedback, we can negotiate final fees with the bloggers.
- The goal is to have the sponsored posts go live as soon as possible next week.

Please let us know if you have any questions. Of course, we are available to hop on the phone to discuss as well!

Best, Elizabeth From:Joanne IvyTo:"mac@forbes.com"Subject:Bill Gates" Food Fetish articleDate:Monday, November 25, 2013 2:05:21 PMAttachments:image001.png
image002.png
image003.png
image005.png
image006.png

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent *Forbes* article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign

While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for *food manufacturers*. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs, have been around for years.

While we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Therefore, we are disappointed by the undeserved attacks on the natural egg industry in this article.

Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

Protein comparison

In my interview, I also compared the nutrition of plant-based protein to the protein in real eggs – a point we believe is important to share with your readers but did not surface in the article. Natural eggs provide one of the highest quality proteins of any food available. In fact, the quality of egg

protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. The notion that you can replace an egg, which is the gold standard of high-quality protein, with a combination of low quality plant protein sources, is misguided.

Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

- *Decreased pollution.* Egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.
- *Reduction in natural resource use.* Hens now use 32 percent less water per dozen eggs produced.
- *Improved hen feed.* Today's hens use a little more than half the amount of feed to produce a dozen eggs.
- Better disease control and advancements in hen housing systems. Today's hens are living longer as a result of improved building ventilation, temperature control, better lighting and a more secure housing environment.

Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From:	Terry Schroff <tschroff@quietlightcom.com></tschroff@quietlightcom.com>
Sent:	Thursday, October 31, 2013 11:56 PM
То:	John Howeth
Cc:	Terry Schroff
Subject:	Board Mtg Talking Points re: BE PR
Attachments:	AEB egg replacer response ideas v2.doc

John, attached are a few ideas that'll give you 5 – 10 minutes of talk time, depending on how verbose you want to be. There are a couple of things in here that are beyond the BE, but I didn't want to squelch idea generating.

Let me know if you'd like additional support and info.

Kind Regards, TBS

PR tactics/AEB egg replacer response ideas

Op-Eggs – featuring a series of industry experts extolling the virtues—functionality, food safety, economics, sustainability, and simplicity—of eggs. Produced as either editorials, videos, or both, these could be placed in selected media outlets as advertorials or sent out as part of an email campaign.

Functionality throw-down – Eggs vs. egg replacers. Challenge Beyond Eggs to a contest comparing functionality, flavor and ease of use. Propose a session at RCA in the spring. Or better yet, at the chef's section at IFT. Buy an ad in one of the trades to issue a public challenge to HCF. Would want a couple of chefs to tackle the job of using each and then editorializing on the pros and cons. (Would, of course, want to know what they are going to say before they say it.) Would also suggest video taping this event if it were conducted (at either venue).

Panel discussion – The reality of reformulating and the true costs involved. Invite a few experts to have a discussion involving sustainability, supply, functionality, equipment considerations, etc., when making a radical switch between a proven commodity and an unproven, niche-market potential ingredient. Again, this could be done at IFT and video taped. Video excerpts can then be used in banners, on the web site, in edm's, in the newsletter, etc.

Animal welfare position piece – HCF continually harps on cruelty in battery cages; we need to have a response to this accusation.

Food safety fact sheet – One of the points HCF repeatedly makes is that eggs are contaminated or not food-safe. This needs to be refuted. The frequency of food safety outbreaks tied to plants are higher than those attributed to eggs.

Animal-based vs. plant-based source – compare and contrast sustainability; economic viability; cost of reformulation, or at least bring up some issues related to plant-based foods (they still need transportation, use energy for processing, etc)

Identify 'Egg Advocates' – goodwill ambassadors for eggs (academics; chefs; food technologists; friendly billionaire, sports nutrition figure). HCF is giving its product an emotional appeal.

Crisis communications plan – refuting all the misinformation that HCF is spewing—food safety; animal cruelty, sustainability; lab created; supply consistency. We presume that this is currently being handled, if at all, by Edleman?

Label friendly – create chart for Website with sample ingredient statements for products created with eggs compared with egg replacers, side-by-side, to show how

much longer those ingredient statements would be for replacers compared to those using eggs, then create a slide show and pitch to one of the major publishing houses

Quarterly trends interview – Leverage the egg product innovations, the Q&A section of the Eggsaminer newsletter along with market data (Mintel, GrubHub, etc.) to present the ingredient books with a look at marketplace trends and the way eggs fit into that scenario, similar to flavor and color houses tagging onto pumpkin or mango or blue as the hot, up-and-comer

Media "tour" – Bring editors together to discuss the rising role of eggs in the most important meal of the day. Suggest a breakfast gathering at IFT, or even some one on one's with the editorial staff's of Food Tech, Prepared Foods and Food Processing, since they are in Chicago. Would suggest bringing in breakfast and talking about the decline of the breakfast standby... cereal. (see quick research points below) Would have shopped for, and displayed, a mass of popular products – from all day parts -- produced exclusively with eggs as an AEB representative talks about the rising tide of real eggs (vs replacers) in products such as those on display and how eggs are being used creatively in Foodservice (which will ultimately make it's way into mainstream consumer world, and thus, the world of the food technologist). In the background an AEB chef will be preparing a breakfast or lunch that features baked goods, sauces/dressings and a prepared entrée. Would suggest that part of the discussion/talk cover off on **12** *Questions Processors Need to Ask Before Using Egg Replacers*.

Cereal data

While cold cereal is still the number one choice for breakfast in America with sales topping \$9 billion last year (2012 acc to Nielsen) Wells Fargo Securities reports a 7% drop in volume over the past four years.

Major factors:

- Boredom with cereal
- Desire for higher protein products
- Portability breakfast that can be consumed in the car
- Consumers careful about carbs and gluten

Kellogg's reported a 3.3% drop in revenue for Q2 2013 (for morning foods) General Mills' cereal division a 2% drop for 12-month period ending in May 2012 Post witnessed a 9% decline in 2012

- Bloomberg Business Week

Goldman Sachs report (July, 2012) found sales of traditional breakfast foods off by 1.3% from same time period in 2011, while sales of portable-breakfast offerings increased by 2.6%

Technomic 2013 data "breakfast sandwich appearances on chain restaurant menus

increased 8.1% during the early part of the year compared to last year" or one-third of consumers eat breakfast sandwiches at least once per week.

Regional IFT section monthly meetings – target the largest IFT sections around the country and offer an Eggspert speaker and demonstration on egg functionality; protein or sustainability

FMI Supermarket Chef Showdown sponsorship for 2015 (Foodservice idea)

In its second year, FMI invites supermarket chefs to submit recipes for a contest with entry deadline of mid-November, a 1st round competition in January, semi-finals in March and the final live "showdown" at FMI in June. Sponsors and media partners support the program. There is a list of ingredients the chefs are required to use, although I am not positive if they are required to use an ingredient from a sponsor. The supermarket chefs would be the primary target audience of this effort. Www.supermarketchefshowdown.com

Egg Summit – A gathering every two years to discuss new news in egg functionality; review research; demonstrate functionality; share market trend & demographic data; experts in mfg and food science; invite industry, academia, media and other interested stakeholders

12 Questions You Should Ask Before Switching to an Egg Replacer – Literature/White Paper/Web piece, etc.

Rather than trying to refute BE and others, simply start creating "doubt" in processors mind by bringing up the inherent processing challenges that come from formulating eggs "out" of a product. We can suggest the hard questions that should be asked. We don't have to have answers – that's for the replacer folks. But we can "answer" by restating the benefits of eggs within the framework of the question.

This can be used in a variety of ways – sales material made available to egg processors, developed into a white paper, video version with the right spokesperson, advertorial, press release, web material, broken up and put into banner ads, text ads, etc.

Whitepaper ideas

- Sustainability
 - Economics/cost-in-use of eggs + single ingredient vs. multiple; benefits also come from clean label; naturally gluten free, non GMO
- Gluten free refresh current white paper with new market stats, demographic, psychographic observations and then use KC research and other functional info about gluten-free baking
- 12 Questions You Should Ask Before Switching to an Egg Replacer
- Millennials
- Hispanic market

- Eggs in global cuisine
- Snacking
- Breakfast
- Eggs' affect on texture
- Protein/satiety
- Functionality of eggs in baking
- Functionality of eggs in sauces & dressings
- Functionality of eggs in dairy foods

Lutton, Sara - AMS

From:	Schaffner, Serena <serena.schaffner@edelman.com></serena.schaffner@edelman.com>
Sent:	Tuesday, November 26, 2013 5:39 PM
To: Cc:	Joanne Ivy; Kevin Burkum Maher, Missy; Grosshandler, Jennifer; Singer, Jamie; Jaffe, Brad; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts
Subject:	Beyond Eggs LTE's for Bob to Submit
Attachments:	Bob Krouse WSJ LTE 11.26.13 3pm.docx; Bob Krouse Huff Post LTE 11 26 13 4PM.docx

Hi Kevin –

Attached are both letters to the editors that Bob can send, which include the "incredible" reference. Because the Huffington Post article is similar in nature to the WSJ article, we've only switched up the lead.

Below, we've outlined submission steps for the Wall Street Journal and Huffington Post. Please note, the Huffington Post is not as straightforward as they don't take formal Letters to the Editor, however we recommend responding to a recent Beyond Eggs article written by their journalist that allows folks to follow up with their views on the story. Unfortunately, the Tech Crunch video was just pulled from the Tech Crunch site and does not allow for comments or follow-ups, but it is referenced in the attached.

Lastly, there has been no response to Joanne's comment on <u>Forbes</u>, however we'll continue to monitor and flag any issues, should they arise. Please let us know if you have any questions in the meantime.

Best,

Serena

Wall Street Journal Submission:

• Please send Letter via email to <u>wsj.ltrs@wsj.com</u>. Make sure to include the date, headline, link to article and Writer's location (included in the attached).

Huffington Post Submission:

- Access recent article on Beyond Eggs <u>Here</u>
- Scroll down to end of article (past photos) and locate the "Contribute to This Story" box. Click on "Submit at Tip"
- Fill out Name, Email, Subject and Cut and Paste attached Huffington Post Letter to the Editor
- Click submit

Serena Schaffner

Edelman 200 East Randolph 65th Floor Chicago, IL 60601 (312) 297-7023 <u>serena.schaffner@edelman.com</u>

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Letter-to-the-Editor: Huffington Post

Section: Food For Thought Headline: "Beyond Eggs vs. Real Eggs: Is The Fake Stuff Really Better?" Writer's location: Indiana

As an egg farmer in northern Indiana for more than 30 years, I take issue with the article "Beyond Eggs vs. real Eggs: Is the Fake Stuff Really Better" as well as the recently posted Tech Crunch video interview, "Beyond Eggs is an Eco-Friendly Vegan Alternative to the Real Thing." The truth is, the time-tested, all-natural, gold-standard-of-high-quality protein egg cannot be replaced.

Over the past few decades, a variety of innovations have taken place across the egg industry that we – as egg farmers – take pride in. With the growing population and egg demand on the rise, egg farmers like myself are working really hard to provide safe, nutritious food while maintaining the highest quality care for our hens. Today's hens are producing more eggs and living longer due to better health and nutrition and ventilation, temperature and lighting advancements in their living environment.

At the same time, we've made egg production more efficient by using fewer resources and producing less waste. A new study by the Egg Industry Center proves the egg industry has significantly reduced its environmental impact over the past 50 years. Since 1960, we've decreased greenhouse gas emissions by more than 70 percent and use 32 percent less water – that's real progress.

Though replacer eggs like the ones produced by Hampton Creek Foods have made some noise, our customers have said they're not interested in egg substitutes or ones created by a "company's battalion of biochemists, food scientists, and software engineers" who "are modeling their efforts on processes first used in drug companies and the tech industry." They want real eggs – they can take comfort in the familiar ingredients and nutritional, taste and quality benefits of natural eggs. We may never know the answer to the age-old question, "Which came first: the chicken or the egg?" But the real question is, why settle for anything less than the original, timeless, incredible egg?

Bob Krouse Egg farmer Midwest Poultry Services in Indiana

Letter-to-the-Editor: Wall Street Journal

Date: November 24, 2013 Headline: "Startup Scrambles to Replace Egg" Page number: XX Writer's location: Indiana

As an egg farmer in northern Indiana for more than 30 years, I take issue with the Nov. 24 article, "Startup Scrambles to Replace Egg." The truth is, the time-tested, all-natural, gold-standard-of-highquality protein egg cannot be replaced.

Over the past few decades, a variety of innovations have taken place across the egg industry that we – as egg farmers – take pride in. With the growing population and egg demand on the rise, egg farmers like myself are working really hard to provide safe, nutritious food while maintaining the highest quality care for our hens. Today's hens are producing more eggs and living longer due to better health and nutrition and ventilation, temperature and lighting advancements in their living environment.

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Bob Krouse Egg farmer Midwest Poultry Services in Indiana Hi Mia, here's the link for the CBS segment on Beyond Eggs.

http://cbsn.ws/1ev8VCu

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Jerry Smiley [mailto: (b) (6) Sent: Monday, September 23, 2013 8:39 PM To: John Howeth Subject: FW: FW: CBS

Regards,

Jerry Smiley

Please consider the environment before printing this e-mail.

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From: Austin Jacobus (b) (6) Sent: Monday, September 23, 2013 8:30 PM To: Jerry Smiley Subject: Fwd: FW: CBS

Jerry,

Replay of Hampton Creek PR on CBS.

Austin Jacobus *AHW Ingredients, LLC* 630-778-9553 office

(b) (6) (b) (6)	mobile	
	Forwarded message	
From: Jac	kie Fera (b) (6)	
Date: Fri,	Sep 20, 2013 at 11:08 AM	
Subject: F	W: CBS	
To: Austin	1 Jacobus (b) (6)	>

Check this out. The PR machine in full force. ©

From: Morgan Oliveira [mailto:moliveira@hamptoncreekfoods.com] Sent: Friday, September 20, 2013 10:33 AM To: All Subject: CBS

Hey guys,

At long last, here it is!

http://cbsn.ws/1ev8VCu

Great work. :)

Μ

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2

Morgan Oliveira

Communications Director

T 415 374 7524

moliveira@hamptoncreekfoods.com

hamptoncreekfoods.com

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Lutton, Sara - AMS

From:	John Howeth
Sent:	Monday, March 17, 2014 10:26 AM
То:	Joanne Ivy
Cc:	John Howeth
Subject:	CEAM Meeting
Attachments:	CEAM Master 031714 MASTER.pptx

Joanne, here's my presentation for Minnesota, let me know if you have any thoughts.

John Howeth | Vice President, Foodservice & Egg Product Marketing

American Egg Board

O 847.296.7043 | D 224.563.3705 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org <u>AEB.org</u>



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Good morning



incredible!

What We'll Cover Today

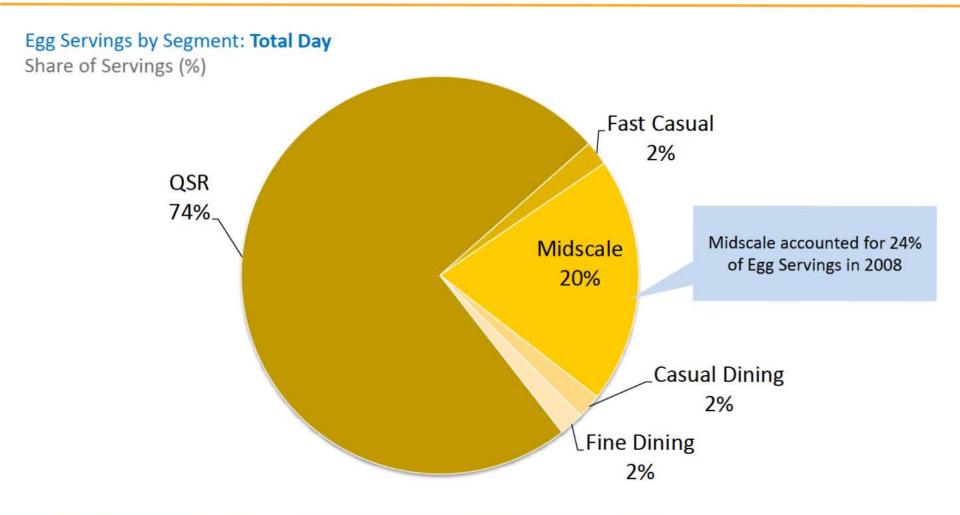
- State of Eggs at QSR
- Breakfast Wars
- School Program
- Beyond Eggs



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The State of Eggs at QSR Breakfast

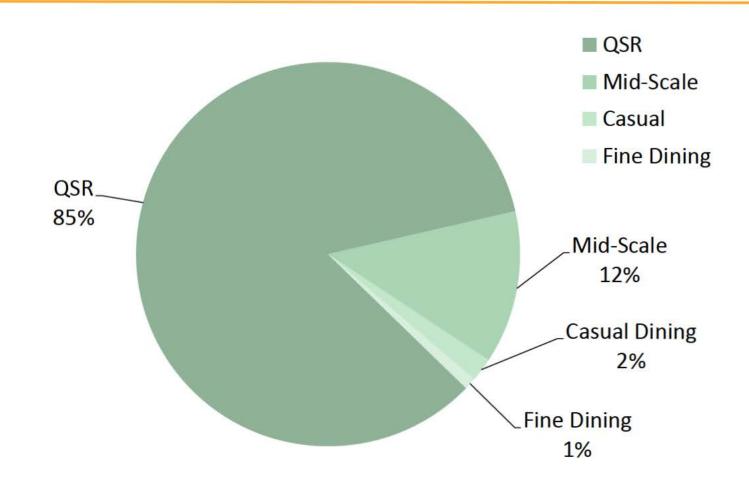
Most Eggs Are Consumed at QSR incredible!



AFH Breakfast Consumption

American Egg Board

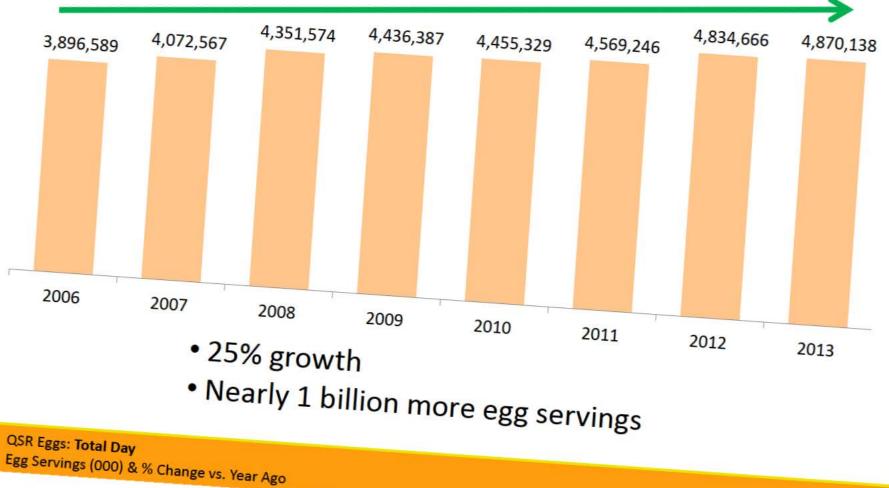
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Incredible Growth

American Egg Boar

incredible



12 QSR Targets





Welcome to Breakfast



American Egg Board



TACO BELL LAUNCHES NEW BREAKFAST MENU

Breakfast Until 11:00 AM

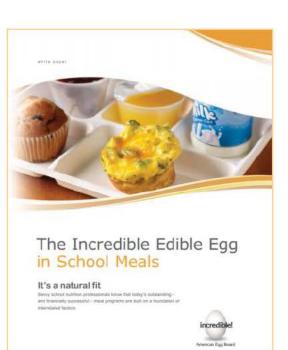




School Foodservice Program









Egg Replacers



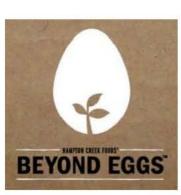


Beyond Eggs

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August 78, 2012 Best Laid Plans

Plant-based egg substitute could benefit millions of hens. All Annuls magazite. September/October 2013



made from PLANTS backed of to revolutionize cooking Whole Foods

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BEYOND EGGS

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Keeping REAL Eggs Top of Mind



American Egg Board

Media Strategy

- Ongoing media monitoring and reporting
- Reviewing coverage and responding to inaccuracies on a case by case basis
- Draft letters to the editors and providing media statements
- Conduct media interviews as appropriate

incredible! **Keeping REAL Eggs Top of Mind**

American Egg Board

Online

- Blogger outreach
- AEB's social channels
- Behavioral and content targeting
- Paid search on Google, Bing and Yahoo

Identify Risk and Consumer Perception



Risk Assessment

- Conduct a detailed risk and vulnerability assessment of competitor product
- Determine AEB response/position

Consumer Research

- Conduct qualitative/quantitative consumer research
- Identify and prioritize areas of focus

Clean Label Ad Campaign

American Egg Board

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Download our NEW white paper "The Egg and Clean Labeling" and get more info on the benefits of using REAL Eggs in your applications --- visit AEB org/RealEggs.

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AZE.urg

Functionality Campaign

American Egg Board

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AGRICUM CARTONN 7521

Aeration is just one of the 20+ functional benefits of using REAL Eggs in your applications. With all this functionality from a **natural**, consumer-friendly ingredient, why would you use anything else? If you don't ask the question, your customers just might. **REAL Eggs make a REAL difference**.

Sustainability Campaign



You know REAL eggs as incredbly functional, versatile ingredients. What you may not know is that eggs are sustainable too. A recently completed 50-year study of the U.S. egg industry revealed a reduced environmental footprint.

REAL eggs make a REAL difference.



Learn more about how the U.S. sgg industry has improved its environmental toolprint over the past 50 years. Download our Suetainability while paper at ACB.org/Suetainability

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Landmark 50-year Study Documents U.S. Egg Industry Environmental Footprint

Improved hen feed, better disease control, advancements in hen housing systems and subsequent reduction of natural resource use — reduced environmental footprint.



American Egg Board

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Thank You



Lutton, Sara - AMS

From:	John Howeth
Sent:	Monday, March 17, 2014 10:29 AM
То:	Steve Olson; Brian Joyer (Brian.Joyer@sparboe.com)
Cc:	John Howeth
Subject:	CEAM Presentation
Attachments:	CEAM Master 031714 MASTER.pptx

Hi Steve, take a look at the attached presentation and let me know if this is what you're looking for. I know I just have 10 minutes and I'll move through this as quickly as I can. Thanks for your input.

Brian, I'd appreciate your opinion also.

John Howeth | Vice President, Foodservice & Egg Product Marketing

 American Egg Board

 0 847.296.7043 | D 224.563.3705 | F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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Good morning



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What We'll Cover Today

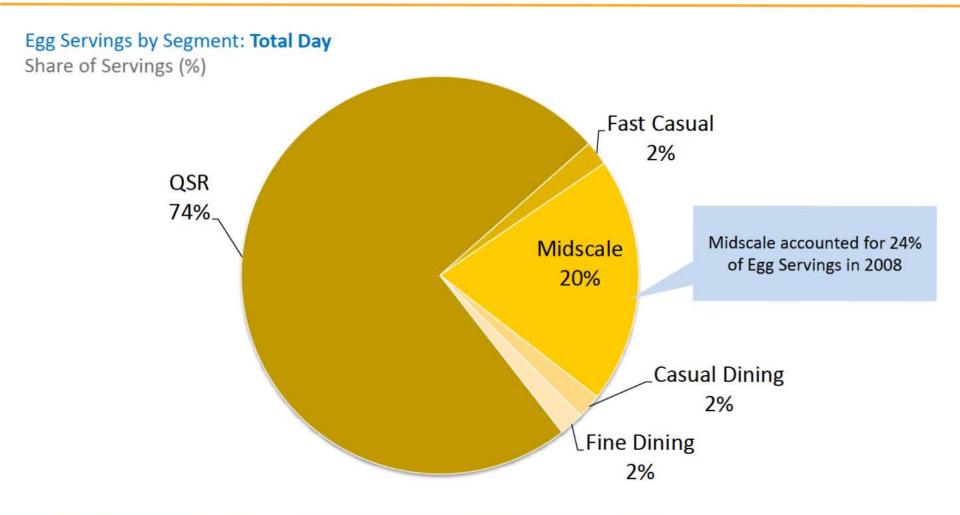
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- Beyond Eggs



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The State of Eggs at QSR Breakfast

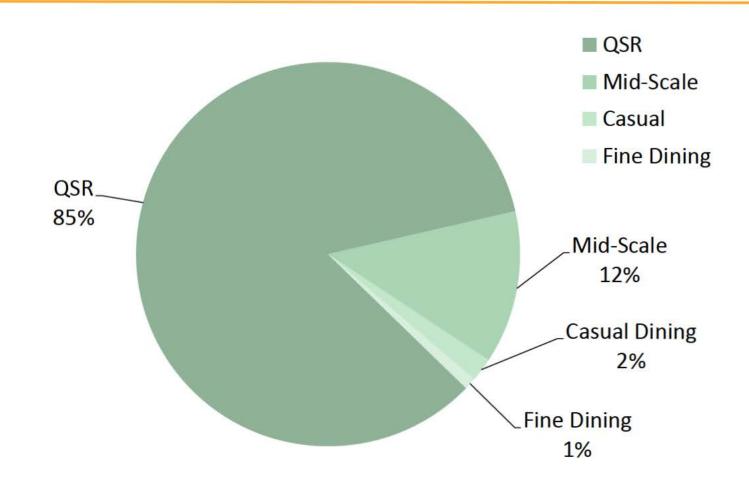
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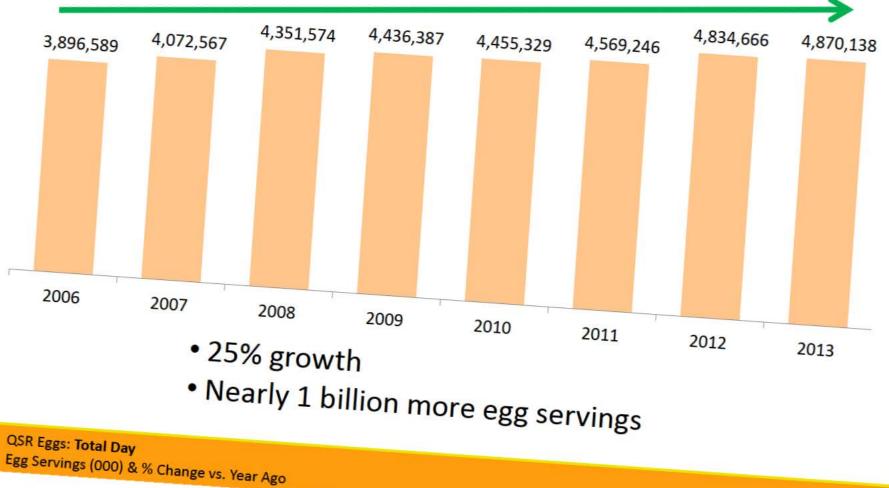
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Incredible Growth

American Egg Boar

incredible



12 QSR Targets

BREAD





Top 30 QSR Chains	\$156,875,000		
Our Targets' Total	\$110,837,415		
% of Total Business	71%		

Welcome to Breakfast



American Egg Board



TACO BELL LAUNCHES NEW BREAKFAST MENU

Breakfast Until 11:00 AM

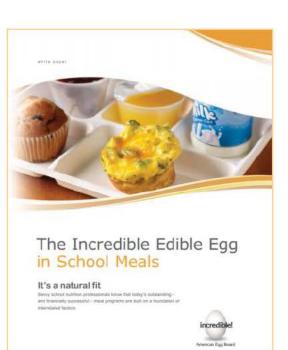




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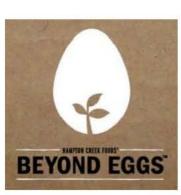


Beyond Eggs

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Landmark 50-year Study Documents U.S. Egg Industry Environmental Footprint

Improved hen feed, better disease control, advancements in hen housing systems and subsequent reduction of natural resource use — reduced environmental footprint.



American Egg Board

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Thank You



Lutton, Sara - AMS

From:	Liuzzi, Andrew <andrew.liuzzi@edelman.com></andrew.liuzzi@edelman.com>
Sent:	Thursday, August 22, 2013 6:49 PM
То:	Joanne Ivy; John Howeth
Cc:	Maher, Missy; Jensen, Elizabeth (Schreiber); McClamroch, Allison
Subject:	Edelman/Follow Up on Beyond Eggs

Joanne/John-I just wanted to quickly follow up and thank you both for the added background/context around this issue today—so incredibly helpful to hear direct from the team to ensure that we're thinking through this holistically. In regrouping w/ the rest of the Edelman team post-call, I definitely feel that we're in a good position/have a strong foundation given our existing work w/ egg replacers but please let us know how we can support (outside of ongoing monitoring). And Joanne—completely agree w/ your thought on the call that the key here in communication to further processors is to place this w/in the broader context and not make it appear that this is a "new" issue—but rather one that we've been engaging on for some time. I also think that, taking that course, we will be able to stay away from any direct point/counterpoint debates on Beyond Eggs and rather focus more squarely on the benefits/sustainability footprint etc. w/ our eggs.

-Andy

Lutton, Sara - AMS

From:	Jerry Smiley <jerry@strategicgrowth.us></jerry@strategicgrowth.us>
Sent:	Monday, December 30, 2013 3:46 PM
То:	John Howeth; Elisa Maloberti
Subject:	Egg Industry Declares War On Eggless Eggs

In case you did not see. Here is the link: <u>http://www.buzzfeed.com/rachelysanders/egg-industry-campaign-against-hampton-creek?bftw</u>=

Regards,

Jerry Smiley Partner Strategic Growth Partners, Inc. 760 Rosedale Avenue Roselle, Illinois 60172 630-893-8399 🖀 630-899-9488 🗉

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Egg Industry Declares War On Eggless Eggs

The American Egg Board is buying paid search terms against a buzzy new egg alternative company in a bid to protect its lucrative turf.

December 18, 2013 at 4:29pm EST | Rachel Sanders BuzzFeed Staff



Courtesy of Hampton Creek Foods

<u>Hampton Creek Foods</u>, a tech-centric San Francisco food startup that develops plant-based egg replacement products, has attracted some very high-profile investors, including PayPal co-founder Peter Thiel, and lots of media attention in the past year. Enough attention, apparently, to make the old-fashioned, chicken-based egg establishment nervous: The American Egg Board's <u>"Incredible, Edible Egg" campaign</u> has begun running Google ads against search terms matching Hampton Creek Foods, their products, and even the name of an executive.

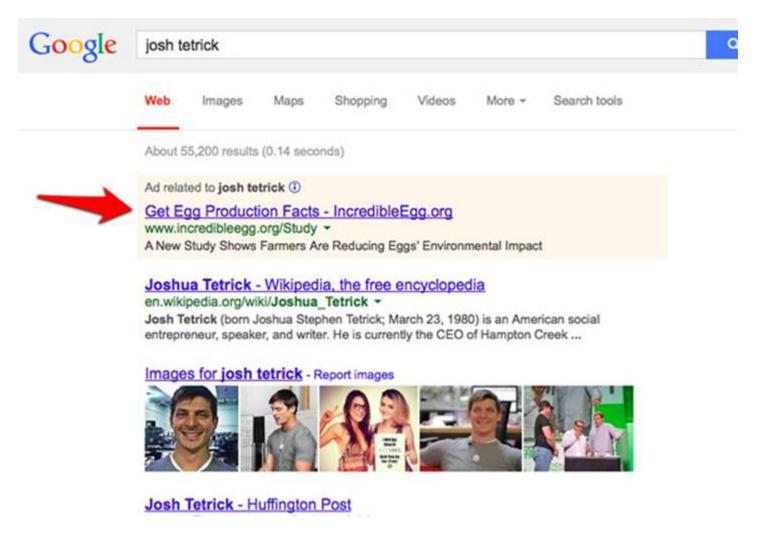
Josh Tetrick, the CEO of Hampton Creek, says that the company aims to poach industrial egg farmers' market share by engineering an array of products that can do everything eggs do, except better (and for less money). As *The Wall Street Journal*'s Farhad Manjoo wrote in a <u>profile on the company</u>, "Hampton Creek wants to 'surpass' the egg, to make eggless foods that taste better, are free of cholesterol, last longer on the shelf, are more ecologically sustainable and humane, and are far cheaper than their eggy counterparts."

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"Most people just don't know where their chicken eggs come from," Tetrick told BuzzFeed in an email. "Birds crammed together in tight spaces shitting all over each other. It's gross. It's bizarre. And it's pretty bad for the environment, too. Reality just isn't aligned with the incredible edible egg anymore."

Hampton Creek has developed two consumer products so far: Just Mayo (which Whole Foods recently began selling) and Beyond Eggs, a powdered egg replacer made for baking cookies. Their third product, a liquid scrambled egg doppelgänger ("Just Scramble") is <u>in the works</u>. So far, <u>reviews</u> are mainly positive.

"We think our model of affordable plants growing in open fields is just better for a growing world. And, yeah, we want the system of unsustainable chicken eggs to end," Tetrick said.



The egg establishment, of course, has a different view than Tetrick.

"It is a huge threat the way they are publicizing Beyond Eggs to consumers," American Egg Board CEO Joanne Ivy <u>said in November</u>, as reported by agriculture trade publication WATTAgNet.

The AEB's marketing counter-offensive is aimed squarely at consumers who might be made nervous by the multi-ingredient, tech-based approach Hampton Creek's products reflect.

"Consumers and food manufacturers want a clean label; with Beyond Eggs it will not be a clean label," Ivy said during a speech at the annual <u>United Egg Producers</u> meeting this fall. "Not with all of the ingredients it takes to make this product. We have developed a website and advertising campaign to address this."

The egg industry attack makes finding a marketing sweet spot for Hampton Foods more difficult, since the same consumers concerned about the dismal conditions of industrial-scale chicken farming might also view skeptically a tech-enhanced egg alternative, even if it costs less.

Most of the search term-pegged Incredible Egg Google ads shown in this post were screenshots provided by Tetrick and taken on December 17; the same ads aren't currently showing up on searches, suggesting that the AEB may no longer be running them.

But a <u>WATTAgNet item</u> from almost two years ago, on the Egg Board's relaunch of their Incredible Egg campaign, confirms that paid search terms are part of their strategy: "New media marketing efforts range from the obvious such as online advertisements to the more subtle such as paid search terms. Paid search reaches consumers who are actively seeking information about eggs or healthy breakfast options."

Or, in this case, actively seeking information about egg alternatives.

The American Egg Board responded to BuzzFeed's request for comment, via their PR agency, with this statement:

"'Synthetic plant-based egg replacers are not a novel concept; they have been around for years. And while we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers and food service companies alike.' - Mitch Kanter, PhD., Executive Director of the Egg Nutrition Center"

Google

Ads Settings

How we matched these ads

You searched for: beyond eggs.

Hampton Creek Foods hamptoncreekfoods.com www.hamptoncreekfoods.com/ We're reinventing the egg for a better world. Search terms This ad matches the exact search you entered: "beyond eggs"

Get The Facts About Eggs - IncredibleEgg.org www.incredibleegg.org/Study A New Study Shows Farmers Are Reducing Eggs' Environmental Impact Search terms This ad matches the exact search you entered: "beyond eggs"

Vegenaise® Is Egg-Free - Better Than Mayo www.followyourheart.com/Vegenaise Try Our Natural Vegan Dressing & Sandwich Spread.

Search terms

This ad matches the exact search you entered: "beyond eggs"

Lutton, Sara - AMS

From:	Elisa Maloberti
Sent:	Monday, November 25, 2013 12:40 PM
То:	John Howeth
Subject:	Fw: Forbes on Hampton Creek Foods & AEB

I'm comfortable with the direction that Terry is going, are you? Elisa

From: Terry Schroff [mailto:tschroff@quietlightcom.com]
Sent: Monday, November 25, 2013 10:22 AM
To: Elisa Maloberti; John Howeth
Cc: Terry Schroff <<u>tschroff@quietlightcom.com</u>>
Subject: Forbes on Hampton Creek Foods & AEB

Good morning all — I suspect you've both already seen this article, but in reading through this, there's at least one point that I would like for us to take on, which is the notion that we represent "an entrenched industry that has been doing business the same way for years." This thinking is skewed and I think that we can certainly come up with some thoughts out of the most recent Sustainability study that show we are an industry that is progressive in how we look at innovation and the environment. I would not reference the article, BE or the exact phraseology. However, a question posed around the progressive nature of today's egg producers... this might help us get into the points we need to make.

Just wanted to share this and make sure there were no huge objections moving forward. Again, I suspect that we'll probably have to prioritze, but one of the things I've been thinging about is if we have more than 10 or 12, if we should find ourselves with 15 - 20 things we want people to know, then I think we pick the top 10-12 and then direct people to the website for more info. Of course, this will make great fodder for a PR as well as text ads, etc.

Just sharing a few thoughts...

Forbes article:

http://www.forbes.com/sites/ryanmac/2013/11/23/bill-gates-food-fetish-hampton-creek-foods-looks-to-crack-the-egg-industry/

Kind Regards,



Terry B Schroff Quiet Light Communications 220 east state street | rockford, il 61104 p 815.398.6860 f 815.398.6870

Lutton, Sara - AMS

From:	John Howeth
Sent:	Thursday, November 21, 2013 9:56 AM
То:	Joanne Ivy
Cc:	John Howeth
Subject:	FS & EPM Highlights - November 21

McDonald's – Still planning on meeting with them in December to discuss 2014 plans, focus groups and new research requirements.

Dunkin' Donuts – has launched another new egg sandwich (Spicy Sausage). Additionally, we have agreed on a promotion for the week of March 3-9, 2014 and will hit 7,200 stores. The promotion (similar to Denny's) will be about a major new product introduction (eggs benedict sandwich - still highly confidential). Our cost will be 750K eggs. AEB and DD to develop social media ideas/plans; Dunkin' Donuts is formulating merchandising and advertising plans. We are setting our next trend tour with them for first quarter 2014.

IHOP – is looking for additional new ideas for their breakfast program. Specifically, they are looking for female focused omelet ideas. Steve Solomon will be working on this.

Year of the Yolk – we've started brainstorming this campaign. We see this as a huge PR opportunity and are planning on developing new recipes (hopefully with the CIA) and working with a product development company to maximize this opportunity. A plan is being developed and we hope to have it ready by 12/2.

IFEC – I attended the International Foodservice Editorial Council meeting and as a result of that conference, have features lined up in six different foodservice publications for 2014.

Clean Label Campaign – per the Board Meeting, we are moving forward with our brochure "Key Questions to Ask About Egg Replacers". We don't have a timeline on this yet, but will be talking to the agency about this today. Additionally, we are working on our next print and digital ads for the campaign. These will be released in February.

Nutritional Analysis – An order form and meeting request have gone out to our task force. We hope to have a meeting right after Thanksgiving, get samples in by mid-December and have the testing completed by March 1.

John Howeth

VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: John Howeth Sent: Tuesday, October 22, 2013 9:45 AM To: Joanne Ivy Cc: John Howeth Subject: FW: FS & EPM Highlights - October 22

- Our latest campaign "The Egg and Clean Labeling" started two weeks ago. New print ads are in industry trade journals and new digital ads will begin November 1st. Despite the limited exposure, there have been over 500 web visits.
- AEB is putting together plans to aggressively fight Beyond Eggs. Much information has already been gathered. Critical to the process is acquisition of samples. Plans are to conduct extensive functionality tests. Additionally, we will look to see if there is a sustainability message.
- AEB will be presenting three workshops to take place during the fourth quarter of 2013 and first quarter of 2014 at Hormel, Batory Foods and Entemann's.
- Dunkin' Donuts, will be opening 1,000 new stores in Southern California. AEB is helping with custom research and new product development. Our week long trend tour has been rescheduled for first quarter 2014. However, a Denny's type GEP project is being reviewed by their franchisee group this week. It would be national in scope.
- Denny's deemed the Build Your Own Omelette a huge success. Traffic is down at Denny's but they attributed a 1% traffic increase to the campaign. Donations to the food banks are being finalized.
- McDonald's is promoting their McDonald's After Midnight program. Three of the ten items available contain eggs. Their Steak and Egg Burrito and Sandwich is now on more than 10,000 menus. AEB attend will attend focus groups in mid-December. These groups are looking at some new egg-based breakfast sandwiches.
- Jack in the Box has introduced a late night program, three of the eight items contain eggs. We are working with them to promote the new Brunch Burger (a hamburger topped with a fried egg).
- Our school foodservice program is taking shape. Our plan is to introduce new print and digital communications, a white paper, recipes and an updated website by February 1st. March 3-7 is National School Breakfast Week.
- AEB will be participating in the International Foodservice Editorial council October 28-30. At this conference, AEB gets to interact with over 25 food publications and discuss potential stories for 2014.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org From: John Howeth Sent: Wednesday, October 02, 2013 3:09 PM To: Joanne Ivy Cc: John Howeth Subject: FS & EPM Highlights - October 2

- IBIE Expo October 6-9, Las Vegas, sampling 3 different bakery items that showcase eggs functionality in baked goods.
- Nutrient Analysis of Egg Products, conference call on Thursday, October 3 with Brian Joyer, Blair Van Zetten, Elliot Gibber, Dr. Glenn Froning, Howard Magwire, John Howeth and Elisa Maloberti to finalize the RFP for the project.
- Food Manufacturer Workshops, drafting presentation outlines for 2 different workshops to take place before end of 2013 Batory Foods and Entemann's.
- Clean Label Conference, October 20 & 30, AEB will display tabletop exhibit
- Fall EGGSaminer newsletter to food manufacturers is being typeset and will be available for distribution before end of October.
- We have accessed information re: liquid egg volume in grocery retailers from Nielsen and will be presenting volume and dollar sales at the committee meeting.
- Denny's was extremely pleased with the Build Your Own Omelette promotion. The final results showed:
 - o 100,000,000+ impressions just TV
 - Same store sales were up 1% (which was 1.5% above forecast)
 - Traffic was even (which was 2% above forecast)
 - 500,000 eggs donated to five food banks
 - Cost to America's egg farmers \$25,000
- Dunkin' Donuts, a trends presentation was made in early September, 18 people from various functional areas attended. As a result of that presentation, they have asked us to develop a three day trend tour and workshop in Southern California for 12 members of their team in November.
- McDonald's meeting planned for late October-early November, working on final date.
- Dairy Queen, a trends presentation is set for Tuesday, October 22nd.
- School foodservice, we will be meeting with consultant on 10/4 to review thought-leader interviews, survey results, ad and materials development. Goal is to have advertising and website updated by February 1, in time for National School Breakfast Week, March 3-7.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 From: John Howeth Sent: Wednesday, August 21, 2013 8:28 AM To: Joanne Ivy Cc: John Howeth Subject: FS & EPM Highlight - August 21

- Denny's promotion moving ahead. Contact has been made with the egg producers that sell Denny's regarding egg contributions for the promotion. Details of drops being finalized. Social media content and schedule is supposed to arrive this week.
- Jack in the Box has provided us with some new product introductions. They are introducing a Brunch Burger (burger with egg), we're working with the team to see how we can support it. It will not be an LTO but will be on the menu at least 1-2 years. The next LTO, although that may stay on the menu as well, is an egg white sandwich. As a result of our trends presentation they are also looking for ideas that use more yolk, either in a sandwich or beverage. We'll be moving forward with them by providing some concepts.
- McDonalds has refreshed the advertising on the Egg Delight McMuffin while continuing to pursue new product opportunities. New TV showcases "Open Late" and hints at product being available at other dayparts. We're meeting with NPD to discuss some custom research for McDonald's.
- Taco Bell rolled out the Waffle Taco in Chattanooga, Omaha and Fresno. Preliminary information defines it as a winner.
- Dunkin' Donuts continues to introduce new egg sandwiches. They are preparing to take quantum leap in number of new stores--specifically in Western U.S. We have a trends presentation scheduled for September 12th in Boston.
- The IHOP food trends presentation and concepts were deemed a major success. We received a very nice email from Marie Grimm, VP of Culinary & Innovation, praising the concepts and presentation. Six of our nine concepts received top scores.
- In school foodservice, we have met with Dayle Hayes several times to discuss strategies and objectives. Dayle will join Anna and myself in a call next week to determine our messaging. Following that we will develop our tactical plan.
- In both foodservice and egg product marketing, we are working with Quiet Light on our 2014 media plans.
- In egg products, our Clean Label Campaign is moving forward as concepts were shown this week. Following a meeting with you, we will finalize the concepts and set up a meeting with Brian Joyer (hopefully for the week of 8/26). To stay on schedule, we need to get everything to USDA as soon as possible.
- Plans are being finalized with our food sample provider and all other aspects of the IBIE Show.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 From: John Howeth
Sent: Friday, August 02, 2013 9:07 AM
To: Joanne Ivy
Cc: John Howeth
Subject: FS & EPM Highlight - August 5

- Regarding the Denny's promotion, we're still waiting to see the commercial. Once we view it, we'll determine the social media approach. I have a call into to Erik Jensen to finalize the egg drop points and quantity to each. Once we have that information, we can start our calls to the producers.
- Jack in the Box presentation and trend tour went very well. We visited eight restaurants and tasted over eighty different egg dishes. JIB was extremely appreciative and will use these concepts in their new product development.
- The Dairy Queen presentation was postponed because of our IHOP schedule and will be rescheduled for later in August.
- A trends presentation with Dunkin' Donuts is set for September 12th. This will help set up their expansion to the West Coast.
- A meeting will be scheduled the week of 8/26 to review all of our foodservice research needs.
- Phone meeting scheduled with Dayle Hayes (school foodservice consultant) Friday, 8/9. We have briefly discussed strategies and objectives and will finalize those. Plan is to very quickly develop a tactical execution based on agreed upon strategies.
- An internal tasting is scheduled for 8/8 to review the samples we will be showing at IBIE this year.
- The Frost & Sullivan contract is on your desk for signature. Final research is due in 12 weeks.
- The Volumetric webinar for further processors will be scheduled for mid-September. We're working on an eblast.
- Brian Joyer edited (very slightly) and signed our meeting minutes. He wants to do a call with me on 8/2 or 8/5.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: John Howeth Sent: Wednesday, July 24, 2013 8:49 AM To: Joanne Ivy

Cc: John Howeth Subject: FS & EPM Highlight - July 24

Hi Joanne, here are our highlights:

- Denny's promotion is gathering great momentum. The cause partner will be Share Our Strength, social media and PR will be initiated after the commercial has been concepted. Now estimating 500 K omelets. Once we have more details we can move forward with contacting Denny's egg suppliers. There looks like there will be five shell egg drop locations.
- Market insights meeting and trend tour with Jack in the Box on Monday and Tuesday, July 22nd and 23rd. Brunch burger (burger with fried egg on top) is scheduled for September.
- Egg trends presentation to Dairy Queen in Minneapolis on July 31st.
- Culinary immersion and trends presentation at IHOP on August 6th through the 7th.
- A trends presentation with Dunkin' Donuts is set for late August/early September. This will help set up their expansion to the West Coast.
- New foodservice press releases going out the 20th of each month. Cuban sandwich released on Tuesday.
- New research in from NPD, Datassential and Mintel updating eggs in foodservice information and our chain status.
- Met with Jim Ruhling from Michael Foods (VP of School Foodservice Sales) at the School Foodservice Show. Will be discussing ways to work together the week of 8/5.
- Shelly McKee had seven media interviews on egg products and clean labels at IFT. We have some great pictures of Shelly being interviewed in the new booth. Food Navigator has already released an image and brief story about clean labels. Elisa has revised contract language and sent to USDA.
- Our booth position was the best it's ever been. Very busy the first day and Elisa said she was swamped on Monday and Tuesday.
- Had a phone meeting with Frost & Sullivan (research firm that will be working on egg protein). We extended the project to include efforts to sell egg yolks per the committee's suggestion. Contract at USDA for approval.
- With your approval, AEB would like to do a webinar featuring the Volumetric information for AEB and UEA further processors. Jerry Smiley would present the information he showed at our committee meeting.

John Howeth | Vice President of Ingredient & Commercial Marketing American Egg Board 0 847.296.7043 | D 224.563.3705 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Lutton, Sara - AMS

From: Sent: To: Cc: Subject: John Howeth Thursday, November 21, 2013 1:10 PM Joanne Ivy John Howeth FS and EPM Minutes

Joanne, following you will find our minutes. I apologize for the delay, we had to clarify some information with Steve Olson. Please let me know if you'd like any changes made.

MINUTES **Egg Product Marketing / Foodservice Committee** The Westin Savannah Harbor Golf Resort & Spa November 7, 2013

Committee Members Brian Joyer, Chairman Roy Patterson John Puglisi Lee Regensburger Alex Simpson Tom Stoller Lisa Timmerman Blair Van Zetten

State Representative Steve Olson

USDA Emily DeBord (part time)

<u>Presenters</u> Laurel Brown, NPD Veronica Diaz, NPD Steve Solomon, FSInsights

Egg Product Advisor Elliot Gibber

<u>AEB Staff</u> Roger Deffner (part time) John Howeth Joanne Ivy (part time) Elisa Maloberti Gwen Ramirez Others Brad Brown Steve George Carolyn Grubaugh Susan Joy Jim Nield Jim Van Gorkom Chairman Brian Joyer called the meeting to order at 1:00 p.m.

A motion was made by Blair Van Zetten, seconded by Lisa Timmerman, to accept the minutes of the July 10, 2013 Committee Meeting. Motion carried unanimously.

Egg Product Marketing Program report began with a presentation by Elisa Maloberti. She reported on AEB's Marketing and Communications programs, specifically our presence at the International Baking Industry Exposition as well as the Clean Label Conference. Trade events planned for 2014 include American Institute of Baking in February, IFT Wellness in March, Protein Trends & Technologies in April and Institute of Food Technologists Annual Expo. AEB will conduct workshops for Batory Foods in November 2013 and Entenmann's Bakery in January 2013. John Howeth mentioned that we are looking for more opportunities to present customized educational workshops to food manufacturers and encouraged committee members to submit names of companies that would be interested. Maloberti reviewed retail liquid egg data provided by Nielsen. Both Elliot Gibber and Blair Van Zetten believe the information presented as the volume of liquid eggs sold at retail was way too low. It is suspected that the figures presented as annual figures might have been for 12 weeks. Maloberti will double-check figures and provide committee an updated set of data.

Maloberti discussed the egg product nutrient analysis project. As recommended at the July committee meeting, four bids were obtained from labs to conduct a nutrient analysis of egg products. Maloberti recommended Covance Laboratories due to their experience conducting the 2006 egg product nutrient analysis for AEB. A conference call held in October 2013 amongst Brian Joyer, Blair Van Zetten, Howard Magwire, Dr. Glenn Froning, Elisa Maloberti and John Howeth to discuss the specifics of the project. Elliot Gibber was invited to participate; however, he had a prior commitment. It was agreed that solids content for samples submitted to the lab be as follows: whole eggs at 24.2%, egg white solids at 11.0%, egg yolk solids at 43%. At the committee meeting Gibber agreed with the solids criteria. Joyer suggested a Sample Analysis Request Form be developed and presented to the group on another conference call prior to requesting samples from five egg product processors.

A motion was made by Blair Van Zetten, seconded by Alex Simpson, to approve the proposed nutrient analysis project using Covance Laboratories. Motion carried unanimously.

Maloberti gave a progress update on the Egg Replacer Response Campaign. "The Egg and Clean Label" white paper, "Real Eggs or Egg Replacers" print ad, web updates and other electronic media was discussed. Beyond Eggs was discussed at length. In 2014 AEB plans to produce video testimonials of food manufacturers that have haven't been satisfied with the results of replacer ingredients, functionality testing of egg replacers, and crisis communications plan if necessary.

Committee discussed the current supply/demand of egg whites which leaves egg processors a disproportionate supply of egg yolks. Howeth mentioned that the results of the recently completed analysis by Frost & Sullivan will identify other uses for both egg yolk and egg whites (should the currently supply/demand reverse) and an executive summary will be presented to egg processing industry via webinar during Q1 2014.

Maloberti discussed the proposed 2014 Egg Product Marketing Strategies & Objectives. A review of the approved 2014 Egg Product Marketing Budget was presented by Maloberti.

A motion was made by Blair Van Zetten, seconded by Lee Regensburger, to approve the proposed 2014 Egg Product Marketing Strategies & Objectives. Motion carried unanimously.

The Foodservice Program began with Veronica Diaz of NPD reporting on 2013 breakfast trends. Diaz explained that while breakfast is outperforming other dayparts, it is smaller in sales volume than lunch and dinner. She pointed out that breakfast sandwiches account for over half of egg servings and have increased versus a year ago, specifically breakfast burritos/wraps (grab-n-go) continued to grow. Though some chains are offering egg whites, the majority of consumers are opting for eggs. Van Zetten asked how many eggs are included in a standard breakfast sandwich at these chains. Diaz responded that because their data is collected from consumers, they do not know. Lee Regensburger asked if NPD's

presentation and data can be shared. Diaz responded that we must ask them which slides can be shared prior to distributing. Regensburger felt that NPD's data was generalized and did not consider regional trends i.e. smoked sausage doing well in south but not in other areas such as Minnesota.

Foodservice Marketing and Communications programs were next reviewed by Howeth. The marketing program was covered with focus identified as National Accounts, Schools, and Foodservice Distributors.

The success of Denny's and The Good Egg Project was discussed. Results were 100,000,000+ impressions—just TV. Same store sales were up 1% (1.5% above forecast). Traffic was even (2% above forecast). 500,000 eggs were donated to five food banks and the cost to America's egg farmers was \$25,000. Howeth played the TV commercial and Instagram video. Susan Joy asked because of the overwhelming success, will the program be repeated next year? Howeth said at best every other year with Denny's. Joy asked what about another customer? Howeth mentioned that we may have some news about a new opportunity in the next few weeks.

National Accounts were reviewed as well as our approach to the school market. Breakfast Beat was evaluated. Overall, readers are very satisfied; AEB will be expanding from four to six newsletters in 2014. Steve Solomon of FSInsights gave a National Account Overview. Breakfast sandwiches continue to grow on menus. He reviewed McDonald's business and mentioned they had more of a focus on lunch this year. However, Solomon also pointed out that this year McDonald's has added several new egg items to their menu. Additionally, McDonald's is rolling out their Breakfast After Midnite program in many regional markets. There is no timeline for a national roll-out as the program is being incorporated when the regions/franchisees want it. This program will make eggs available from midnight to 4 AM. Three McDonald's regional radio spots were played featuring McDonald's After Midnite, as well as a Bloomberg news report discussing McDonald's business growth. Solomon gave an overview of Dunkin' Donuts, our #2 chain. Dunkin' Donuts continues to focus on eggs and on egg limited time offers (LTOs). They are opening 3,000 new restaurants within the next two years. Solomon then gave an overview of Jack in the Box, which continues to innovate with breakfast and eggs. They serve breakfast all day and have sandwiches with double eggs. IHOP is one of the top midscale chains, but egg servings continue to decline as traffic declines. They requested AEB's support in helping them reposition their egg strategy. The re-positioning was very successful and IHOP was most appreciative of AEB support.

Howeth discussed the proposed 2014 Foodservice Strategies & Objectives. A review of the approved 2014 Foodservice Budget was presented by Howeth.

A motion was made by Tom Stoller, seconded by Lisa Timmerman, to approve the proposed 2014 Egg Product Marketing Strategies & Objectives. Motion carried unanimously.

Steve Olson, State Representative, gave staff a brief report. First, he suggested that we should consider modifying our foodservice messages to appeal to a broader audience. Finally, he mentioned we should think about educating consumers to influence behavior in addition to promoting to them.

A brief Executive Session was held.

With no further business, Lee Regensburger made a motion to adjourn, seconded by Roy Patterson, and motion carried unanimously. The Committee meeting adjourned at 4:42 pm.

Brian Joyer, Chairman

John Howeth | Vice President of Ingredient & Commercial Marketing

American Egg Board

O 847.296.7043 | D 224.563.3705 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org <u>AEB.org</u>

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Lutton, Sara - AMS

From: Sent: To: Subject: Roger Deffner <RogerD@natlfood.com> Wednesday, September 11, 2013 11:19 AM John Howeth FW: [eggmen] 'Artificial egg' made from PLANTS

FYI – more of the same!

Roger Deffuer Vice President National Food Corporation Direct: 425-407-6228

http://www.dailymail.co.uk/sciencetech/article-2416808/Artificial-egg-PLANTS-backed-Bill-Gates-set-revolutionize-cooking-goes-sale-Whole-Foods.html

'Artificial egg' made from PLANTS backed by Bill Gates set to revolutionize cooking goes on sale at Whole Foods

By MARK PRIGG IN SAN FRANCISCO

PUBLISHED: 11:06 EST, 10 September 2013 | UPDATED: 11:09 EST, 10 September 2013

A radical 'artificial egg' backed by Paypal billionaire Peter Thiel and Bill Gates goes on sale in US supermarkets for the first time today. Made from plants, it can replace eggs in everything from cakes to mayonnaise - without a chicken ever coming close to the production process.

The team today started selling their 'plant egg', called Beyond Eggs, in Whole Foods in California - and say it could soon be available in supermarkets worldwide.



Eggstraordinary: The powder is a special blend of plants including peas and beans

'We want to take animals out of the equation,' said Josh Tetrick, the firm's founder. 'The food industry is begging for innovation, especially where animals are involved - it is a broken industry.' MailOnline was able to try two of Hampton Creek's products - its mayonnaise, and cookies made using its baking product.

The results were surprising, if a little anticlimactic. Both tasted exactly as you would expect - and are indistinguishable from products made with real egg.

The chocolate chip cookies we tried were excellent - crumbly, moist and with a feel in the mouth identical to a normal cookie. Crucially, they also look identical to a normal cookie - despite containing no egg. Hampton Creek's 'Beyond Egg' mayonnaise was also extremely similar to 'normal' mayo - and after trying it out on a few friends, some even preferred to to normal mayonnaise.

Tetrick's idea was to find a mix of easy-to-grow plants that, when mixed together in the right way, replicate the taste, nutritional values and cooking properties of an egg.

This, he believes will allow the firm to produce its substitute for mass market foods - and to allow developing worlds to grow their own versions with added nutrients.

'Eggs are functionally incredible, they do everything from hold oil and water in mayo to making the muffin rise and holding scrambled eggs together,' he said 'I started to think what if we can find plants that can do this. We have about 12 plants preselected, including a pea already widely grown in Canada. There's also a bean in South Asia that is incredible in scrambled eggs.'

More...

- Fluorescent green eels, glowing red fish and acid yellow corals: Scuba diver captures extraordinary images of creatures that light up the ocean floor when exposed to ultraviolet light
- Could listening to Miley Cyrus make you more INTELLIGENT? Scientist claims certain pop songs can make you smarter
- Would you sign up to die on MARS? 200,000 people around the the world apply for a one-way ticket to the red planet
- Nasa to give future rovers a 'BRAIN': Experts develop camera that helps space robots make decisions in deep space

The firm is already in talks with major food manufacturers around the world - including several in the UK, to replace eggs in supermarket products with their alternative.

So far, he says the team has perfected an egg substitute for mayonnaise, and one for cakes.

'We can make really good mayonnaise, we've done taste tests against market leaders, and beaten them consistently. In the world of cookies, we've trialled our products with everyone from Bill Gates to Tony Blair, both of whom couldn't taste the difference.

'Bill Gates became an advisor to the company, and has been one of its most vocal supporters in the Silicon Valley world where Hampton Creek is based.



'Perfect': So far the makers claim to have mastered a recipe for cakes and mayonnaise - but are struggling with scrambled eggs



'Companies like Hampton Creek Foods are experimenting with new ways to use heat and pressure to turn plants into foods that look and taste just like meat and eggs,' he recently wrote of the firm.

The team initially struggled.

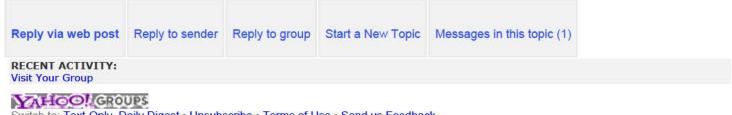
'Our first attempts weren't great, we tried to make a muffin using a mix of plants,' said Tetrick.

'Ours tasted really gummy, and didn't have the 'bounce' we wanted. Our mayonnaise would not hold the oil and egg together, so had what looked like liquid syrup. Scrambled eggs were even worse - they just wouldn't congeal at all, and had a really bad aftertaste.

Tetrick admits the firm is struggling with artificial scrambled egg. He says there is a 'pretty good' recipe, but admits more work is needed. 'Eventually we'll get to one thing that will replace everything,' he said.

The firm hopes to allow developing countries to grow and produce their own 'plant eggs'.

'In developing countries, we can also add in things missing from the local diet, helping nutrient deficiencies, and we have had initial discussion with the world food programme about this. 'What we want to do eventually is find a way to work with farmers in the developing world to enable them to have new cash crops that can be used. Then we become the kind of company to be feared by the bad guys in the industry.'



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From:	John Howeth
To:	Jerry Smiley(b) (6)
Cc:	John Howeth
Subject:	FW: AEB addresses Beyond Egg
Date:	Monday, September 23, 2013 12:19:00 PM

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Joanne Ivy
Sent: Monday, September 16, 2013 9:53 AM
To: 'sshane@nc.rr.com'
Cc: 'dbaker@cmfoods.com'; 'Roger Deffner'; John Howeth; Elisa Maloberti; Kevin Burkum; Mitch Kanter; Mia Roberts
Subject: RE: AEB addresses Beyond Egg

Simon, Thanks for your email. AEB has been aware of this product for several months and have spent a lot of time determining the best approach to address the situation. I have also been inundated with emails from the egg industry with questions, etc. so I understand and appreciate the egg industry's concern. I have tried to respond to each of these emails individually to address their specific questions.

I am providing you below a response statement to the introduction of the Beyond Egg product. It is important the egg industry knows that AEB is on top of the situation. Joanne

You may have seen some media coverage recently about a new egg replacer option called Beyond Eggs. We believe the reason this replacer has been getting some attention is due to the fact that it is backed by PayPal billionaire Peter Thiel and Bill Gates.

The American Egg Board (AEB) has been tracking online conversation trends about this replacer, and we are pleased to see that it peaked on September 11, and has been steadily declining since. In fact, we were happy to see this recent MSN article: <u>http://now.msn.com/plant-based-egg-replacement-beyond-eggs-on-sale-at-whole-foods</u> with 520 shares and 17 comments in which people are saying they like their eggs just as they are.

While AEB recognizes the emergence of new egg replacement options, such as the highly visible Beyond Egg, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Next month AEB is launching two major educational campaigns:

- One targeting food manufacturers focusing on the benefits of using real eggs versus egg replacer ingredients. We'll explain that eggs are a simple food that cannot be replicated by any product that is produced by scientists in a laboratory, which helps provide clean labels that are so important in this channel.
- The other is aimed at consumers and influencers and will share how egg farmers have made great strides towards making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. As part of this effort, AEB will be releasing the results of a comprehensive study comparing the environmental footprint of the U.S. egg industry in 2010 vs. 1960.

Joanne Ivy President & CEO American Egg Board

From: <u>sshane@nc.rr.com</u> [mailto:sshane@nc.rr.com] Sent: Thursday, September 12, 2013 12:43 PM To: Joanne Ivy Cc: <u>dbaker@cmfoods.com</u> Subject: Document1

Joanne,

I have a portfolio of items and press releases about Hampton Creek and am investigating the Company and its principal. I believe that it is up to the AEB to refute. Glad to help, Simon

From: Sent: To: Cc: Subject: John Howeth Friday, September 13, 2013 1:25 AM Elisa Maloberti John Howeth FW: Beyond Eggs / 'Artificial egg' at Whole Foods

Here's another one.

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Joanne Ivy (b) (6) Sent: Thursday, September 12, 2013 9:34 PM To: Mike Sencer Cc: Elliot Gibber (<u>egibber@debelfoods.com</u>); John Howeth Subject: Re: Beyond Eggs / 'Artificial egg' at Whole Foods

Mike, we have been aware of this product for for some time and have had several meetings with our agencies to discuss how to approach this situation. Beyond Egg is just another replacer, but this egg replacer/substitute is getting a lot of attention because of the relationship with Bill Gates and HSUS. At this point, consumers are not reacting favorably to the "artificial egg." Our bigger concern is with food manufacturers, and we have developed a campaign to address this situation.

Based on the press release that came out September 9, we are currently analyzing what statements in that release are untrue about the Beyond Egg compared to real egg product and also to address their statements about egg production. We hope to have a release to the industry press by tomorrow (Friday) afternoon.

You did make an interesting comment about the name of the product including Eggs, but the product does not include Eggs. I will check with USDA to see if there is a legal violation by using Eggs in the title.

Just know we are on it! Joanne

Sent from my iPhone

On Sep 12, 2013, at 12:47 PM, Mike Sencer <<u>msencer@hiddenvilla.com</u>> wrote:

Interesting comments below!

Subject: Fwd: Beyond Eggs / 'Artificial egg' at Whole Foods

Interesting....no mention anywhere of cost. No mention of taking from corn and soy grown by farmers, conventional, organic and nonGMO Nationally and world wide. Mentions how chickens are kept cramped together or whatever....but in truth cage free, free range and pasture they have a great life span and freedom to do chicken behavior just fine. "Artifical Egg"..... why is USDA letting them have egg part of the name ? Its not an egg ...just has the properties , Even showing an egg/shell is not right. I guess. This needs some counter activity and pressure from American Egg Board; United Egg Producers and others. Warren Buffet would be okay.

http://www.dailymail.co.uk/sciencetech/article-2416808/Artificial-egg-PLANTS-backed-Bill-Gates-setrevolutionize-cooking-goes-sale-Whole-Foods.html

http://hamptoncreekfoods.com/

From:	John Howeth
Sent:	Thursday, September 12, 2013 6:10 PM
То:	Elisa Maloberti
Subject:	Fwd: Beyond Eggs

Can you start this first thing.

John Howeth VP Ingredients & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org

Begin forwarded message:

From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: September 12, 2013, 5:24:31 PM EDT To: John Howeth <<u>JHoweth@aeb.org</u>> Subject: Beyond Eggs

I am going to say something to the industry press about Beyond Eggs. I have ask Edelman to assist me with a release.

I may want to add something about AEB's approach. Would you provide information on our strategy and campaign to address egg replacers, including the Beyond Egg product. I hope to get out the release mtomorrow afternoon, so could you write something at your earliest convenience by 11:00 am tomorrow. Thanks. Joanne

Sent from my iPhone

From:	John Howeth
To:	Terry Schroff; Kitty Kevin
Cc:	John Howeth
Subject:	FW: Beyond Eggs
Date:	Tuesday, August 20, 2013 4:43:00 PM
Attachments:	image001.png
	image002.png
	image003.png
	<u>image004.png</u>
	<u>image005.png</u>
	image006.png
	<u>image007.png</u>
	<u>image008.png</u>
	image009.png
	image010.png

Hi guys, please read the email below. Hampton Creek is taking another shot at us. Joanne has already received seven producer calls asking what are we going to do. As you can see by the email, she is enlisting Edelman's aid, as they have a crisis management team. She wanted to know if you have any thoughts. They are going to try and do a conference call Thursday or Friday. Let me know if you have thoughts and/or would like to participate in the call.

I'll be in until 11 tomorrow, let me know if you have any questions.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Tuesday, August 20, 2013 3:37 PM
To: Joanne Ivy; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Liuzzi, Andrew
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Absolutely, I have cc'd Andy Liuzzi on our crisis team. We will brief him, collect throughts as well as set up a call asap this week.

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, August 20, 2013 3:33 PM
To: Maher, Missy; Jensen, Elizabeth (Schreiber); Schaffner, Serena
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Missy, I am getting a lot of emails about this product from egg producers and further processors. The further processor considers this a serious threat to their business. I have met with John, and we think it would be a good idea if Edelman looked at this product as a crisis and major threat to the future of the egg product business and provide some advice and input as to how we should address this situation. I was wondering if we should hold a conference call this week to discuss or if Edelman would like to give some thought to the situation and get back to me about how you would like to present your recommendations and move forward. I realize this is an egg product issue, but I respect Edelman's expertise in a crisis situation. I am feeling this is turning into a crisis!

Most of the emails I am getting are similar to this one, "What are we doing at AEB with regard to this competing product??" We need to have an answer! Joanne

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

 0 847 296.7043 | D 224 563.3701 | C (b) (6)

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From: Mitch Kanter
Sent: Tuesday, August 20, 2013 2:30 PM
To: Joanne Ivy; Kevin Burkum
Cc: 'Schaffner, Serena'; Maher, Missy (<u>Missy.Maher@edelman.com</u>); Jensen, Elizabeth (Schreiber); Torvik, Erika; McClamroch, Allison (<u>Allison.McClamroch@edelman.com</u>); Kristin Livermore; Tia Rains
Subject: RE: Mother Jones

On a macro level, this product still doesn't feel "natural" to me. Unless it performs absolutely better than eggs in food applications, I wonder how much pick up it will get in mainstream products. Remains to be seen, but that's my sense. Feels like a niche product.

On a micro level, has anyone ever written an article we're aware of that counters the claim about animal suffering from the following perspectives?"

1-hens these days are as productive as they've ever been. They are egg laying "machines." If they were suffering it's highly doubtful they'd be as productive as they are. Too many physiological changes occur in suffering animals to allow them to be that productive

2-what is the rate at which free range birds can be picked off by predators? I think it's very high. Ken Anderson quoted me a number in the vicinity of 50% I think.

Point is- -has there been a concerted enough effort to get these points across to counter the HSUS types? Mitch

From: Joanne Ivy
Sent: Tuesday, August 20, 2013 2:06 PM
To: Kevin Burkum
Cc: 'Schaffner, Serena'; Maher, Missy (<u>Missy.Maher@edelman.com</u>); Jensen, Elizabeth (Schreiber);
Torvik, Erika; McClamroch, Allison (<u>Allison.McClamroch@edelman.com</u>); Mitch Kanter; Kristin Livermore
Subject: RE: Mother Jones

Yes, the interview and questions were too easy. I am also a little paranoid. This article game out today – a synthetic egg! (see below) I am aware of this product and their website, but this is a very scary article. I have scheduled a meeting with John Howeth today to discuss. Joanne

Below is an article where HSUS interviews Beyond Meat which produces an egg replacement product. We were the first to uncover that HSUS has invested in the concept while deceptively pretending to partner with (i.e., extort under the threat of lawsuits) the egg industry. I've highlighted some specific sections of the article that warrant your attention. Ask yourself whether these people are credible partners. -Rick

http://www.humanesociety.org/news/magazines/2013/09-10/best-laid-plans-egg-substituteto-benefit-hens.html

August 19, 2013 **Best Laid Plans**

Plant-based egg substitute could benefit millions of hens.

All Animals magazine, September/October 2013

Josh Tetrick, CEO of Hampton Creek, wants to change the world with a pale green powder. Called Beyond Eggs, it gets its color from a variety of pea—an ingredient the company's scientists and chefs identified after testing 287 plants. There's also sunflower and canola oil and other natural ingredients. One formulation of the powder can be used to replace eggs in baked goods like cookies. Another can be used in sauces like mayonnaise.

The food industry traditionally has used processed eggs—in liquid, frozen, or powdered form —to make these products. One third of the eggs produced in the U.S. today go for this purpose. Most of those eggs are laid on factory farms by hens crammed into battery cages stacked enclosures so small that the birds can't even spread their wings. Tetrick aims to take over much of the processed eggs market with a product he says is not only more humane, but about 20 percent less expensive, better for the environment, and healthier—it has no cholesterol and carries none of the food safety risks of eggs from factory farms.

"We want to decrease by 30 percent the number of egg-laying hens in battery cage facilities during the next five years."

This year, two major food companies will begin using Beyond Eggs. (The product will also be available to consumers through Hampton Creek's website.) In the future, Tetrick hopes to develop a liquid product that could be used to make scrambled eggs.

Based in San Francisco, Hampton Creek already has several million dollars in venture capital funds and the endorsement of Bill Gates, who has identified it as one of the top companies shaping the future of food.

Beyond Eggs could potentially spare hundreds of millions of chickens from lives in battery cages, says Josh Balk, director of corporate policy for The HSUS's Farm Animal Protection Campaign and an old friend of Tetrick's. "Hampton Creek is a great example of how the humane economy can benefit animals," says Balk, who helped the company get started. "In order to eliminate factory farming, consumers have to continue incorporating more plant-based foods into their diets." Beyond Eggs could pave the way to ending battery cage facilities so that the only eggs on the market come from higher welfare, pasture-based systems.

In this edited interview with senior writer Karen E. Lange, Tetrick talks about where his vision for Beyond Eggs came from and where he hopes it will lead.

How did your concern for animals lead you to develop an alternative egg product?

About 1.1 trillion eggs are laid every single year globally. Most come from places that we wouldn't be too proud of if we saw them, places that are awfully cruel, awfully unsustainable, and pretty bad for our health. And I just thought that **there's got to be a way to take the animal entirely out of the equation** when it comes to conventional egg production and do something that's better and less expensive.

Can you describe the typical commercial egg-laying facility?

It's an industrial warehouse. It's dimly lit, with row upon row upon row of cages stacked on top of each other, lining each wall. It smells of ammonia. And in each cage you have seven to 10 birds packed body to body. And you can see all the corn and soy that they're fed. They have a water drip. And they're left there for two years.

It's radical abuse, beyond-the-pale abuse. Whether we think a bird in one of those cages is equal to our dog or our cat, or to a Bengal tiger or an Asian elephant, really isn't the point for me. The point is, she's a living being.

What is Josh Balk's relationship to Hampton Creek?

He is the real inspiration behind everything that's happening every single day here. We've known each other since we were about 16 years old. He was a pitcher who used to strike me out on a regular basis on the baseball field, and we've been best friends ever since.

I was raised in Birmingham, Ala., in a lot of ways completely blind to the environmental and ethical issues around our food system. And Josh, even when I was 18 or 19 years old, has been educating me, encouraging me to eat in a more humane way, and opening my eyes to how we can really change the world through food.

How does Beyond Eggs compare to eggs in terms of nutrition?

I would say it's healthier. You're avoiding food safety issues, you're avoiding cholesterol, you're avoiding allergens that eggs have. It does provide the same kind of protein, but no one's eating a cookie for protein.

Can most people taste the difference between Beyond Eggs and powdered or shell eggs?

Usually, people can tell the difference, and they like ours better. The taste comes out a bit

more in the product. So you taste the chocolate of the cookie more, for example. And they like the taste of the mayonnaise better. It's not scary mayo; it's not mayo made in a lab. It's just really good mayonnaise that is priced competitively and doesn't have cholesterol.

Do you foresee Hampton Creek's products replacing most of the eggs produced in battery cage facilities?

All of them. We want to decrease by 30 percent the number of egg-laying hens in battery cage facilities during the next five years. We want to end animal suffering in the egg industry.

What are the company's other long-term goals?

Our hopes for Hampton Creek are, in seven years, that when people think about food, we're one of the companies they mention that are moving our system forward, that are creating millions of pounds—thousands of products—of food that respects animals and respects the environment. We'll be outside the U.S., on the subways of Beijing, and on the streets of Lagos, Nigeria, and Birmingham, Ala., where I was raised. We want to be the world's most valuable company.

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Kevin Burkum Sent: Tuesday, August 20, 2013 1:59 PM To: Joanne Ivy Subject: RE: Mother Jones

Something still smells fishy. Hope I'm just being paranoid.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Sent: Tuesday, August 20, 2013 1:11 PM
To: 'Schaffner, Serena'; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Matt only asked questions about the charts. It was very straight forward. He wanted to know what each column represented; definitions for words such as breaker, layer, egg product, institution (commercial and non-commercial); brief explanation for decline in shell eggs at retail, etc.; formula for USDA's per capita consumption figures; and a few basic trends in egg usage based on the charts. Very easy discussion! Joanne

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 8:13 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Sounds great! We know you'll do a great job, Joanne! We'll let the reporter know you'll be contacting him tomorrow. Look forward to hearing how it goes!

Best, Serena

------ Original message ------From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: 08/19/2013 5:23 PM (GMT-06:00) To: "Schaffner, Serena" <<u>Serena.Schaffner@edelman.com</u>>,Kevin Burkum <<u>KBurkum@aeb.org</u>> Cc: Kristin Livermore <<u>KLivermore@aeb.org</u>>,"Maher, Missy" <<u>Missy.Maher@edelman.com</u>>,"McClamroch, Allison" <<u>Allison.McClamroch@edelman.com</u>>,"Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>>,"Torvik, Erika" <<u>Erika.Torvik@edelman.com</u>> Subject: RE: Mother Jones

Serena: Thank you for the information you provided as I know it will be helpful. I have a background in egg products and also started AEB's program, so unless the questions are complicated, I feel sure I will be able to handle most questions – unless it is about synthetic eggs!

I will call tomorrow as there are a couple of stats on the charts that are not consistent. I no longer

input these numbers on the website, so I am verifying a couple of figures that look a little strange to me. I will call Matt tomorrow am, and I will let you know how it goes. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 4:31 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Hi Joanne –

As promised, we've pasted below a few talking points to address any "watch out" questions that might come up during the interview in regards to animal welfare. Should he press for more information, feel free to direct him to UEP. There may be a few questions about eggs in processed foods, so we've included talking points that also address cholesterol, in case he brings up egg nutrition and health.

Please let us know if you have any questions. We look forward to hearing how the interview goes and will be sure to keep a close eye on any resulting coverage.

Best, Serena

Animal Welfare:

- Hen health and egg quality are the top two priorities on egg farms all day, every day.
- America's egg farmers have very strict steps, safeguards and practices they follow to make sure their hens are healthy and to protect the quality of the eggs.
- Advances in science and technology help egg farmers preserve safety and quality throughout the gathering, inspecting, packaging and handling process.
- Egg farmers follow guidelines to ensure the hens are provided with nutritious feed, clean water, proper lighting and fresh air. The guidelines place top priority on health and safety.
- For more information on this topic, please contact someone with the United Egg Producers at 770.360.9220.

Concerns about Cholesterol:

- The USDA recently reviewed the nutrient composition of standard large eggs, and results show the average amount of cholesterol in one large egg is 185 mg, down from 215 mg, 14 percent lower than previously recorded in 2002.
- Enjoying an egg a day can fall within current cholesterol guidelines, particularly if individuals opt for other low-cholesterol foods throughout the day.
 - The 2010 *Dietary Guidelines for Americans* recommend that individuals consume, on average, less than 300 mg of cholesterol per day. A large egg contains 185 mg of cholesterol.
- The 2010 *Dietary Guidelines for Americans* support the role of eggs in a healthy diet. The report, released in January 2011, states that healthy individuals can enjoy an egg daily and suggests an egg a day does not result in increased blood cholesterol levels.
 - Studies have also shown that eating one or more eggs per day does not increase the risk of coronary heart disease or stroke among healthy individuals, and that eating eggs daily does not have a significant impact on blood cholesterol.
- A large body of science supports the beneficial role that eggs play in a healthful diet, including promoting mind and body energy, reducing the risk of birth defects, promoting muscle and eye health and helping to manage weight.

From: Schaffner, Serena
Sent: Monday, August 19, 2013 4:15 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Hi Joanne –

We'll send you updated animal welfare messages, shortly. Please let us know if there is anything else you need that we can provide.

Best,

Serena

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Monday, August 19, 2013 3:32 PM
To: Kevin Burkum
Cc: Schaffner, Serena; Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Kevin, I probably understand the charts better than anyone since I created them. However, I would

not want to answer questions on synthetic products. Actually, John would be more on top of the latest information regarding eggs and processed foods. I am still concerned about the angle that this article may go. I guess if he asked about those areas, I could have John call him back.

I can handle reviewing the chart if you want. However, I just glanced at them and I noticed a few minor discrepancies between the two charts, for example one chart shows in 2012, 223.70 million cases produced (80,532,000,000 eggs) and the other chart shows 224.10 cases produced (80,676,000,000 eggs). It is probably a matter of USDA making adjustments through the year, but I need to review these charts as someone else is inputting the information now on the website and I have not reviewed them in a while.

I will call Matt Connolly today once I review the charts. If Edelman wants to provide some animal welfare comments in case I am asked, it may be helpful. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Kevin Burkum Sent: Monday, August 19, 2013 2:29 PM To: Joanne Ivy Subject: FW: Mother Jones

Meant to forward this to you. Please advise, thanks.

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847 296.7043 | D 224 563.3702 | F 847.296.7007

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From: Kevin Burkum
Sent: Monday, August 19, 2013 2:29 PM
To: 'Schaffner, Serena'
Cc: Kristin Livermore; Torvik, Erika; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Subject: RE: Mother Jones

Thanks Serena. I don't know that I'm the right person. Joanne, do you have any thoughts? John perhaps?

Kevin Burkum | Senior Vice President of Marketing

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 2:27 PM
To: Kevin Burkum
Cc: Kristin Livermore; Torvik, Erika; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Subject: RE: Mother Jones
Importance: High

Hi Kevin –

We've heard back from Matt Jones and confirmed that he'd like to discuss statistics on which types of processed foods are the biggest users of eggs as well as walk through the <u>Shell Egg Distribution</u> table and <u>Egg Production/Distribution</u> table. The information will be used to create a few charts that will be part of a sidebar for a larger story about synthetic egg products. Unfortunately, he is not the author of the original article, so he is unclear and vague as to what angle the larger story will take.

Have you or anyone at AEB recently fielded questions about eggs and processed foods or synthetic products? Are there any red flags that come to mind? It may help to shed some light on what angle Mother Jones is planning to take.

While we're still leery of the interview, we do recommend that you or someone at AEB with issues/animal welfare experience, walk Matt through the charts, today, so the data is reflected correctly. The discussion may also help to tip us off on the angle they're planning to take.

We'll pull together a few recommended responses to animal welfare questions, just in case the conversation heads that way. In the meantime, please let us know who will field the interview and we can have a quick call to chat through final details, before someone from AEB reaches out.

Best, Serena

From: Torvik, Erika
Sent: Thursday, August 15, 2013 5:34 PM
To: Schaffner, Serena; Kevin Burkum; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Cc: Kristin Livermore
Subject: RE: Mother Jones

Hi Kevin –

We did a little digging on Mother Jones/Matt Connolly, and found that Matt previously reported for

Washington Examiner, New York Times, Washington Post and Chicago Public Radio. He doesn't seem to have a <u>dedicated beat</u> for Mother Jones or his <u>previous work</u> – he has written about everything from immigration reform to music. There have been several recent Mother Jones articles reporting about <u>animal abuse</u> in the agriculture industry, though none are specifically about the egg industry and none of those articles are by Matt. <u>Tom Philpott</u> seems to be their more regular agriculture/animal welfare reporter.

We reached out to Matt to get more information about his request and learned that he wants someone to walk him through the AEB.org <u>Shell Egg Distribution</u> table and <u>Egg</u> <u>Production/Distribution</u> table to make sure he understands the data correctly. He's also looking for stats on which types of processed foods are the biggest users of eggs. While we followed up for his deadline and additional detail on his story angle, we have not heard back.

Given the outlet's investigative focus and the data he's looking at, we're still a little leery of the request and have not committed to anything. We'll follow up with Matt again tomorrow and will keep you updated. In the meantime, let us know if you have any questions.

Best, Erika

From: Schaffner, Serena
Sent: Thursday, August 15, 2013 8:47 AM
To: Kevin Burkum; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Cc: Kristin Livermore
Subject: RE: Mother Jones

No problem, Kevin. We'll be sure to vet him and find out what he's up to. Stay tuned!

Best,

Serena

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Thursday, August 15, 2013 8:46 AM
To: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika
Cc: Kristin Livermore
Subject: Mother Jones

I received a voice mail message from a reporter at Mother Jones, Matt Connolly, who has questions about egg statistics on our website. Knowing that Mother Jones is rarely an industry friend, I know we need to respond carefully. Do you mind vetting this guy and reaching out to him to answer his questions?

mconnolly@motherjones.com; 908.616.5079

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgo.org <u>AEB.org</u>



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From:	John Howeth
To:	Elisa Maloberti
Subject:	FW: Beyond Eggs
Date:	Tuesday, October 15, 2013 11:26:43 AM
Attachments:	image001.jpg
	image002.png
	image003.png
	image004.png
	image005.png
	image006.png
	image007.png
	image008.png
	image009.png
	image010.png
	image011.png
	image012.png

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Joanne Ivy Sent: Monday, October 14, 2013 12:03 PM To: John Howeth Subject: FW: Beyond Eggs

Yes, it sounds like a different formulation. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Sparish, Diane M. [mailto:Diane.Sparish@MichaelFoods.com] Sent: Monday, October 14, 2013 12:02 PM To: Joanne Ivy Subject: FW: Beyond Eggs

FYI.

?

Diane Sparish VP Corporate Communication [™] 952-258-4045 <u>diane.sparish@michaelfoods.com</u>



?

301 Carlson Parkway Suite 400 Minnetonka, MN 55305

From: Merkle, Jonathan A. Sent: Monday, October 14, 2013 12:01 PM To: Sparish, Diane M. Subject: RE: Beyond Eggs

It was not in the sample that we received.

From: Sparish, Diane M. Sent: Monday, October 14, 2013 11:49 AM To: Merkle, Jonathan A. Subject: FW: Beyond Eggs

Any insight?



301 Carlson Parkway Suite 400 Minnetonka, MN 55305

From: Joanne Ivy [mailto:JIvy@aeb.org] Sent: Monday, October 14, 2013 11:45 AM To: Sparish, Diane M. Subject: RE: Beyond Eggs

What is the name of the 'yellow pea' protein? I can't identify from the list. I guess they consider that the key ingredient.

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Sparish, Diane M. [mailto:Diane.Sparish@MichaelFoods.com] Sent: Monday, October 14, 2013 11:32 AM To: Joanne Ivy Subject: FW: Beyond Eggs

FYI. See Beyond Eggs ingredients below.



301 Carlson Parkway Suite 400 Minnetonka, MN 55305

From: Merkle, Jonathan A. Sent: Monday, October 14, 2013 11:29 AM To: Sparish, Diane M. Subject: RE: Beyond Eggs

Hampton Creek

Ingredients: Whole Sorghum Flour, Oat Fiber, Oat Bran, Xanthan Gum, Algin

From: Sparish, Diane M. Sent: Monday, October 14, 2013 11:25 AM To: Merkle, Jonathan A. Subject: Beyond Eggs

Do you have the ingredient deck for the Beyond Eggs product(s)? If so, please forward it to me.

Thanks, Diane

?

301 Carlson Parkway Suite 400 Minnetonka, MN 55305

From:	John Howeth
Sent:	Monday, August 04, 2014 10:49 AM
То:	'Elisa Maloberti'
Cc:	John Howeth
Subject:	FW: Beyond Eggs Article 7.25

One more item in your area. Ultimately we're looking for an ingredient/nutritional panel for their new Just Scramble product. I asked Jerry to start looking for it. Please stay on top of him to make sure we receive something. Again an Amanda project (??), maybe she can find something on line. Your call.

John Howeth Senior VP, Foodservice & Egg Product Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Jerry Smiley [mailto: (b) (6) Sent: Thursday, July 31, 2014 10:57 AM To: John Howeth Cc: Veronica Smiley Subject: RE: Beyond Eggs Article 7.25

John,

We haven't found anything specific yet, but I have my crack researcher, Veronica, on it.

She does have two articles with some insight so far. We'll forward soon.

Regards,

Jerry Smiley Partner Strategic Growth Partners, Inc. 760 Rosedale Avenue Roselle, Illinois 60172 630-893-8399 ☎ 630-899-9488 ■

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From: John Howeth [mailto:JHoweth@aeb.org] Sent: Friday, July 25, 2014 12:47 PM To: Jerry Smiley Subject: Re: Beyond Eggs Article 7.25

Yes that's the one I'm looking for. Even if we can't get a sample if we can get an ingredient statement and nutritional panel that would be super. Thank you.

John Howeth VP Foodservice & Egg Product Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org

On Jul 25, 2014, at 11:34 AM, "Jerry Smiley" (b) (6) > wrote:

I assume that you mean "Just Scramble" product. True?

I don't think it's on the market yet, but I can check. I think I can get the mayo and cookie mix products.

Regards,

Jerry Smiley Partner Strategic Growth Partners, Inc. 760 Rosedale Avenue Roselle, Illinois 60172 630-893-8399 ☎ 630-899-9488 ■

Please consider the environment before printing this e-mail.

If you have received this electronic transmission in error or are not interested in receiving emails of this nature, please notify us by telephone (630-893-8399) or simply reply to this email and we will resolve immediately. Thank You.

From: John Howeth [mailto:JHoweth@aeb.org] Sent: Friday, July 25, 2014 11:26 AM To: Jerry Smiley Subject: Fwd: Beyond Eggs Article 7.25

Hey is there anyway that you can get this product? I'm sure the Joanne would really appreciate it.

John Howeth VP Foodservice & Egg Product Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org Begin forwarded message:

From: Joanne Ivy <<u>llvy@aeb.org</u>> Date: July 25, 2014 at 11:22:55 AM CDT To: Mitch Kanter <<u>MKanter@eggnutritioncenter.org</u>> Cc: "Englert, Jenny" <<u>Jenny.Englert@edelman.com</u>>, Kevin Burkum <<u>KBurkum@aeb.org</u>>, Serena Schaffner <<u>sschaffner@aeb.org</u>>, Mia Roberts <<u>MRoberts@aeb.org</u>>, Jacinta LeDonne <<u>JLeDonne@aeb.org</u>>, Mia Roberts <<u>MRoberts@aeb.org</u>>, Jacinta LeDonne <<u>JLeDonne@aeb.org</u>>, Ashley Richardson <<u>ARichardson@aeb.org</u>>, Sheryl Slagle <<u>SSlagle@aeb.org</u>>, John Howeth <<u>JHoweth@aeb.org</u>>, "Maher, Missy" <<u>Missy.Maher@edelman.com</u>>, "McClamroch, Allison" <<u>Allison.McClamroch@edelman.com</u>>, "Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>>, "Waltz, Allison" <<u>Allison.Waltz@edelman.com</u>>, "Burch, Kellie" <<u>Kellie.Burch@edelman.com</u>> Subject: Re: Beyond Eggs Article 7.25

We can try to get it, but as far as I know we don't have it. John, can you get it? Joanne

Sent from my iPhone

On Jul 25, 2014, at 12:09 PM, "Mitch Kanter" <<u>MKanter@eggnutritioncenter.org</u>> wrote:

Does anyone know the nutritional composition of his scrambled egg product?

From: Englert, Jenny [Jenny.Englert@edelman.com]
Sent: Friday, July 25, 2014 10:50 AM
To: Joanne Ivy; Kevin Burkum; Serena Schaffner; Mia Roberts; Jacinta LeDonne; Ashley Richardson; Sheryl Slagle; Mitch Kanter; John Howeth
Cc: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Waltz, Allison; Burch, Kellie
Subject: Beyond Eggs Article 7.25

Hi all –

We want to flag a new <u>article</u> featuring Hampton Creek Foods in Business Insider entitled, "A San Francisco Startup Has Plans To Blow Up The Egg Industry." The article gives an overview of the company as well as quotes Tetrick saying, "The cost of an egg comes from feed. Unless egg makers are willing to lose money, they don't have a structure to compete with us."

Additionally, we want to flag that Hampton Creek has also released an infographic (featured in the article) explaining how to make scrambled eggs with Just Scramble, their plant based egg substitute.

Please let us know if you have any questions, and we will continue to monitor for any updates.

Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell:(b) (6) jenny.englert@edelman.com | www.edelman.com <image001.png>

From: Sent: To: Cc: Subject: John Howeth Tuesday, November 19, 2013 3:59 PM Frank Gray John Howeth FW: Beyond Eggs HuffPo Interview

Frank, could you please download this video. It's about Beyond Eggs, pretty important stuff. Thank you.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Englert, Jenny [mailto:Jenny.Englert@edelman.com]
Sent: Tuesday, November 19, 2013 2:38 PM
To: Joanne Ivy; Kevin Burkum; Kristin Livermore; Mia Roberts; Jacinta LeDonne; John Howeth
Cc: Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer
Subject: Beyond Eggs HuffPo Interview

Hi all,

We wanted to quickly flag a new <u>video interview</u> with Hampton Creek's Josh Tetrick that takes Huffington Post viewers behind the scenes of the Beyond Eggs production process. Josh walks a Huffington Post reporter through the plant where Beyond Eggs are made and demonstrates the multiple tests that the fake egg product has gone through to ensure its consistency and taste is similar to that of real eggs. We are continuing to keep our eyes out for additional top tier coverage including the Forbes story that Joanne provided and interview for yesterday. Please let us know if you have any questions in the meantime!

Best, Jenny

Jenny Englert 200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com



From:	Jensen, Elizabeth (Schreiber) <elizabeth.jensen@edelman.com></elizabeth.jensen@edelman.com>
Sent:	Wednesday, April 16, 2014 12:37 PM
То:	John Howeth
Subject:	FW: Beyond Eggs Survey Results
Attachments:	Egg Board-Egg Replacer Survey_2014.xls

Hi John! Good to see you last week! Per our discussion, I wanted to share the results of the consumer survey for Beyond Eggs. Take a look and shout with questions!

As you recall, our intent with the survey is to put the BE media coverage in perspective (especially as it relates to impact to the bottom line)to ensure a consistent response moving forward and help ease concern among farmers. As such, once we're aligned on how best to position, we recommend communicating the findings to the egg farmers, provide context on why the survey was done and showcase the results as an update to the ongoing discussion around replacers. As the goal of the survey was not to generate media, we recommend keeping the results internal and not for use in media (might inadvertently pick a public fight with BE and proactively cause another news cycle).

Results: The survey was conducted online with a random sample of 1,000+ men and women

- 92% of participants are not familiar with plant-based replacers
- 87% of respondents are not familiar with Beyond Eggs, 90% are not familiar with Just Mayo and a whopping 98% don't know who Josh Tetrick is
- Nearly 90% of participants would not consider purchasing a replacer
- 93% of participants are do not feel positively towards artificially produced food and 92% would not purchase artificially produced food
- Interesting data from the 18-24 demographic in that, for most part, they are more familiarity/comfort with the Beyond Eggs position
 - Note: this is not overly surprising given that this is likely the audience that is more predisposed to the Beyond Eggs message

<u>Key Takeaways</u>

- Despite the media blitz, headline coverage and celebrity investors, Beyond Egg still have very low awareness with the key demographic of grocery shoppers.
- Josh Tetrick, despite being highly visible as the voice of BE and Hampton Creek, has little to no name recognition which presents an opportunity for Industry to fill that void on an expert within the space.
- The results demonstrate that mainstream grocery shoppers are highly reluctant to purchase or endorse products that are artificially produced—an idea that should become a messaging focal point.

Next Step

• Discuss how to best package and communicate findings to egg farmers

From: Sent: To: Cc: Subject: Maher, Missy <Missy.Maher@edelman.com> Friday, October 25, 2013 11:45 AM John Howeth Jensen, Elizabeth (Schreiber) FW: Beyond Eggs

Hi John, I think this is what you were referring to? I just double checked with Andy too. Let me know!

From: Liuzzi, Andrew
Sent: Wednesday, August 21, 2013 2:57 PM
To: Maher, Missy; Joanne Ivy; Jensen, Elizabeth (Schreiber); Schaffner, Serena
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Afternoon all-

We just wanted to follow up here from the Edelman perspective and absolutely agree that the industry needs to put together a strategy to be prepared here. Thus, in advance of our regroup tomorrow afternoon, we thought that it'd be helpful to send across a few initial thought starters for consideration. I've touched base with the team here and we've also done a topline media audit of the coverage Beyond Eggs is receiving, which we can discuss tomorrow as well. We look forward to regrouping.

v/r, Andy

Initial Considerations

- As we develop our strategy, it will be critical that we have distinct elements that focus on the primary stakeholder groups involved, which we see as the following:
 - Customers (especially with Food Service/Food Manufacturing partners who rely on eggs for the production process and might be open to a switch IF Beyond Eggs can deliver on its stated promise)
 - We will want to establish an ongoing direct-to-customer campaign that speaks to the areas that they care most about: safety of eggs, humane treatment of hens and cost-efficiency
 - Consumers (Agree w/ Mitch that this does not present a huge market opportunity but rather, like seitan or tempeh, will cater to a niche market)
 - Health professionals
 - o Egg Farmers
- In order to calibrate our strategy, it will be important to gain any additional information on the product itself, namely:
 - o Nutrition claims?
 - o Cost/how scalable is this from a production standpoint?
 - Do they have any mainstream retail backers? We know they have a relationship with Whole Foods but, given the nature of the BE product and WF's audience, that is to be expected (could also see Trader Joes as potential partner)
- Overall, in viewing these stakeholder groups, we believe that there are varying degrees of risk:

- o Consumers:
 - Low-Moderate (our focus/messaging narrative on consumer would want to be focused around consumer choice and then pivot to many positive attributes of the egg)
- o Customers:
 - Moderate-High if they can deliver on their promise that it is healthier, more cost efficient, tastes better and will ensure no mistreatment of animals
- o HPs
- o Egg Farmers
- With all outreach, we will not want to engage in any sort of public/private offensive that is specifically targeted at BE—but rather we will want to develop/communicate our position that, organically, diffuses the BE argument
 - Especially important given the role HSUS has played w/UEP as well as the role of the Gates Foundation which carries incredible weight
 - The BE position is interesting given that this product is placing two camps that are traditionally aligned in potential opposition to each other: those who are supportive of cage-free housing/animals rights activists vs. those who are opposed to "frankenfood"/synthetic food production

From: Maher, Missy
Sent: Tuesday, August 20, 2013 3:37 PM
To: Joanne Ivy; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Liuzzi, Andrew
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Absolutely, I have cc'd Andy Liuzzi on our crisis team. We will brief him, collect throughts as well as set up a call asap this week.

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, August 20, 2013 3:33 PM
To: Maher, Missy; Jensen, Elizabeth (Schreiber); Schaffner, Serena
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Missy, I am getting a lot of emails about this product from egg producers and further processors. The further processor considers this a serious threat to their business. I have met with John, and we think it would be a good idea if Edelman looked at this product as a crisis and major threat to the future of the egg product business and provide some advice and input as to how we should address this situation. I was wondering if we should hold a conference call this week to discuss or if Edelman would like to give some thought to the situation and get back to me about how you would like to present your recommendations and move forward. I realize this is an egg product issue, but I respect Edelman's expertise in a crisis situation. I am feeling this is turning into a crisis!

Most of the emails I am getting are similar to this one, "What are we doing at AEB with regard to this competing product??" We need to have an answer! Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Mitch Kanter
Sent: Tuesday, August 20, 2013 2:30 PM
To: Joanne Ivy; Kevin Burkum
Cc: 'Schaffner, Serena'; Maher, Missy (<u>Missy.Maher@edelman.com</u>); Jensen, Elizabeth (Schreiber); Torvik, Erika; McClamroch, Allison (<u>Allison.McClamroch@edelman.com</u>); Kristin Livermore; Tia Rains
Subject: RE: Mother Jones

On a macro level, this product still doesn't feel "natural" to me. Unless it performs absolutely better than eggs in food applications, I wonder how much pick up it will get in mainstream products. Remains to be seen, but that's my sense. Feels like a niche product.

On a micro level, has anyone ever written an article we're aware of that counters the claim about animal suffering from the following perspectives?"

1-hens these days are as productive as they've ever been. They are egg laying "machines." If they were suffering it's highly doubtful they'd be as productive as they are. Too many physiological changes occur in suffering animals to allow them to be that productive

2-what is the rate at which free range birds can be picked off by predators? I think it's very high. Ken Anderson quoted me a number in the vicinity of 50% I think.

Point is- -has there been a concerted enough effort to get these points across to counter the HSUS types? Mitch

From: Joanne Ivy
Sent: Tuesday, August 20, 2013 2:06 PM
To: Kevin Burkum
Cc: 'Schaffner, Serena'; Maher, Missy (<u>Missy.Maher@edelman.com</u>); Jensen, Elizabeth (Schreiber); Torvik, Erika; McClamroch, Allison (<u>Allison.McClamroch@edelman.com</u>); Mitch Kanter; Kristin Livermore
Subject: RE: Mother Jones

Yes, the interview and questions were too easy. I am also a little paranoid. This article game out today – a synthetic egg! (see below) I am aware of this product and their website, but this is a very scary article. I have scheduled a meeting with John Howeth today to discuss. Joanne

Below is an article where HSUS interviews Beyond Meat which produces an egg replacement product. We were the first to uncover that HSUS has invested in the concept while deceptively pretending to partner with (i.e., extort under the threat of lawsuits) the egg industry. I've highlighted some specific sections of the article that warrant your attention. Ask yourself whether these people are credible partners. -Rick http://www.humanesociety.org/news/magazines/2013/09-10/best-laid-plans-egg-substitute-to-benefit-hens.html

August 19, 2013 Best Laid Plans

Plant-based egg substitute could benefit millions of hens.

All Animals magazine, September/October 2013

Josh Tetrick, CEO of Hampton Creek, wants to change the world with a pale green powder. Called Beyond Eggs, it gets its color from a variety of pea—an ingredient the company's scientists and chefs identified after

testing 287 plants. There's also sunflower and canola oil and other natural ingredients. One formulation of the powder can be used to replace eggs in baked goods like cookies. Another can be used in sauces like mayonnaise.

The food industry traditionally has used processed eggs—in liquid, frozen, or powdered form—to make these products. One third of the eggs produced in the U.S. today go for this purpose. Most of those eggs are laid on factory farms by hens crammed into battery cages—stacked enclosures so small that the birds can't even spread their wings. Tetrick aims to take over much of the processed eggs market with a product he says is not only more humane, but about 20 percent less expensive, better for the environment, and healthier—it has no cholesterol and carries none of the food safety risks of eggs from factory farms.

"We want to decrease by 30 percent the number of egg-laying hens in battery cage facilities during the next five years."

This year, two major food companies will begin using Beyond Eggs. (The product will also be available to consumers through Hampton Creek's website.) In the future, Tetrick hopes to develop a liquid product that could be used to make scrambled eggs.

Based in San Francisco, Hampton Creek already has several million dollars in venture capital funds and the endorsement of Bill Gates, who has identified it as one of the top companies shaping the future of food.

Beyond Eggs could potentially spare hundreds of millions of chickens from lives in battery cages, says Josh Balk, director of corporate policy for The HSUS's Farm Animal Protection Campaign and an old friend of Tetrick's. "Hampton Creek is a great example of how the humane economy can benefit animals," says Balk, who helped the company get started. "In order to eliminate factory farming, consumers have to continue incorporating more plant-based foods into their diets." Beyond Eggs could pave the way to ending battery cage facilities so that the only eggs on the market come from higher welfare, pasture-based systems.

In this edited interview with senior writer Karen E. Lange, Tetrick talks about where his vision for Beyond Eggs came from and where he hopes it will lead.

How did your concern for animals lead you to develop an alternative egg product?

About 1.1 trillion eggs are laid every single year globally. Most come from places that we wouldn't be too proud of if we saw them, places that are awfully cruel, awfully unsustainable, and pretty bad for our health. And I just thought that **there's got to be a way to take the animal entirely out of the equation** when it comes to conventional egg production and do something that's better and less expensive.

Can you describe the typical commercial egg-laying facility?

It's an industrial warehouse. It's dimly lit, with row upon row upon row of cages stacked on top of each other, lining each wall. It smells of ammonia. And in each cage you have seven to 10 birds packed body to body. And you can see all the corn and soy that they're fed. They have a water drip. And they're left there for two years.

It's radical abuse, beyond-the-pale abuse. Whether we think a bird in one of those cages is equal to our dog or our cat, or to a Bengal tiger or an Asian elephant, really isn't the point for me. The point is, she's a living being.

What is Josh Balk's relationship to Hampton Creek?

He is the real inspiration behind everything that's happening every single day here. We've known each other since we were about 16 years old. He was a pitcher who used to strike me out on a regular basis on the baseball field, and we've been best friends ever since.

I was raised in Birmingham, Ala., in a lot of ways completely blind to the environmental and ethical issues around our food system. And Josh, even when I was 18 or 19 years old, has been educating me, encouraging me to eat in a more humane way, and opening my eyes to how we can really change the world through food.

How does Beyond Eggs compare to eggs in terms of nutrition?

I would say it's healthier. You're avoiding food safety issues, you're avoiding cholesterol, you're avoiding allergens that eggs have. It does provide the same kind of protein, but no one's eating a cookie for protein.

Can most people taste the difference between Beyond Eggs and powdered or shell eggs?

Usually, people can tell the difference, and they like ours better. The taste comes out a bit more in the product. So you taste the chocolate of the cookie more, for example. And they like the taste of the mayonnaise better. It's not scary mayo; it's not mayo made in a lab. It's just really good mayonnaise that is priced competitively and doesn't have cholesterol.

Do you foresee Hampton Creek's products replacing most of the eggs produced in battery cage facilities?

All of them. We want to decrease by 30 percent the number of egg-laying hens in battery cage facilities during the next five years. We want to end animal suffering in the egg industry.

What are the company's other long-term goals?

Our hopes for Hampton Creek are, in seven years, that when people think about food, we're one of the companies they mention that are moving our system forward, that are creating millions of pounds—thousands of products—of food that respects animals and respects the environment. We'll be outside the U.S., on the subways of Beijing, and on the streets of Lagos, Nigeria, and Birmingham, Ala., where I was raised. We want to be the world's most valuable company.



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From: Kevin Burkum Sent: Tuesday, August 20, 2013 1:59 PM To: Joanne Ivy Subject: RE: Mother Jones

Something still smells fishy. Hope I'm just being paranoid.

Kevin Burkum | Senior Vice President of Marketing

American Egg Board

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From: Joanne Ivy
Sent: Tuesday, August 20, 2013 1:11 PM
To: 'Schaffner, Serena'; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Matt only asked questions about the charts. It was very straight forward. He wanted to know what each column represented; definitions for words such as breaker, layer, egg product, institution (commercial and non-commercial); brief explanation for decline in shell eggs at retail, etc.; formula for USDA's per capita consumption figures; and a few basic trends in egg usage based on the charts. Very easy discussion! Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847.296.7043 | D 224.563.3701 | C PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEqg.org AEB.org

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 8:13 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Sounds great! We know you'll do a great job, Joanne! We'll let the reporter know you'll be contacting him tomorrow. Look forward to hearing how it goes!

Best, Serena

----- Original message ------

From: Joanne Ivy <<u>JIvy@aeb.org</u>>

Date: 08/19/2013 5:23 PM (GMT-06:00)

To: "Schaffner, Serena" <<u>Serena.Schaffner@edelman.com</u>>,Kevin Burkum <<u>KBurkum@aeb.org</u>>

Cc: Kristin Livermore <<u>KLivermore@aeb.org</u>>,"Maher, Missy" <<u>Missy.Maher@edelman.com</u>>,"McClamroch, Allison" <<u>Allison.McClamroch@edelman.com</u>>,"Jensen, Elizabeth (Schreiber)"

<<u>elizabeth.jensen@edelman.com</u>>,"Torvik, Erika" <<u>Erika.Torvik@edelman.com</u>>

Subject: RE: Mother Jones

Serena: Thank you for the information you provided as I know it will be helpful. I have a background in egg products and also started AEB's program, so unless the questions are complicated, I feel sure I will be able to handle most questions – unless it is about synthetic eggs!

I will call tomorrow as there are a couple of stats on the charts that are not consistent. I no longer input these numbers on the website, so I am verifying a couple of figures that look a little strange to me. I will call Matt tomorrow am, and I will let you know how it goes. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 4:31 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Hi Joanne –

As promised, we've pasted below a few talking points to address any "watch out" questions that might come up during the interview in regards to animal welfare. Should he press for more information, feel free to direct him to UEP. There may be a few questions about eggs in processed foods, so we've included talking points that also address cholesterol, in case he brings up egg nutrition and health.

Please let us know if you have any questions. We look forward to hearing how the interview goes and will be sure to keep a close eye on any resulting coverage.

Best, Serena

Animal Welfare:

- Hen health and egg quality are the top two priorities on egg farms all day, every day.
- America's egg farmers have very strict steps, safeguards and practices they follow to make sure their hens are healthy and to protect the quality of the eggs.
- Advances in science and technology help egg farmers preserve safety and quality throughout the gathering, inspecting, packaging and handling process.
- Egg farmers follow guidelines to ensure the hens are provided with nutritious feed, clean water, proper lighting and fresh air. The guidelines place top priority on health and safety.
- For more information on this topic, please contact someone with the United Egg Producers at 770.360.9220.

Concerns about Cholesterol:

- The USDA recently reviewed the nutrient composition of standard large eggs, and results show the average amount of cholesterol in one large egg is 185 mg, down from 215 mg, 14 percent lower than previously recorded in 2002.
- Enjoying an egg a day can fall within current cholesterol guidelines, particularly if individuals opt for other lowcholesterol foods throughout the day.
 - The 2010 *Dietary Guidelines for Americans* recommend that individuals consume, on average, less than 300 mg of cholesterol per day. A large egg contains 185 mg of cholesterol.
- The 2010 *Dietary Guidelines for Americans* support the role of eggs in a healthy diet. The report, released in January 2011, states that healthy individuals can enjoy an egg daily and suggests an egg a day does not result in increased blood cholesterol levels.
 - Studies have also shown that eating one or more eggs per day does not increase the risk of coronary heart disease or stroke among healthy individuals, and that eating eggs daily does not have a significant impact on blood cholesterol.
- A large body of science supports the beneficial role that eggs play in a healthful diet, including promoting mind and body energy, reducing the risk of birth defects, promoting muscle and eye health and helping to manage weight.

From: Schaffner, Serena
Sent: Monday, August 19, 2013 4:15 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Hi Joanne –

We'll send you updated animal welfare messages, shortly. Please let us know if there is anything else you need that we can provide.

Best, Serena

From: Joanne Ivy [mailto:JIvy@aeb.org]
Sent: Monday, August 19, 2013 3:32 PM
To: Kevin Burkum
Cc: Schaffner, Serena; Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Kevin, I probably understand the charts better than anyone since I created them. However, I would not want to answer questions on synthetic products. Actually, John would be more on top of the latest information regarding eggs and processed foods. I am still concerned about the angle that this article may go. I guess if he asked about those areas, I could have John call him back.

I can handle reviewing the chart if you want. However, I just glanced at them and I noticed a few minor discrepancies between the two charts, for example one chart shows in 2012, 223.70 million cases produced (80,532,000,000 eggs) and the other chart shows 224.10 cases produced (80,676,000,000 eggs). It is probably a matter of USDA making

adjustments through the year, but I need to review these charts as someone else is inputting the information now on the website and I have not reviewed them in a while.

I will call Matt Connolly today once I review the charts. If Edelman wants to provide some animal welfare comments in case I am asked, it may be helpful. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Kevin Burkum Sent: Monday, August 19, 2013 2:29 PM To: Joanne Ivy Subject: FW: Mother Jones

Meant to forward this to you. Please advise, thanks.

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847.296.7043 | D 224.563.3702 | F 847.296.7007

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From: Kevin Burkum
Sent: Monday, August 19, 2013 2:29 PM
To: 'Schaffner, Serena'
Cc: Kristin Livermore; Torvik, Erika; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Subject: RE: Mother Jones

Thanks Serena. I don't know that I'm the right person. Joanne, do you have any thoughts? John perhaps?

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com] Sent: Monday, August 19, 2013 2:27 PM To: Kevin Burkum Cc: Kristin Livermore; Torvik, Erika; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber) Subject: RE: Mother Jones Importance: High

Hi Kevin –

We've heard back from Matt Jones and confirmed that he'd like to discuss statistics on which types of processed foods are the biggest users of eggs as well as walk through the <u>Shell Egg Distribution</u> table and <u>Egg Production/Distribution</u> table. The information will be used to create a few charts that will be part of a sidebar for a larger story about synthetic egg products. Unfortunately, he is not the author of the original article, so he is unclear and vague as to what angle the larger story will take.

Have you or anyone at AEB recently fielded questions about eggs and processed foods or synthetic products? Are there any red flags that come to mind? It may help to shed some light on what angle Mother Jones is planning to take.

While we're still leery of the interview, we do recommend that you or someone at AEB with issues/animal welfare experience, walk Matt through the charts, today, so the data is reflected correctly. The discussion may also help to tip us off on the angle they're planning to take.

We'll pull together a few recommended responses to animal welfare questions, just in case the conversation heads that way. In the meantime, please let us know who will field the interview and we can have a quick call to chat through final details, before someone from AEB reaches out.

Best, Serena

From: Torvik, Erika
Sent: Thursday, August 15, 2013 5:34 PM
To: Schaffner, Serena; Kevin Burkum; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Cc: Kristin Livermore
Subject: RE: Mother Jones

Hi Kevin –

We did a little digging on Mother Jones/Matt Connolly, and found that Matt previously reported for Washington Examiner, New York Times, Washington Post and Chicago Public Radio. He doesn't seem to have a <u>dedicated beat</u> for Mother Jones or his <u>previous work</u> – he has written about everything from immigration reform to music. There have been several recent Mother Jones articles reporting about <u>animal abuse</u> in the agriculture industry, though none are specifically about the egg industry and none of those articles are by Matt. <u>Tom Philpott</u> seems to be their more regular agriculture/animal welfare reporter.

We reached out to Matt to get more information about his request and learned that he wants someone to walk him through the AEB.org <u>Shell Egg Distribution</u> table and <u>Egg Production/Distribution</u> table to make sure he understands the data correctly. He's also looking for stats on which types of processed foods are the biggest users of eggs. While we followed up for his deadline and additional detail on his story angle, we have not heard back.

Given the outlet's investigative focus and the data he's looking at, we're still a little leery of the request and have not committed to anything. We'll follow up with Matt again tomorrow and will keep you updated. In the meantime, let us know if you have any questions.

Best, Erika From: Schaffner, Serena
Sent: Thursday, August 15, 2013 8:47 AM
To: Kevin Burkum; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Cc: Kristin Livermore
Subject: RE: Mother Jones

No problem, Kevin. We'll be sure to vet him and find out what he's up to. Stay tuned!

Best, Serena

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Thursday, August 15, 2013 8:46 AM
To: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika
Cc: Kristin Livermore
Subject: Mother Jones

I received a voice mail message from a reporter at Mother Jones, Matt Connolly, who has questions about egg statistics on our website. Knowing that Mother Jones is rarely an industry friend, I know we need to respond carefully. Do you mind vetting this guy and reaching out to him to answer his questions?

mconnolly@motherjones.com; 908.616.5079

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

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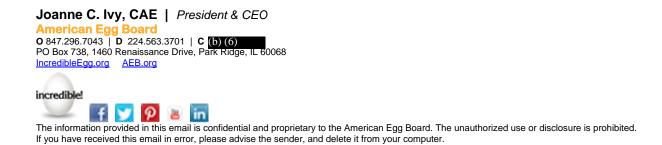
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Lutton, Sara - AMS

From:	Joanne Ivy
Sent:	Tuesday, November 26, 2013 12:11 PM
То:	Maher, Missy (Missy.Maher@edelman.com); Kevin Burkum; John Howeth
Cc:	Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew
	(Andrew.Liuzzi@edelman.com); Jaffe, Brad (Brad.Jaffe@edelman.com); Singer, Jamie
	(Jamie.Singer@edelman.com); Grosshandler, Jennifer
	(Jennifer.Grosshandler@edelman.com); Mia Roberts
Subject:	FW: Bill Gates' Food Fetish article

Missy, I received a response and the editor stands behind Ryan's copy. I decided to address his opinions. It is just frustrating to read their justification.

Since they are not going to make any corrections, I think we need to use the comments section on the story to voice our opinion as he suggested. The article is mainly about the "horrible" egg industry, so we may want to post the contents of our letter to Ryan starting with the production section followed by the inaccuracies. What do you think Kevin?



From: Joanne Ivy Sent: Tuesday, November 26, 2013 10:47 AM To: 'Mac, Ryan' Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Ryan, Thanks for relating your opinion, but my comments were definitely mischaracterized in the article.

1) AEB is conducting a campaign targeted to food manufacturers **not consumers** as stated in the article. Beyond Eggs is an egg replacer, which is used as an ingredient in food formulations, such as mayo. AEB campaign's features the benefits of REAL eggs compared to egg replacers for food formulations. Plus, the campaign reminds food manufacturers that 93% of consumers want food products that have a clean label with familiar ingredients -- REAL eggs not a list of synthetic ingredients.

2) Beyond Eggs, is just another plant-based replacer that has been available to food manufacturers for years. It is nothing new. **Our campaign is not addressing egg substitutes, such as Egg Beaters.** I never mentioned egg substitutes or Egg Beaters, which are still "eggs," and it is another form of egg available to consumers. I realize that was your added commentary, but it is presented as part of my statement so it appears that AEB is targeting egg substitutes such as Egg Beaters. Totally false and misleading.

3) It was disappointing that the article was filled with negative, incorrect information about the egg industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

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-----Original Message-----From: Mac, Ryan [mailto:RMac@forbes.com] Sent: Tuesday, November 26, 2013 9:37 AM To: Joanne Ivy Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Hi Joanne,

My editors do not feel we mischaracterized your statements in the story and we stand by our piece. You contend that I mischaracterized your quote about egg replacers and attributed the line on Egg Beaters to you. The exact line reads as follows:

"President Joanne Ivy maintains that the campaign was not directed at Hampton Creek, and indeed, egg substitutes such as ConAgra's Egg Beaters have been around for years."

The second part can be read as commentary from Forbes.

We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac Reporter Forbes, San Francisco Office: 1-415-544-4911 Cell: (b) (6) Site: http://www.forbes.com/sites/ryanmac/ Twitter: http://twitter.com/rmac18

From: Joanne Ivy [JIvy@aeb.org]

Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent Forbes article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for food manufacturers. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs, have been around for years.

While we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Therefore, we are disappointed by the undeserved attacks on the natural egg industry in this article.

Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

Protein comparison

In my interview, I also compared the nutrition of plant-based protein to the protein in real eggs – a point we believe is important to share with your readers but did not surface in the article. Natural eggs provide one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. The notion that you can replace an egg, which is the gold standard of high-quality protein, with a combination of low quality plant protein sources, is misguided.

Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

• Decreased pollution. Egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.

- Reduction in natural resource use. Hens now use 32 percent less water per dozen eggs produced.
- Improved hen feed. Today's hens use a little more than half the amount of feed to produce a dozen eggs.

• Better disease control and advancements in hen housing systems. Today's hens are living longer as a result of improved building ventilation, temperature control, better lighting and a more secure housing environment.

Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.orghttp://www.incredibleegg.org/

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From:	Kevin Burkum
То:	John Howeth
Cc:	Joanne Ivy
Subject:	FW: Eggs and GMO
Date:	Thursday, January 09, 2014 12:36:45 PM
Attachments:	image007.png
	image008.png
	image009.png
	image010.png
	image011.png
	image012.png
	image013.png
	Just-Mayo-ingredients.jpg

Hi John. Please see email trail below regarding challenging Just Mayo's labeling claims with FDA. Happy to discuss further if you have any questions.

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

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From: Joanne Ivy Sent: Thursday, January 09, 2014 11:34 AM To: Kevin Burkum Cc: Mitch Kanter Subject: RE: Eggs and GMO

Yes, let's forward this information to John. Cc me. It also does not meet the standard of identify for mayonnaise. I realize they call it Mayo. And, there are a few other things that is misleading, which I think can be challenged. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Kevin Burkum Sent: Thursday, January 09, 2014 11:29 AM To: Joanne Ivy Cc: Mitch Kanter Subject: RE: Eggs and GMO

OK. I'm guessing this is something John's team may want to take the lead on?

Kevin Burkum | Senior Vice President of Marketing

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From: Joanne Ivy Sent: Thursday, January 09, 2014 11:24 AM To: Kevin Burkum Cc: Mitch Kanter Subject: RE: Eggs and GMO

Okay, let's do it, but I have more concerns. Let's discuss first.

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

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From: Kevin Burkum Sent: Thursday, January 09, 2014 10:51 AM To: Joanne Ivy; Mitch Kanter Subject: FW: Eggs and GMO

See Roger's note below.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEqa.org AEB.org



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From: Glasshoff, Roger - AMS [mailto:Roger.Glasshoff@ams.usda.gov] Sent: Thursday, January 09, 2014 10:21 AM To: Kevin Burkum Subject: RE: Eggs and GMO

I would forward the information to the FDA District Office responsible for the location where the product was marketed. I believe that many labels currently in commerce do not comply with FDA's labeling policy. FEDA needs to issue a notice to the industry as the terminology "non-GMO" is

utilized throughout the food industry. In fact, I(believe that the organic producers assume that all certified product can be declared "non-GMO." I understand that FSIS, USDA, is currently discussing the labeling of organic beef as "non-GMO" with the National Organic Program, AMS.

From: Kevin Burkum [mailto:KBurkum@aeb.org] Sent: Thursday, January 09, 2014 9:53 AM To: Glasshoff, Roger - AMS Cc: DeBord, Emily - AMS; Joanne Ivy; Mitch Kanter Subject: RE: Eggs and GMO

Hi Roger. I just saw this label for Just Mayo, a non-egg mayo, and they claim to be "non-GMO." If FDA doesn't permit this language, who can we alert regarding this "violation"?

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Glasshoff, Roger - AMS [mailto:Roger.Glasshoff@ams.usda.gov] Sent: Thursday, January 09, 2014 8:17 AM To: Kevin Burkum Cc: DeBord, Emily - AMS Subject: RE: Eggs and GMO

Kevin, based upon recent discussions with the Food and Drug Administration, use of the terminology "Non-GMO (non-genetically modified organism)" is not permitted on food and processed food products. The FDA does not recognized processed food products, such as shell eggs, as an organism. Therefore, the FDA policy for use of such terminology on a processed food product must state "not genetically engineered." At this time, FDA could not identify all genetic markers that may appear in animals slaughtered for food or food products of animal origin. The egg industry may consider working with the breeders to develop a consensus declaration that, historically, various breeds of layer hens have evolved through selective breeding (hybridizing) without genetic engineering. This information could be presented to FDA for review and comment. I am not aware of any scientific research testing eggs for genetic markers.

If you have any questions, please contact me.

From: Kevin Burkum [mailto:KBurkum@aeb.org] Sent: Tuesday, January 07, 2014 4:33 PM To: Glasshoff, Roger - AMS Cc: DeBord, Emily - AMS Subject: Eggs and GMO Hi Roger. Joanne Ivy asked me to reach out to determine if the egg industry can claim that eggs are GMO-free on our egg cartons. Please advise, thanks.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068



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Lutton, Sara - AMS

From: Sent: To: Cc: Subject: John Howeth Monday, January 13, 2014 2:44 PM Elisa Maloberti John Howeth FW: Eggs and GMO

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: John Howeth
Sent: Thursday, January 09, 2014 12:25 PM
To: Kevin Burkum
Cc: Joanne Ivy; John Howeth
Subject: RE: Eggs and GMO

Hi Kevin, let me review and I'll stop by tomorrow to discuss. Thanks for the input, seems like a great opportunity to push back a little and get them on the defensive.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Kevin Burkum Sent: Thursday, January 09, 2014 11:37 AM To: John Howeth Cc: Joanne Ivy Subject: FW: Eggs and GMO

Hi John. Please see email trail below regarding challenging Just Mayo's labeling claims with FDA. Happy to discuss further if you have any questions.

 Kevin Burkum
 Senior Vice President of Marketing

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From: Joanne Ivy Sent: Thursday, January 09, 2014 11:34 AM To: Kevin Burkum Cc: Mitch Kanter Subject: RE: Eggs and GMO

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OK. I'm guessing this is something John's team may want to take the lead on?

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From: Kevin Burkum Sent: Thursday, January 09, 2014 10:51 AM To: Joanne Ivy; Mitch Kanter Subject: FW: Eggs and GMO

See Roger's note below.

Kevin Burkum | Senior Vice President of Marketing

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Kevin, based upon recent discussions with the Food and Drug Administration, use of the terminology "Non-GMO (nongenetically modified organism)" is not permitted on food and processed food products. The FDA does not recognized processed food products, such as shell eggs, as an organism. Therefore, the FDA policy for use of such terminology on a processed food product must state "not genetically engineered." At this time, FDA could not identify all genetic markers that may appear in animals slaughtered for food or food products of animal origin. The egg industry may consider working with the breeders to develop a consensus declaration that, historically, various breeds of layer hens have evolved through selective breeding (hybridizing) without genetic engineering. This information could be presented to FDA for review and comment. I am not aware of any scientific research testing eggs for genetic markers.

If you have any questions, please contact me.

From: Kevin Burkum [mailto:KBurkum@aeb.org] Sent: Tuesday, January 07, 2014 4:33 PM To: Glasshoff, Roger - AMS Cc: DeBord, Emily - AMS Subject: Eggs and GMO

Hi Roger. Joanne Ivy asked me to reach out to determine if the egg industry can claim that eggs are GMO-free on our egg cartons. Please advise, thanks.

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847.296.7043 | D 224.563.3702 | F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

 IncredibleEgg.org
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From:	Mia Roberts
То:	Sheryl Slagle
Subject:	FW: Environmental Footprint Study
Date:	Wednesday, January 29, 2014 2:44:46 PM
Attachments:	Egg vs Other Protein Sources study proposal-Xin etal - updated Jan 16-2014.pdf ATT00007.htm Egg vs Other Protein Sources study proposal-Xin etal - updated Jan 16-2014.doc ATT00008.htm image006.png

From: Joanne Ivy
Sent: Wednesday, January 29, 2014 1:23 PM
To: Sheryl Slagle
Cc: Mia Roberts
Subject: Fwd: Environmental Footprint Study

Attached is Hongwei's proposal. You can proceed with contract. Joanne

Sent from my iPad

Begin forwarded message:

From: "Xin, Hongwei [A B E]" <<u>hxin@iastate.edu</u>>
Date: January 16, 2014 at 2:00:38 PM EST
To: Joanne Ivy <<u>JIvy@aeb.org</u>>
Cc: Nathan Pelletier(b) (6)
, "Ibarburu-Blanc, Maro A [AN S]"
<<u>maro@mail.iastate.edu</u>>, "Wang, Tong [FSHNA]" <<u>tongwang@mail.iastate.edu</u>>,
"Vold, Lesa C [AN S]" <<u>lvold@mail.iastate.edu</u>>
Subject: RE: Environmental Footprint Study

Hi Joanne,

The answer to your question re: b) is Yes, we will look at other plant-based proteins besides "Beyond Egg" product.

I have trimmed the proposal budget (to \$75,048) and the updated proposal in both PDF and WORD formats is attached. Any further questions please let me know.

Next I will run the standard grant application paperwork through the university system. Should we have a target starting date of Feb 15 and a completion date of June 30?

Best,

Hongwei

Hongwei Xin *<Shin>*, Ph.D. Iowa Egg Council Endowed Professor Professor, Agricultural & Biosystems Engineering (ABE) and Animal Science Director, Egg Industry Center – <u>http://www.eggindustrycenter.org</u> 1202 NSRIC Iowa State University Ames, Iowa 50011-3310, USA 515.294.4240 (Office); 515.450.2593 (Cell);(b) (6) (Fax) hxin@iastate.edu (Email) Homepage: <u>http://www.abe.iastate.edu/who-we-are/directory/hongwei-xin/</u> Citation Indices: <u>http://scholar.google.com/citations?user=I02uQPAAAAAJ&hl=en</u>

From: Joanne Ivy [mailto:Jlvy@aeb.org] Sent: Thursday, January 16, 2014 8:33 AM To: Xin, Hongwei [A B E] Subject: RE: Environmental Footprint Study

Thanks Hongwei for sending. I feel this will be an important study to have this information on hand. It looks good, particularly the part that says you should be able to do the study in 4 months.

Regarding b) at the top of page 2, I am assuming that in addition to the Beyond Egg product that you will also look at a couple of other plant-based proteins, such as soy and maybe corn.

Also, regarding the price, it is a little higher than I was estimating. Is there any way we can skim a little from budget to get it down in the \$75,000 range without effecting the quality of the study.

Look forward to hearing back from you. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org Regards,

Jerry Smiley

Please consider the environment before printing this e-mail.

If you have received this electronic transmission in error or are not interested in receiving emails of this nature, please notify us by telephone (630-893-8399) or simply reply to this email and we will resolve immediately. Thank You.

From: Austin Jacobus [mailtd(b) (6) Sent: Monday, September 23, 2013 8:30 PM To: Jerry Smiley Subject: Fwd: FW: CBS

Jerry,

Replay of Hampton Creek PR on CBS.

Austin Jacobus AHW Ingredients, LLC 630-778-9553 office (b) (6) mobile (b) (6)

From: Jackie Fera < (b) (6) t> Date: Fri, Sep 20, 2013 at 11:08 AM Subject: FW: CBS To: Austin Jacobus (b) (6)

Check this out. The PR machine in full force. ©

From: Morgan Oliveira [mailto:moliveira@hamptoncreekfoods.com] Sent: Friday, September 20, 2013 10:33 AM To: All Subject: CBS

Hey guys,

At long last, here it is!

http://cbsn.ws/1ev8VCu

Great work. :)

Μ

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Morgan Oliveira

Communications Director

T <u>415 374 7524</u>

moliveira@hamptoncreekfoods.com

hamptoncreekfoods.com

America's egg farmers are committed to providing nutritious, all-natural eggs, which are is rich in vitamins, minerals and one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. While the American Egg Board (AEB) recognizes the emergence of new egg replacement options, such as the highly visible Beyond Egg, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike.

As opposed to alternative options that are new to the market, all-natural eggs:

- Are a simple food that cannot be replicated by any product that is produced by scientists in a laboratory and not on a farm
- Are multi-functional and have the incredible ability to perform more than one role in food formulation while retaining taste and nutritional benefits
- Demonstrate the very latest advances in science and technology that help ensure that the quality of eggs is protected throughout the gathering, inspecting, packaging and handling process.
- Provide the clean labeled products featuring recognizable ingredients consumers are looking for
- Protect the livelihood of more than 270 egg farmers, their families and employees across the U.S. (Note: I know this is one of our messages and it will work for the egg industry press, but I'm not sure the consumer or ingredient trade press will care that much, just a thought.)

In local communities across the country, egg farmers work hard to provide consumers with a variety of egg options to make a personal choice, and will continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. In addition, egg farmers have made great strides towards making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources.

AEB recognizes the threat of the introduction of egg replacers, such as Beyond Egg product, and have implemented a strategic response campaign targeting food manufacturers with these messages, focusing on the benefits of using real eggs versus egg replacer ingredients. This campaign will begin running in October.

Joanne Ivy President & CEO American Egg Board

Lutton, Sara - AMS

From:	John Howeth
Sent:	Sunday, September 15, 2013 11:08 AM
То:	Terry Schroff
Cc:	John Howeth
Subject:	FW: Industry response to Beyond Egg
Attachments:	Simon response-jh thoughts.docx

Hi Terry, we need to talk about this ASAP. I'll give you a full accounting when I see you. Following is an email exchange with Joanne. I have also attached a response from Joanne to an inquiry from a guy who writes a popular newsletter for the egg industry. The response will go to him and a variation will go to all egg producers to let them know we're aware of BE and have a plan.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: John Howeth Sent: Sunday, September 15, 2013 10:02 AM To: Joanne Ivy Cc: John Howeth Subject: RE: Industry response to Beyond Egg

Joanne, I read this on the plane, again last night and again this morning. There's very little I can add as I thought this was an extremely well written response to Simon. I added one bullet about clean labeled products as it is the keystone of our campaign. I added a note on your last bullet that will need to be deleted, it's just a personal thought. My addition and thought are in red.

Also, as you noted this will need to be re-written for the food ingredient trade press. I do believe the clean label and sustainability messages are important. I know we need to refute some of their misleading statements, but we might want to discuss with Edelman and/or Quiet Light as to how to do that. If we refute in a trade press release, our message may get edited and diluted and will also provide Beyond Eggs an opportunity to defend themselves with their already deep pockets. Maybe it is a series of Q&A responses for our further processors, and a few select media partners. I think we need to determine which of their statements we think we can refute with certainty. Statements like 19% cheaper will be difficult to quantify as we don't know what their cost in process is.

Part of our problem is the inability to get information. We've had outside sources try to get samples, information and pricing to no avail. BE is vetting all inquiries and just working with a few select manufacturers. We will continue to try, but that's the status right now.

Right now, any challenge to them, may be based on limited information, and will allow them to engage us in a fight we may not be able to win in an emotional public forum .

Let me know if there's anything else I can do right now. If you have any additional thoughts, please give me a call any time.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Joanne Ivy Sent: Saturday, September 14, 2013 7:48 AM To: John Howeth Subject: Industry response to Beyond Egg

John, I received late yesterday, 6:00 p.m. ET, the release/statement that they had been working on all day long. I was disappointed as they never mentioned food manufacturers, Beyond Egg, or AEB. Although I did not want to address the specifics of the Beyond Egg Product, I felt that the product name needed to be mentioned so that the release would make sense. Otherwise, most producers would not understand why I was putting out this statement. Plus, the major thing the industry wanted to know was **what AEB is doing** and that was not mentioned either. I had also asked if they would address some of the strong , false and misleading statements made in Beyond's Eggs article, particularly about egg production. I had recommended that they use some of our approved sustainability key messages, which they decided not to do.

Anyway, I made several changes so that it would be stronger for the "egg industry" audience . Without my additions, it sounds like I am (the statement is) "preaching to the choir" about the virtues of the egg industry. To me, it was the type of statement that would go out to our audiences – food manufacturers, etc. – not egg producers. I decided not to include the Conversation Snapshot as I did not feel it was pertinent. I am hoping with my changes that it looks like appropriate comments for the egg industry in response to the Beyond Egg publiciy. So, please read it over the attached, and in red make any changes you think need to be made. I feel sure it needs tweaking. Below is their explanation for the statement they prepared:

Joanne—per our earlier discussions, please find below a draft statement for Simon. As you'll see, we made the decision to stay away from an overt sustainability message and focus more squarely on other areas (e.g. simplicity of the egg, multi-function, etc.). From our perspective, this statement also will condition the market well in advance of the upcoming clean label campaign.

Also, regarding media, please find attached a snapshot of the online conversation trends around the Daily Mail (UK) article. As you'll see, the conversation around this topic peaked on September 11th and has been declining ever since then. I think this is an important metric to gauge consumer sentiment (and show how engagement around the topic/Beyond Egg is decreasing) and should help diffuse any concerns from producers. One note: our team continues to closely monitor the conversation around Beyond Egg in case the discussion escalates or turns to focus on non-consumer areas/media (e.g. food service producers). I think it'll also be important that our teams stay closely synced up as the Clean Labeling campaign gets under way as they could provide us w/ strong actionable intelligence on stakeholder response to this issue.

However, that said, we were very happy to see this recent MSN article: <u>http://now.msn.com/plant-based-egg-</u> <u>replacement-beyond-eggs-on-sale-at-whole-foods</u> which was much more positive with 520 shares and 17 comments in which people are saying they like their eggs just as they are. Safe travels to Cape Town! America's egg farmers are committed to providing nutritious, all-natural eggs, which are is rich in vitamins, minerals and one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. While the American Egg Board (AEB) recognizes the emergence of new egg replacement options, such as the highly visible Beyond Egg, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike.

As opposed to alternative options that are new to the market, all-natural eggs:

- Are a simple food that cannot be replicated by any product that is produced by scientists in a laboratory and not on a farm
- Are multi-functional and have the incredible ability to perform more than one role in food formulation while retaining taste and nutritional benefits
- Demonstrate the very latest advances in science and technology that help ensure that the quality of eggs is protected throughout the gathering, inspecting, packaging and handling process.
- Protect the livelihood of more than 270 egg farmers, their families and employees across the U.S.

In local communities across the country, egg farmers work hard to provide consumers with a variety of egg options to make a personal choice, and will continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. In addition, egg farmers have made great strides towards making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources.

AEB recognizes the threat of the introduction of egg replacers, such as Beyond Egg product, and have implemented a strategic response campaign targeting food manufacturers with these messages, focusing on the benefits of using real eggs versus egg replacer ingredients. This campaign will begin running in October.

Joanne Ivy President & CEO American Egg Board

From:	Joanne Ivy
To:	John Howeth
Subject:	FW: Response to Forbes
Date:	Monday, November 25, 2013 1:34:46 PM

Thanks for raising the question. I agree. Joanne

From: John Howeth
Sent: Monday, November 25, 2013 1:31 PM
To: Singer, Jamie; Joanne Ivy; Maher, Missy
Cc: Jaffe, Brad; Schaffner, Serena; Kevin Burkum; Mia Roberts; Kristin Livermore; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Byers, Kate
Subject: RE: Response to Forbes

Would it make sense to send the email up the chain of command? If it just goes to the writer it will probably just stop there, especially if he's free-lance. I would think that we would want Forbes to know that we don't want to minimize this. I'm not an expert, just a thought.

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Singer, Jamie [Jamie.Singer@edelman.com]
Sent: Monday, November 25, 2013 12:25 PM
To: Joanne Ivy; Maher, Missy
Cc: Jaffe, Brad; Schaffner, Serena; Kevin Burkum; Mia Roberts; Kristin Livermore; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; John Howeth; Byers, Kate
Subject: RE: Response to Forbes

Joanne,

Thanks very much for your feedback. We reviewed your revised draft and agree with the changes you made. Please find attached a clean version. In addition, we think it's appropriate to send this response – pasted in an email – directly to the writer, Ryan.

Please feel free to let us know if you have any other questions.

Best, Jamie

Jamie Singer | o. (312) 240-2657 | m. (b) (6)

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Monday, November 25, 2013 12:03 PM
To: Maher, Missy
Cc: Singer, Jamie; Jaffe, Brad; Schaffner, Serena; Kevin Burkum; Mia Roberts; Kristin Livermore; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; John Howeth; Byers, Kate

Subject: RE: Response to Forbes

I made a few changes. I changed the order. I thought we should start the letter with reviewing the areas that were inaccurately mentioned in the article and then provide the information on nutrition and egg production. I guess it is wishful thinking that they would make the corrections before the December 16 publication is released.

I also added some wording that is more consistent with my comments in the interview. If you feel that they should not be added, I am fine with removing them.

Let me know what you think about changing the order and the additional wording.

How do you recommend sending the letter – within the email or as an attachment. Also, you left Dear (editor) blank. I assume I am I writing this letter to Ryan Mac, Forbes Staff writer, since you provided email address. Or, to the editor of Forbes? Joanne

From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Monday, November 25, 2013 11:31 AM
To: Joanne Ivy
Cc: Singer, Jamie; Jaffe, Brad; Schaffner, Serena; Kevin Burkum; Mia Roberts; Kristin Livermore; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; John Howeth; Maher, Missy; Byers, Kate
Subject: Response to Forbes

Attached please find a response to the Forbes writer. Joanne, his email address is <u>rmac@forbes.com</u>. We would also ask that you ask him to confirm receipt of the email. Also, our media services team who initially reached tout to the WSJ regarding the environmental study is following up with the reporter today. Last, while we have followed up with the environmental study to most of the Beyond Eggs articles (and reached out originally when the study came out), we think we need to do something beyond the study to get consumer attention and we are working on a POV. Please let us know if you have any immediate questions.

Also, Serena and I are here this week (Elizabeth is out) and also Brad and Jamie will be our points on crisis while Andy is out.

-Missy

From:	Joanne Ivy
То:	Jensen, Elizabeth (Schreiber); Maher, Missy (Missy.Maher@edelman.com); "Schaffner, Serena"
Cc:	Mia Roberts; John Howeth
Subject:	FW: UEP media hotline call
Date:	Wednesday, October 30, 2013 11:53:55 AM
Attachments:	image009.png
	image012.png
	image013.png
	image014.png
	image015.png
	image016.png
	image017.png
	image018.png
	image019.png

Elizabeth: See below. I would like some assistance in how to approach the topic of Beyond Eggs. I do not want to talk with an editor of Kiplinger until I have discussed with Edelman to get your advice. USDA will not allow us to use the term "fake" eggs. I want to be careful what I say as there are still a lot of unknowns about the Beyond Egg product. I do not want to be defensive. They also attacked our production methods. I want to be "above" the attack by Beyond Egg.

I thought I could mention –

- Although Beyond Eggs has gotten a lot of attention, the American Egg Board sees this product as just another egg replacer, which is available to food manufacturers as a functional ingredient. There are already other plant-based egg replacers on the market.
- Although Beyond Eggs has made a lot of claims that we cannot substantiate as we have not tested the product, most replacers cannot provide all the functionalities that eggs can naturally. Eggs can provide all the functionalities such as emulsification, coagulation, texture, foaming, etc. that is needed for food applications.
- The American Egg Board is addressing egg replacers by reminding food manufacturers that 93% of consumers want a clean label with common names for ingredients. They want to see ingredients that they are comfortable and familiar with items in their homes and would use to make recipes themselves. The label for Beyond Eggs and other replacers will not be a clean label as it will include a long list of other unnatural replacers compared to simply, REAL "eggs."
- Buying trends increasingly lead to natural and clean label products.
- 85% of consumers view eggs as a nutritious, wholesome choice for their families.
- Eggs are not a genetically modified (GM) food. This includes shell eggs and eggs used for processed egg products.
- Eggs are also considered naturally gluten free and most replacers cannot make that claim.
- Except for a small community of Vegans, replacing natural REAL eggs with an egg replacer

will not resonate strongly with consumers into increased sales.

• The Egg Industry Center released a landmark study that shows that while the U.S. egg production has increased over the past 50 years, the industry has also been able to significantly decrease its environmental footprint. (I could offer to send press release)

Key results of the study found that compared to 1960:

- The egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.
- Hens now use 32 percent less water per dozen eggs produced.
- Today's hens use a little over half the amount of feed to produce a dozen eggs.
- At the same time, today's hens produce 27 percent more eggs per day and are living longer.

Those were just some thoughts. What would be the one main thing you would stress? Your help is appreciated. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Joanne Ivy Sent: Tuesday, October 29, 2013 10:28 PM To: Head, Mitch (ATL-GHI) Subject: Re: UEP media hotline call

On Oct 29, 2013, at 5:36 PM, "Head, Mitch (ATL-GHI)" <<u>MHead@GolinHarris.com</u>> wrote:

Joanne:

Chad suggested we forward this reporter's phone inquiry (see below) to you since AEB has taken the lead on this particular issue. Let us know if you want to handle this differently.

Thanks

Mitch Mitch Head Executive Director-Engage GolinHarris 1-678-488-5252 mhead@golinharris.com Meet the Agency for the Future at www.golinharris.com 2013 Agency of the Year, Holmes Report 2013 Large Firm of the Year, PR News 2013 Top Places to Work in PR, PR News 2012 International Consultancy of the Year, *PRWeek*

We received a message on the UEP media hotline this afternoon.

Name: Ed Maixner Title: Editor Outlet: Kiplinger Agriculture Letter Contact: 202-887-6466 Deadline: This week, by Wednesday if possible

Requested to speak with someone from UEP and get perspective on the fake eggs substitute by Hampton Creek Foods. He would like to know what UEP's viewpoint is and was wondering if this could be a whole new type of competition in the egg industry.

Lutton, Sara - AMS

From:	Jerry Smiley <jsmiley@ameritech.net></jsmiley@ameritech.net>
Sent:	Monday, May 06, 2013 12:49 PM
То:	Elisa Maloberti; John Howeth
Subject:	FW: We are Hampton Creek

FYI. This is the Beyond Eggs people.

Regards,

Jerry Smiley

Please consider the environment before printing this e-mail.

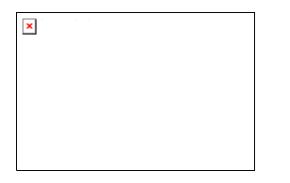
If you have received this electronic transmission in error or are not interested in receiving emails of this nature, please notify us by telephone (630-893-8399) or simply reply to this email and we will resolve immediately. Thank You.

From: Hampton Creek Foods [mailto:info=hamptoncreekfoods.com@mail67.us4.mcsv.net]
On Behalf Of Hampton Creek Foods
Sent: Monday, May 06, 2013 11:15 AM
To: jsmiley@ameritech.net
Subject: We are Hampton Creek

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Hampton Creek was recently selected by Bill Gates as one of three companies shaping the future of food. Thanks for everything you've done to fuel this movement, including the thousands of people who are showing a little logo love (see above!). Oh, and you can watch the video that was featured by Bill Gates and his team here.





If you're in the sharing mood (and who isn't), it'd mean a lot if you could share this picture on Facebook and Twitter. Promoting sustainable agriculture is a very important reason why we're doing this work.

×

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We've already sent 3,000 samples out. Another 12,000 will be shipping in the next 3 weeks. The enthusiasm for the mission has been overwhelming, and again, we can't thank you enough for it.

×

Unsuscr be from Hampton Creek

From:	John Howeth
To:	<u>Elisa Maloberti; Terry Schroff; Kitty Kevin; Patrick McDonough</u>
Cc:	Steve Solomon; John Howeth
Subject:	FW: RCA General Discussion Group: RCA General Discussion Group Digest for Friday May 10, 2013 to Sunday May 12, 2013
Date:	Monday, May 13, 2013 7:56:26 AM

Please see the article below. There's obvious interest in this. Talked to one of my researchers who has a friend who knows the guy running Beyond Eggs. He said they're a number of years out from being a significant threat, so it's a good time to move forward.

Steve, is this your Kevin Anderson?

John Howeth

VP, Ingredient & Commercial Marketing

American Egg Board

1460 Renaissance Drive

Park Ridge, IL 60068

Office: 847.296.7043

Direct: 224.563.3705

www.AEB.org <<u>http://www.incredibleegg.org/</u>>

From: Leonard, Michael [mailto:leonardm@bnpmedia.com] Sent: Monday, May 13, 2013 6:26 AM To: John Howeth Subject: Fw: RCA General Discussion Group: RCA General Discussion Group Digest for Friday May 10, 2013 to Sunday May 12, 2013

Just some more info Mike

Michael A. Leonard Group Publisher Prepared Foods Network Industria Alimenticia Network Brand Packaging Network Leonardm@bnpmedia.com 847 405 4024 [office] (b) (6) [cell] 248 283 6574 [fax]

Check out what's happening in food. www.preparedfoods.com www.industriaalimenticia.com

From: noreply@egroups.connectedcommunity.org [mailto:noreply@egroups.connectedcommunity.org] Sent: Monday, May 13, 2013 09:15 AM Coordinated Universal Time To: Leonard, Michael Subject: RCA General Discussion Group: RCA General Discussion Group Digest for Friday May 10, 2013 to Sunday May 12, 2013

Research Chefs Association < http://www.rca-connect.org/RCACONNECT >

RCA <<u>http://www.rca-connect.org/</u>> | Communities <<u>http://www.rca-connect.org/Communities/?</u> MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b> | View Discussions <<u>http://www.rca-</u> connect.org/Communities/ViewDiscussions/?MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b> | All Discussions <<u>http://www.rca-</u> connect.org/Communities/ViewDiscussions/AllDiscussions/? MID=0&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b> | RCA General Discussion Group <<u>http://www.rca-</u> connect.org/Communities/ViewDiscussions/DigestViewer/? GroupId=37&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

Subject

Author

May 10, 2013

1. RE:Plant based eggs

Mark Crowell < http://www.rca-connect.org/Communities/ViewDiscussions/PostReply/? SenderKey=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d&MID=479&GroupId=37&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

Post Message < <u>http://www.rca-connect.org/Communities/ViewDiscussions/PostaMessage/?</u> <u>GroupId=37&MID=0&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-</u> <u>28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b</u>>

Search < <u>http://www.rca-connect.org/Communities/ViewDiscussions/AllDiscussions/?</u> <u>GroupId=37&MID=0&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-</u> <u>28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b</u>>

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MESSAGES FROM:

Last 24 Hours <<u>http://www.rca-connect.org/Communities/ViewDiscussions/DigestViewer/?</u> GroupId=37&Day=1&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

Last 7 Days <<u>http://www.rca-connect.org/Communities/ViewDiscussions/DigestViewer/?</u> GroupId=37&Day=7&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

Last 30 Days < http://www.rca-connect.org/Communities/ViewDiscussions/DigestViewer/? GroupId=37&Day=30&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

1. RE:Plant based eggs

From:

Mark Crowell < <u>http://www.rca-connect.org/Communities/ViewDiscussions/MyBioView/?</u> ContactKey=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d&MDATE=%3a46847568&UserKey=7c0901b2a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

To:

RCA General Discussion Group <<u>http://www.rca-</u> connect.org/Communities/ViewDiscussions/DigestViewer/? GroupId=37&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

Posted:

May 10, 2013 3:21 PM

Subject:

RE:Plant based eggs

Message:

<<u>http://www.rca-connect.org/Communities/ViewDiscussions/MyBioView/?ContactKey=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b</u>>

View Profile <<u>http://www.rca-connect.org/Communities/ViewDiscussions/MyBioView/?</u> ContactKey=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d&MDATE=%3a46847568&UserKey=7c0901b2a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

Add Contact <<u>http://www.rca-connect.org/Communities/ViewDiscussions/MyBioView/?</u> ContactKey=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d&MDATE=%3a46847568&UserKey=7c0901b2a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b&Type=AddContact>

Blog This <<u>http://www.rca-connect.org/Communities/ViewDiscussions/MyBioView/?</u> ContactKey=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d&MDATE=%3a46847568&UserKey=7c0901b2a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b&Type=BlogThis>

Contact Author <<u>http://www.rca-connect.org/Communities/ViewDiscussions/BioMail/?</u> ContactKey=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d&MDATE=%3a46847568&UserKey=7c0901b2a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

Both of these projects are way cool Chef. Viva la venture capital!

CuliNex Organic and Natural Product Development

Mark Crowell Principal Culinologist Phone: 206-855-0837

Original Message: Sent: 05-08-2013 17:44 From: Homaro Cantu Subject: Plant based eggs

Thought you all may find this interesting...

Actually my design company Cantu Designs was the first group to take a stab at Beyond Eggs product before they set up their own brick and mortar. Currently the focus has been on creating products for food manufacturers to eliminate the need for eggs. It was a fun project that lasted about 7 months. Huge potential but not without some big hurdles to develop a 100% plant based egg substitute.

If it happens, it will have a truly disruptive market potential.

That's about all I can share without breaking my NDA with BE. As a side note, their Culinary Director is my former Chef De Cuisine and Top Chef Contestant Chris Jones.

They have my full support.

If you think that is interesting take a look at this project I am working on:

www.modernmeadow.com <<u>http://www.modernmeadow.com/</u>>

http://modernmeadow.com/team/advisors/ < http://modernmeadow.com/team/advisors/>

It's a ways off but this team is making significant progress in the tissue engineering field. One day we will enginner kobe beef that is actually good for your heart:)

Homaro Cantu

Original Message: Sent: 05-06-2013 11:43 From: Kevin Anderson Subject: Plant based eggs

Definitely some exciting research...true Culinology at work. My wife, being a vegetarian, really enjoyed the article and can't wait to see it on the market.

Kevin Anderson Kevin M. Anderson, LLC Clearwater FL (305) 496-4018

Original Message: Sent: 05-03-2013 22:56 From: Mark Crowell Subject: Plant based eggs

Great piece James, thanks!

CuliNex

Organic and Natural Product Development

Mark Crowell Principal Culinologist Phone: 206-855-0837

Original Message: Sent: 05-02-2013 07:34 From: James Pintner Subject: Plant based eggs

Good morning group, Just got this and it looks very promising. I know this will be very helpful to many of us, and in coming years, the world at large. Read and enjoy the future:

<u>http://www.fastcoexist.com/1681889/inside-the-company-thats-producing-the-most-realistic-fake-eggs-youll-ever-taste#1</u>

James Pintner CRC Consulting Chef - Procurement Sandridge Food Corp. Medina OH (330) 725-2348 EXT 208

Back To Top

Reply to Discussion < http://www.rca-connect.org/Communities/ViewDiscussions/PostReply/? GroupId=37&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b&MID=479>

Reply to Sender <<u>http://www.rca-connect.org/Communities/ViewDiscussions/PostReply/?</u> GroupId=37&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b&SenderKey=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d&MID=479>

Post Message <<u>http://www.rca-connect.org/Communities/ViewDiscussions/PostaMessage/?</u> GroupId=37&MID=0&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b>

Forward Message <<u>http://www.rca-connect.org/Communities/ViewDiscussions/ForwardMessages/?</u> GroupId=37&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b&MID=479>

Print Message <<u>http://www.rca-connect.org/Communities/ViewDiscussions/PrintMessage/?</u> MID=479&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b&Printable=1>

View Thread <<u>http://www.rca-connect.org/Communities/ViewDiscussions/ViewThread/?</u> GroupId=37&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b&MID=479>

Author's Messages < http://www.rca-connect.org/Communities/ViewDiscussions/DigestViewer/? GroupId=37&MDATE=%3a46847568&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee&sKey=8d06e0f7f72e4ad29d6b&Author=76a3bf73-05ba-48b1-ad23-5e11ae8a5b6d>

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<<u>http://www.rca-connect.org/HigherLogic/eGroups/TrackIP.aspx?EGroupID=28a2323b-4e82-48a1-ad4f-bca51a225b71&UserKey=7c0901b2-a2f3-454f-9c4d-28b39a5550ee</u>>

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Tia Rains
Elisa Maloberti
Anna Shlachter
FW: Request for info for International Egg Foundation.
Thursday, October 09, 2014 3:54:45 PM
image001.png
image002.png
image003.png
image004.png
image005.png
image006.png

From: Tia RainsSent: Tuesday, September 30, 2014 8:52 AMTo: Mitch KanterSubject: RE: Request for info for International Egg Foundation.

A few more bullets pulling from John's materials and others.

From: Tia Rains
Sent: Monday, September 29, 2014 4:55 PM
To: Mitch Kanter
Cc: Tia Rains
Subject: RE: Request for info for International Egg Foundation.

Just a few bullets off the top of my head. Elisa is already gone for the day and I can't seem to locate that white paper on their website. I can think about this overnight and add to the list in the morning.

- High-quality proteins (also known as 'complete proteins') are those that contain optimal levels of all 9 essential amino acids. These amino acids cannot be made by the body and are therefore required in the diet. Most animal foods contain complete proteins, such as eggs, milk, poultry, meat, and fish.
- Low-quality proteins (or 'incomplete proteins') lack one or more essential amino acids or provide less than optimal levels of all 9 amino acids. Most vegetable sources of protein are low-quality proteins, often lacking in the amino acids lysine, tryptophan, methionine, and threonine.
- Egg protein is the original gold standard for protein quality, because it provides an optimal balance of all 9 essential amino acids.
- Egg protein also contains leucine, an amino acid that plays a unique role in stimulating muscle protein synthesis.
- Undernutrition, including insufficient consumption of protein, remains a significant issue in the developing world. Many adults and children within these developing countries fall well below the protein recommendations, and in such situations where there are inadequate

intakes, the quality of the protein becomes of elevated importance.

- Studies have shown that small amounts of high-quality protein, in addition to plant-based proteins, can significantly and positively impact body weight, height, and cognitive development in children.
- In addition to high-quality protein, eggs are an excellent source of choline, selenium and riboflavin, and a good source of phosphorus and vitamin D.
- A plant-based source might contain protein, however, the complement of additional nutrients would differ, functionality would differ and there might be undesirable flavor characteristics.

From: Mitch KanterSent: Monday, September 29, 2014 3:57 PMTo: Tia RainsSubject: FW: Request for info for International Egg Foundation.

Joanne sent me a series of requests this AM. One is below. She needs info on plant vs animal protein. Message below is self-explanatory. Can you quickly put something together? I'll work on her other requests.

Thanks.

From: Joanne Ivy Sent: Monday, September 29, 2014 7:01 AM To: Mitch Kanter Subject: RE: Request for info for International Egg Foundation.

I am not in today to discuss, so could you or Tia provide information on plant-based protein vs. eggs by tomorrow noon. I will combine your information with whatever John provides. WWF is an important group for us to respond to their request. Thanks. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Mitch Kanter
Sent: Monday, September 29, 2014 6:55 AM
To: Joanne Ivy
Cc: John Howeth
Subject: Re: Request for info for International Egg Foundation.

I'll be in today. Can discuss this afternoon.

Mitch.

Sent from my iPad

On Sep 29, 2014, at 6:32 AM, "Joanne Ivy" <<u>JIvy@aeb.org</u>> wrote:

John and Mitch, we need to provide information about egg benefits as compared to Beyond Eggs. Mitch, I think we need to talk about how plant protein is not equivalent to the quality of egg protein. John, please provide everything we have developed to address Beyond Eggs/Egg Replacers.

WWF is a very important group to have this information about eggs over egg replacers. Thanks. Joanne

Sent from my iPad

Begin forwarded message:

From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: September 29, 2014 at 7:21:54 AM EDT To: Julian at IEC <<u>julian@internationalegg.com</u>> Cc: Bart Jan Krouwel <(b) (6) Subject: Re: Request for info for International Egg Foundation.

Yes, we can provide you information. John Howeth, who heads up this program is on medical leave, but we can still get you something by hopefully tomorrow. Joanne

Sent from my iPad

On Sep 29, 2014, at 3:33 AM, "Julian at IEC" <<u>julian@internationalegg.com</u>> wrote:

Dear Joanne,

I have the below request from the World Wildlife Fund about egg replacers. Do you have any information I can send to WWF about the benefits of eggs over egg replacers?

Thank you and best regards,

Julian

Julian Madeley

Director General | The International Egg Commission Second Floor | 89 Charterhouse Street | London | EC1M 6HR | United Kingdom Tel: + 44 (0) 20 7490 3493 | Fax: + 44 (0) 20 7490 3495 | julian@internationalegg.com www.internationalegg.com | www.thinkegg.com | www.worldeggday.com

Forthcoming IEC events:

- World Egg Day 2014: 10 October 2014

- IEC Berlin 2015 Global Leadership Conference: 20 – 24 September 2014

<image003.jpg>

From: Saviani, Carlos [mailto:carlos.saviani@wwfus.org]
Sent: 16 September 2014 22:00
To: Bart Jan Krouwel
Cc: Julian Madeley; Julian at IEC; Tim Lambert <u>Tlambert@eggs.ca</u>; Steve Manton
Subject: RE: International Egg Foundation.

Hi Bart,

I hope you had a wonderful and productive meeting last week!

We have been getting some inquires about the veg based egg as portrayed in the links bellow.

Do you have an industry position about it? Would you have a life cycle assessment of the environmental footprint of the value chain of eggs (at least for GHG, Water and Residues – and discounting the meat portion) that we could use to show that it is in fact small? We could even try to access theirs in order to compare.

https://www.youtube.com/watch?v=YrmpUlhSULk

https://www.youtube.com/watch?v=L04DdQMhL5w

http://www.dailymail.co.uk/sciencetech/article-2561374/Theartificial-egg-set-China-San-Francisco-firm-reveals-backing-Asiasrichest-man-radical-plant-based-egg.html

I'm looking forward to our next interaction.

Best Regards,

Carlos

<image003.jpg>

Lutton, Sara - AMS

From:John HowethSent:Thursday, September 12, 2013 8:05 AMTo:Elisa MalobertiSubject:Fwd: [eggmen] 'Artificial egg' made from PLANTSAttachments:image001.jpg; image002.jpg; image003.jpg; image004.gif; image005.gif

John Howeth VP, Ingredient & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> Direct: <u>224.563.3705</u> www.AEB.org

Begin forwarded message:

From: Roger Deffner <<u>RogerD@natlfood.com</u>>
Date: September 11, 2013, 11:18:49 AM EDT
To: "jhoweth@aeb.org" <jhoweth@aeb.org>
Subject: FW: [eggmen] 'Artificial egg' made from PLANTS

FYI – more of the same!

Roger Deffner Vice President National Food Corporation Direct: 425-407-6228

http://www.dailymail.co.uk/sciencetech/article-2416808/Artificial-egg-PLANTSbacked-Bill-Gates-set-revolutionize-cooking-goes-sale-Whole-Foods.html

'Artificial egg' made from PLANTS backed

by Bill Gates set to revolutionize cooking goes on sale at Whole Foods

By MARK PRIGG IN SAN FRANCISCO

PUBLISHED: 11:06 EST, 10 September 2013 | **UPDATED:** 11:09 EST, 10 September 2013

A radical 'artificial egg' backed by Paypal billionaire Peter Thiel and Bill Gates goes on sale in US supermarkets for the first time today.

Made from plants, it can replace eggs in everything from cakes to mayonnaise - without a chicken ever coming close to the production process.

The team today started selling their 'plant egg', called Beyond Eggs, in Whole Foods in California - and say it could soon be available in supermarkets worldwide.

Eggstraordinary: The powder is a special blend of plants including peas and beans

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'We want to take animals out of the equation,' said Josh Tetrick, the firm's founder. 'The food industry is

begging for innovation, especially where animals are involved - it is a broken industry.'

'Even better than the real thing':

MailOnline was able to try two of Hampton Creek's products - its mayonnaise, and cookies made using its baking product.

The results were surprising, if a little anticlimactic. Both tasted exactly as you would expect - and are indistinguishable from products made with real egg.

The chocolate chip cookies we tried were excellent - crumbly, moist and with a feel in the mouth identical to a normal cookie. Crucially, they also look identical to a normal cookie - despite containing no egg.

Hampton Creek's 'Beyond Egg' mayonnaise was also extremely similar to 'normal' mayo - and after trying it out on a few friends, some even preferred to to normal mayonnaise.

Tetrick's idea was to find a mix of easy-to-grow plants that, when mixed together in the right way, replicate the taste, nutritional values and cooking properties of an egg.

This, he believes will allow the firm to produce its substitute for mass market foods - and to allow developing worlds to grow their own versions with added nutrients.

'Eggs are functionally incredible, they do everything from hold oil and water in mayo to making the muffin rise and holding scrambled eggs together,' he said 'I started to think what if we can find plants that can do this. We have about 12 plants pre-selected, including a pea already widely grown in Canada. There's also a bean in South Asia that is incredible in scrambled eggs.'

More...

Provide the second s

- Could listening to Miley Cyrus make you more INTELLIGENT? Scientist claims certain pop songs can make you smarter
- ? Would you sign up to die on MARS? 200,000 people around the the world apply for a one-way ticket to the red planet
- Nasa to give future rovers a 'BRAIN': Experts develop camera that helps space robots make decisions in deep space

The firm is already in talks with major food manufacturers around the world - including several in the UK, to replace eggs in supermarket products with their alternative.

So far, he says the team has perfected an egg substitute for mayonnaise, and one for cakes.

'We can make really good mayonnaise, we've done taste tests against market leaders, and beaten them consistently. In the world of cookies, we've trialled our products with everyone from Bill Gates to Tony Blair, both of whom couldn't taste the difference.

'Bill Gates became an advisor to the company, and has been one of its most vocal supporters in the Silicon Valley world where Hampton Creek is based. 'Perfect': So far the makers claim to have mastered a recipe for cakes and mayonnaise - but are struggling with scrambled eggs

×

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'Companies like Hampton Creek Foods are experimenting with new ways to use heat and pressure to turn plants into foods that look and taste just like meat and eggs,' he recently wrote of the firm. The team initially struggled.

'Our first attempts weren't great, we tried to make a muffin using a mix of plants,' said Tetrick.

'Ours tasted really gummy, and didn't have the 'bounce' we wanted. Our mayonnaise would not hold the oil and egg together, so had what looked like liquid syrup.

Scrambled eggs were even worse - they just wouldn't congeal at all, and had a really bad aftertaste.

Tetrick admits the firm is struggling with artificial scrambled egg. He says there is a 'pretty good' recipe, but admits more work is needed.

'Eventually we'll get to one thing that will replace everything,' he said.

The firm hopes to allow developing countries to grow and produce their own 'plant eggs'.

'In developing countries, we can also add in things missing from the local diet, helping nutrient deficiencies, and we have had initial discussion with the world food programme about this.

'What we want to do eventually is find a way to work with farmers in the developing world to enable them to have new cash crops that can be used. Then we become the kind of company to be feared by the bad guys in the industry.' Switch to: Text-Only, Daily Digest • Unsubscribe • Terms of Use • Send us Feedback

From:	John Howeth
To:	Elisa Maloberti
Bcc:	John Howeth
Subject:	Fwd: AEB Launches Results from Landmark Study on Egg Production
Date:	Wednesday, October 30, 2013 2:22:25 PM
Attachments:	image001 png
	image002 png
	image003 png
	image004 png
	image005 png
	imago006 ppg

FYI

John Howeth VP Ingredients & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> Park Ridge, IL 60068 Office: <u>847.296.7043</u> www.AEB.org

Begin forwarded message:

From: Joanne Ivy <<u>Jlvy@aeb.org</u>> Date: October 30, 2013 at 11:16:47 AM PDT To: John Howeth <<u>JHoweth@aeb.org</u>> Cc: Mia Roberts <<u>MRoberts@aeb.org</u>> Subject: RE: AEB Launches Results from Landmark Study on Egg Production

John, I believe it will be up to you to get the study out to your trade press, but I am copying Mia to make sure. Joanne

 Joanne C. Ivy, CAE
 President & CEO

 American Egg Board
 0 847 296.7043
 D 224.563.3701
 C (b) (c)

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From: John Howeth Sent: Wednesday, October 30, 2013 9:04 AM To: Joanne Ivy Subject: Re: AEB Launches Results from Landmark Study on Egg Production

Good morning I'll call you soon about Beyond Eggs. Just a quick question on your email. I'm assuming that this announcement has not gone to the Ingredient or Foodservice press and that is our responsibility, is that correct?

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

On Oct 30, 2013, at 6:50 AM, "American Egg Board" <jivy@aeb.org> wrote:

Having trouble viewing this email? <u>Click here</u>
[if !vml] [endif]
Industry Friends,
I am excited to inform you that American Egg Board (AEB) will be releasing a ground-breaking study that shows that while U.S. egg production has increased over the past 50 years, the industry has also been able to significantly decrease its environmental footprint.
You can access the press kit <u>here</u> , complete with a press release, a fact sheet and an infographic that details the outcomes of the study.
Starting this week, AEB will be reaching out to national media, across national publications and industry trades to highlight the results of this study. In addition to the materials provided in the attached press kit, we will be offering reporters interviews with the study's lead researcher Hongwei Xin and Midwest Poultry Service's Bob Krouse. We look forward to sharing the results of our efforts in the coming weeks.
In the case that you receive media inquiries about the study, please contact AEB. We can help provide additional guidance or give reporters access to more information on the research.
Thanks for your continued support and please do not hesitate to reach out with any questions.
Best,
President and CEO
American Egg Board
Forward this email
This email was sent to <u>ihoweth@aeb.org</u> by jivy@aeb.org <u>Update Profile/Email Address</u> Instant removal with <u>SafeUnsubscribe</u> ™ <u>Privacy Policy</u> . American Egg Board 1460 Renaissance Drive Park Ridge IL 60068

From:	John Howeth
To:	Elisa Maloberti
Bcc:	John Howeth
Subject:	Fwd: Artificial egg
Date:	Thursday, September 12, 2013 8:05:53 AM
Attachments:	image012.png
	image013.png
	image014.png
	image015.png
	image009.png
	image016.png

John Howeth VP, Ingredient & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> Direct: <u>224.563.3705</u> www.AEB.org

Begin forwarded message:

From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: September 11, 2013, 1:21:06 PM EDT To: 'Blair Van Zetten' <<u>bvanzetten@oskyfoods.com</u>>, Kevin Vinchattle <<u>kevin@iowapoultry.com</u>>, Mitch Kanter <<u>MKanter@eggnutritioncenter.org</u>>, John Howeth <<u>JHoweth@aeb.org</u>> Subject: RE: Artificial egg

Yuck! It is frustrating to see this product in the news making headlines. Actually, there is not anything negative that we can say about that specific product, unless they have provided false information, which I do not think they have. However, I know that John and his team are looking at ways to aggressively address Beyond Egg and all other replacers. The problem with Beyond Eggs is that they are getting a lot of visibility globally because of their partners, such as Gates. We possibly could develop a Facts sheet with some Q & A, so that further processors are informed about the product and can answer some basic questions if asked. The only point for a further processor that we could show as a positive for real egg products compared to Beyond Eggs is a clean label.

Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Blair Van Zetten [mailto:bvanzetten@oskyfoods.com] Sent: Wednesday, September 11, 2013 11:36 AM To: Joanne Ivy; Kevin Vinchattle; Mitch Kanter Subject: FW: Artificial egg

Joanne what do we know about this? We are starting to gets lots of questions?

Thanks

blair

From: Jason Van Zetten
Sent: Wednesday, September 11, 2013 11:01 AM
To: Blair Van Zetten; Brad Hodges; Heather Angle-Gardner; Bob Feist; Terry W. Derby
Subject: Artificial egg

http://www.dailymail.co.uk/sciencetech/article-2416808/Artificial-egg-PLANTSbacked-Bill-Gates-set-revolutionize-cooking-goes-sale-Whole-Foods.html

Lutton, Sara - AMS

From: Sent: To: Subject: John Howeth Thursday, September 12, 2013 8:05 AM Elisa Maloberti Fwd: Artificial egg made from plants

John Howeth VP, Ingredient & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> Park Ridge, IL 60068 Office: <u>847.296.7043</u> Direct: <u>224.563.3705</u> www.AEB.org

Begin forwarded message:

From: Joanne Ivy <<u>JIvy@aeb.org</u>>
Date: September 10, 2013, 8:45:05 PM EDT
To: John Howeth <<u>JHoweth@aeb.org</u>>, Elisa Maloberti <<u>EMaloberti@aeb.org</u>>
Subject: Fwd: Artificial egg made from plants

FYI - Another article on Beyond Eggs. Joanne

Sent from my iPad

Begin forwarded message:

From: "Morris, Craig - AMS" <<u>Craig.Morris@ams.usda.gov</u>> Date: September 10, 2013, 6:16:26 PM CDT To: "<u>JIvy@aeb.org</u>" <<u>JIvy@aeb.org</u>> Subject: Artificial egg made from plants

http://www.dailymail.co.uk/sciencetech/article-2416808/Artificial-egg-PLANTSbacked-Bill-Gates-set-revolutionize-cooking-goes-sale-Whole-Foods.html

Sent from my iPhone

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From:	John Howeth
To:	Jerry Smiley
Bcc:	John Howeth
Subject:	Fwd: Artificial egg
Date:	Thursday, September 12, 2013 10:16:15 AM
Attachments:	image012.png
	image013.png
	image014.png
	image015.png
	image009.png
	image016.png

I'll start sending you some releases, see below.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> Direct: <u>224.563.3705</u> www.AEB.org

Begin forwarded message:

From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: September 11, 2013, 1:21:06 PM EDT To: 'Blair Van Zetten' <<u>bvanzetten@oskyfoods.com</u>>, Kevin Vinchattle <<u>kevin@iowapoultry.com</u>>, Mitch Kanter <<u>MKanter@eggnutritioncenter.org</u>>, John Howeth <<u>JHoweth@aeb.org</u>> Subject: RE: Artificial egg

Yuck! It is frustrating to see this product in the news making headlines. Actually, there is not anything negative that we can say about that specific product, unless they have provided false information, which I do not think they have. However, I know that John and his team are looking at ways to aggressively address Beyond Egg and all other replacers. The problem with Beyond Eggs is that they are getting a lot of visibility globally because of their partners, such as Gates. We possibly could develop a Facts sheet with some Q & A, so that further processors are informed about the product and can answer some basic questions if asked. The only point for a further processor that we could show as a positive for real egg products compared to Beyond Eggs is a clean label.

Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Joanne Ivy
Andrew Liuzzi; Missy Maher
Joanne Ivy; John Howeth
Fwd: Beyond Eggs / "Artificial egg" at Whole Foods
Friday, September 13, 2013 7:01:43 AM

Andy and Missy, I had to go ahead and respond to Mike's email as he is a large, vocal egg producer and he copied Elliott Gibber, who is AEB's Further Processor Advisor and the 2nd largest further processor. I just wanted Mike to know we were working on it.

FYI, my response below. Joanne

Sent from my iPad

Begin forwarded message:

From: "Elliot Gibber" <<u>egibber@debelfoods.com</u>> Date: September 12, 2013, 11:24:39 PM EDT To: "Joanne Ivy" <<u>(b) (6)</u> > Subject: Re: Beyond Eggs / 'Artificial egg' at Whole Foods Reply-To: <u>egibber@debelfoods.com</u>

I knew you be all over this. see you in CapeTown. Elliot Thank you

Elliot Gibber President Deb El Food Products Office: 908- 351- 0330 Cell: (b) (6) Email: egibber@debelfoods.com

From: Joanne Ivy < (b) (6) Date: Thu, 12 Sep 2013 22:34:43 -0400 To: Mike Sencer<<u>msencer@hiddenvilla.com</u>> Cc: Elliot Gibber (<u>egibber@debelfoods.com</u>)<<u>egibber@debelfoods.com</u>>; John Howeth<<u>JHoweth@aeb.org</u>> Subject: Re: Beyond Eggs / 'Artificial egg' at Whole Foods

Mike, we have been aware of this product for some time and have had several meetings with our PR agency to discuss how to approach this situation. Beyond Egg is just another replacer, but this egg replacer/substitute is getting a lot of attention because of the relationship with Bill Gates and HSUS. At this point, consumers are not reacting favorably to the "artificial egg." Our bigger concern is with food manufacturers, and AEB has developed a campaign to address this situation.

Based on the press release that came out September 9, we are currently

analyzing what statements in that release are untrue about the Beyond Egg compared to real egg product and also to address their statements about egg production. We hope to have a release to the industry press by tomorrow (Friday) afternoon.

You did make an interesting comment about the name of the product including Eggs, but the product does not include Eggs. I will check with USDA to see if there is a legal violation by using Eggs in the title.

Just know we are on it! Joanne

Sent from my iPhone

On Sep 12, 2013, at 12:47 PM, Mike Sencer < <u>msencer@hiddenvilla.com</u> > wrote:

Interesting comments below!

Subject: Fwd: Beyond Eggs / 'Artificial egg' at Whole Foods

Interesting....no mention anywhere of cost. No mention of taking from corn and soy grown by farmers, conventional, organic and nonGMO Nationally and world wide.

Mentions how chickens are kept cramped together or whatever....but in truth cage free, free range and pasture they have a great life span and freedom to do chicken behavior just fine.

"Artifical Egg"..... why is USDA letting them have egg part of the name ? Its not an egg ...just has the properties , Even showing an egg/shell is not right. I guess. This needs some counter activity and pressure from American Egg Board; United Egg Producers and others. Warren Buffet would be okay.

http://www.dailymail.co.uk/sciencetech/article-2416808/Artificial-egg-PLANTS-backed-Bill-Gates-set-revolutionize-cooking-goes-sale-Whole-Foods.html

http://hamptoncreekfoods.com/

Lutton, Sara - AMS

From:	John Howeth
Sent:	Thursday, September 12, 2013 6:10 PM
То:	Elisa Maloberti
Subject:	Fwd: Beyond Eggs

Can you start this first thing.

John Howeth VP Ingredients & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org

Begin forwarded message:

From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: September 12, 2013, 5:24:31 PM EDT To: John Howeth <<u>JHoweth@aeb.org</u>> Subject: Beyond Eggs

I am going to say something to the industry press about Beyond Eggs. I have ask Edelman to assist me with a release.

I may want to add something about AEB's approach. Would you provide information on our strategy and campaign to address egg replacers, including the Beyond Egg product. I hope to get out the release mtomorrow afternoon, so could you write something at your earliest convenience by 11:00 am tomorrow. Thanks. Joanne

Sent from my iPhone

Hey is there anyway that you can get this product? I'm sure the Joanne would really appreciate it.

John Howeth VP Foodservice & Egg Product Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> <u>www.AEB.org</u>

Begin forwarded message:

From: Joanne Ivy <<u>Jlvy@aeb.org</u>> Date: July 25, 2014 at 11:22:55 AM CDT To: Mitch Kanter <<u>MKanter@eggnutritioncenter.org</u>> Cc: "Englert, Jenny" <<u>Jenny.Englert@edelman.com</u>>, Kevin Burkum <<u>KBurkum@aeb.org</u>>, Serena Schaffner <<u>sschaffner@aeb.org</u>>, Mia Roberts <<u>MRoberts@aeb.org</u>>, Jacinta LeDonne <<u>JLeDonne@aeb.org</u>>, Ashley Richardson <<u>ARichardson@aeb.org</u>>, Sheryl Slagle <<u>SSlagle@aeb.org</u>>, John Howeth <<u>JHoweth@aeb.org</u>>, "Maher, Missy" <<u>Missy.Maher@edelman.com</u>>, "McClamroch, Allison" <<u>Allison.McClamroch@edelman.com</u>>, "Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>>, "Waltz, Allison" <<u>Allison.Waltz@edelman.com</u>>, "Burch, Kellie" <<u>Kellie.Burch@edelman.com</u>> Subject: Re: Beyond Eggs Article 7.25

We can try to get it, but as far as I know we don't have it. John, can you get it? Joanne

Sent from my iPhone

On Jul 25, 2014, at 12:09 PM, "Mitch Kanter" <<u>MKanter@eggnutritioncenter.org</u>> wrote:

Does anyone know the nutritional composition of his scrambled egg product?

From: Englert, Jenny [Jenny.Englert@edelman.com]
Sent: Friday, July 25, 2014 10:50 AM
To: Joanne Ivy; Kevin Burkum; Serena Schaffner; Mia Roberts; Jacinta

LeDonne; Ashley Richardson; Sheryl Slagle; Mitch Kanter; John Howeth Cc: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Waltz, Allison; Burch, Kellie Subject: Beyond Eggs Article 7.25

Hi all –

We want to flag a new <u>article</u> featuring Hampton Creek Foods in Business Insider entitled, "A San Francisco Startup Has Plans To Blow Up The Egg Industry." The article gives an overview of the company as well as quotes Tetrick saying, "The cost of an egg comes from feed. Unless egg makers are willing to lose money, they don't have a structure to compete with us."

Additionally, we want to flag that Hampton Creek has also released an infographic (featured in the article) explaining how to make scrambled eggs with Just Scramble, their plant based egg substitute.

Please let us know if you have any questions, and we will continue to monitor for any updates.

Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com <image001.png>

John Howeth
Jerry Smiley
John Howeth
Fwd: Beyond Eggs Article 7.25
Friday, July 25, 2014 12:25:52 PM
image001.png

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Please let us know if you have any questions, and we will continue to monitor for any updates.

Best, Jenny

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Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell:(b) (6) jenny.englert@edelman.com | www.edelman.com <image001.png> From:Kevin BurkumTo:John HowethSubject:Fwd: Beyond Eggs Coverage, 9.12Date:Wednesday, September 25, 2013 12:07:28 PMAttachments:image001.png
image002.png
image003.png
image005.png
image005.png
image006.png

FYI

Kevin Burkum

Begin forwarded message:

From: "Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>> Date: September 25, 2013, 6:03:18 PM GMT+02:00 To: Joanne Ivy <<u>JIvy@aeb.org</u>>, "Vaswani, Priya" <<u>Priva.Vaswani@edelman.com</u>>, Mia Roberts <<u>MRoberts@aeb.org</u>>, Jacinta LeDonne <<u>JLeDonne@aeb.org</u>>, Kevin Burkum <<u>KBurkum@aeb.org</u>>, Kristin Livermore <<u>KLivermore@aeb.org</u>>, Ashley Richardson <<u>ARichardson@aeb.org</u>>, Sheryl Slagle <<u>SSlagle@aeb.org</u>>, Mitch Kanter <<u>MKanter@eggnutritioncenter.org</u>>, Anna Shlachter <<u>AShlachter@eggnutritioncenter.org</u>>, Tia Rains <<u>trains@eganutritioncenter.org</u>> Cc: "Maher, Missy" <<u>Missy.Maher@edelman.com</u>>, "McClamroch, Allison" <<u>Allison.McClamroch@edelman.com</u>>, "Schaffner, Serena" <<u>Serena.Schaffner@edelman.com</u>>, "Torvik, Erika" < <u>Erika.Torvik@edelman.com</u>>, "Englert, Jenny" <Jenny.Englert@edelman.com> Subject: RE: Beyond Eggs Coverage, 9.12

Hi everyone,

We wanted to flag a Beyond Eggs article on <u>Huffington Post</u> this week. The author compared Beyond Eggs to real eggs by making cookies with both. Overall, the author and her fellow editor test subjects couldn't tell the difference between the two. She also noted that Beyond Eggs have a longer shelf life, are less expensive and have added health benefits to eggs, in addition to being animal-cruelty-free.

Joanne, please let us know if there's anything else that can provide for you in additional to the letter we previously drafted for producers (i.e., slides for board meeting etc.). We'll be sure to keep our eyes out for additional coverage. In the meantime, let us know if you have questions!

Thank you,

Elizabeth

From: Joanne Ivy [mailto:JIvy@aeb.org]
Sent: Thursday, September 12, 2013 11:39 AM
To: Vaswani, Priya; Mia Roberts; Jacinta LeDonne; Kevin Burkum; Kristin Livermore; Ashley Richardson; Sheryl Slagle; Mitch Kanter; Anna Shlachter; Tia Rains
Cc: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Englert, Jenny
Subject: RE: Beyond Eggs Coverage, 9.12

Thank you for this update. I have been inundated with emails from egg farmers, further processors, and others in the egg industry with copies of the release and asking what AEB is doing. I have felt comfortable with my response to them, but it shows that it is very concerning and upsetting to the egg industry. Joanne

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

 0 847 296.7043 | D 224 563.3701 | C (b) (6)

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

 IncredibleEgg.org
 AEB.org



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If you have received this email in error, please advise the sender, and delete it from your computer.

From: Vaswani, Priya [mailto:Priya.Vaswani@edelman.com]
Sent: Thursday, September 12, 2013 11:23 AM
To: Joanne Ivy; Mia Roberts; Jacinta LeDonne; Kevin Burkum; Kristin Livermore; Ashley Richardson; Sheryl Slagle; Mitch Kanter; Anna Shlachter; Tia Rains
Cc: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Englert, Jenny
Subject: Beyond Eggs Coverage, 9.12

Hi All –

We wanted to share additional top-tier coverage we've seen come through about Beyond Eggs on <u>Fox News</u>, <u>MSN Now</u> and <u>Gawker</u>. The articles highlight that the egg substitute is available for sale at Whole Foods stores in California. Interestingly, the MSN Now headline notes that Beyond Eggs "Sort of Freaks Us Out" – a view we're sure many consumers will share.

We'll continue to keep our eyes out for additional coverage. In the meantime, holler with questions.

Best, Priya

PRIYA VASWANI | EDELMAN

consumer marketing

200 east randolph street | 65^{th} floor | chicago, il 60601 work: 312.565.1251 | cell: (b) (6)

Lutton, Sara - AMS

From: Sent: To: Subject: Attachments:	John Howeth Wednesday, December 04, 2013 11:11 AM Elisa Maloberti Fwd: Bob's LTE image001.png; ATT00001.htm; image016.png; ATT00002.htm; image017.png; ATT00003.htm; image018.png; ATT00004.htm; image008.png; ATT00005.htm; image019 png; ATT00006 htm; image011 png; ATT00007 htm; image012 png;
	image019.png; ATT00006.htm; image011.png; ATT00007.htm; image012.png; ATT00008.htm; image013.png; ATT00009.htm; image014.png; ATT00010.htm; image008.png; ATT00011.htm; image015.png; ATT00012.htm; Bob Krouse WSJ LTE 11 26 13 3pm.docx; ATT00013.htm; Bob Krouse Huff Post LTE 11.27.13.docx; ATT00014.htm

For QLC.

John Howeth VP Ingredients & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org

Begin forwarded message:

From: Kevin Burkum <<u>KBurkum@aeb.org</u>> Date: December 4, 2013 at 9:50:28 AM CST To: John Howeth <<u>JHoweth@aeb.org</u>> Subject: RE: Bob's LTE

Here you go. Please holler with questions.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847.296.7043 | D 224.563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

Letter-to-the-Editor: Huffington Post

Name: Bob Krouse, Midwest Poultry Services in Indiana Email address: [Bob to provide] Subject line: "Beyond Eggs" article and Tech Crunch video Message content: [See below]

As an egg farmer for more than 30 years, I take issue with the article and Tech Crunch interview on "Beyond Eggs." The time-tested, all-natural, gold-standard-of-high-quality protein egg cannot be replaced. Egg farmers are working really hard to provide safe, nutritious food while maintaining the highest quality care for our hens. Today's hens are producing more eggs and living longer due to better health, nutrition and living environment. At the same time, we've made egg production more efficient by using fewer resources and producing less waste. A new Egg Industry Center study shows the industry has decreased greenhouse gas emissions by more than 70 percent and uses 32 percent less water over the past 50 years. Our customers have said they're not interested in egg substitutes. They want real, natural eggs with their familiar ingredients and nutritional, taste and quality benefits. So, why settle for anything less than the original, timeless, incredible egg?

Letter-to-the-Editor: Wall Street Journal

Date: November 24, 2013 Headline: "Startup Scrambles to Replace Egg" Online Article: <u>http://online.wsj.com/news/articles/SB10001424052702304607104579216080221898594</u> Writer's location: Indiana

As an egg farmer in northern Indiana for more than 30 years, I take issue with the Nov. 24 article, "Startup Scrambles to Replace Egg." The truth is, the time-tested, all-natural, gold-standard-of-highquality protein egg cannot be replaced.

Over the past few decades, a variety of innovations have taken place across the egg industry that we – as egg farmers – take pride in. With the growing population and egg demand on the rise, egg farmers like myself are working really hard to provide safe, nutritious food while maintaining the highest quality care for our hens. Today's hens are producing more eggs and living longer due to better health and nutrition and ventilation, temperature and lighting advancements in their living environment.

At the same time, we've made egg production more efficient by using fewer resources and producing less waste. A new study by the Egg Industry Center proves the egg industry has significantly reduced its environmental impact over the past 50 years. Since 1960, we've decreased greenhouse gas emissions by more than 70 percent and use 32 percent less water – that's real progress.

Though replacer eggs like the ones produced by Hampton Creek Foods have made some noise, our customers have said they're not interested in egg substitutes or ones created by a "company's battalion of biochemists, food scientists, and software engineers" who "are modeling their efforts on processes first used in drug companies and the tech industry." They want real eggs – they can take comfort in the familiar ingredients and nutritional, taste and quality benefits of natural eggs. We may never know the answer to the age-old question, "Which came first: the chicken or the egg?" But the real question is, why settle for anything less than the original, timeless, incredible egg?

Bob Krouse Egg farmer Midwest Poultry Services in Indiana From: John Howeth To: Elisa Maloberti Subject: Fwd: Egg Replacer Messaging Date: Wednesday, November 19, 2014 4:27:07 PM Attachments: image007.png image008.png image009.png image010.png image011.png image012.png image013.png image008.png image009.png image010.png image011.png image012.png

Elisa, please see the following thread. Does it make sense to revise the Accept No Substitutes white paper?

John Howeth Senior VP, Foodservice & Egg Products American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

Begin forwarded message:

From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: November 19, 2014 at 1:07:08 PM PST To: "'Humbel, Leslie'" <<u>Leslie.Humbel@edelman.com</u>>, Serena Schaffner <<u>sschaffner@aeb.org</u>>, "Liuzzi, Andrew" <<u>Andrew.Liuzzi@edelman.com</u>>, "Maher, Missy" <<u>Missy.Maher@edelman.com</u>> Cc: Kevin Burkum <<u>KBurkum@aeb.org</u>>, John Howeth <<u>JHoweth@aeb.org</u>> Subject: RE: Egg Replacer Messaging

Thanks Leslie for resending. I knew I had it, but couldn't put my hands on it. I have a feeling that this information will come in handy with the Hellman's/Beyond Egg battle bringing this topic back into the press. Joanne

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

 0 847 296.7043 | D 224 563.3701 | C (b) (6)

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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From: Humbel, Leslie [mailto:Leslie.Humbel@edelman.com] Sent: Wednesday, November 19, 2014 2:28 PM To: Serena Schaffner; Liuzzi, Andrew; Maher, Missy Hi Serena,

Thanks for looping us in. Below are the final key messages from our drive from last December for Beyond Eggs, and attached is the statement developed for Joanne. Hope these are helpful, and please feel free to call with any questions or needs. Keep us posted on where this goes so we can keep an eye out from a monitoring perspective.

Thanks, Leslie

KEY MESSAGES

- Eggs are all-natural and packed with a number of nutrients, including high-quality protein. The quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods.
- Egg farmers work hard to provide safe, nutritious food while maintaining the highest quality care for their hens. Today's hens are producing more eggs and living longer due to better health, nutrition and living environment.
- Egg production today uses fewer resources and produces less waste. A new Egg Industry Center study shows the industry has decreased greenhouse gas emissions by more than 70 percent and uses 32 percent less water over the past 50 years.
- At an average of just 15 cents apiece, eggs are the most affordable source of high-quality protein.

From: Serena Schaffner [mailto:sschaffner@aeb.org]
Sent: Wednesday, November 19, 2014 2:18 PM
To: Humbel, Leslie; Liuzzi, Andrew; Maher, Missy
Cc: Joanne Ivy; Kevin Burkum
Subject: Egg Replacer Messaging

Hi Team –

We fielded a call today from <u>Candice Choi</u> an Associated Press reporter who is "looking into a potential story" about food replacers, including eggs and beef. She's been covering the Hellman's/Beyond Eggs battle so her story is likely associated with Hampton Creek. She's particularly interested in the <u>Accept No Substitute White Paper</u> we developed over 10 years ago. Specifically she wants to know what it is and why it was developed.

I'm working on drafting a response (Joanne has all the background on that particular white paper) and was hoping you could send over the message points and statements you've developed for Beyond Eggs to ensure our answer is accurate and consistent. I'll send along the response for you to take a look at – to make sure we're all aligned, before we send this back to AP. Thanks for the help and holler with questions!

Best,

Serena

 Serena Schaffner
 Director of Marketing Communications

 American Egg Board
 O

 0 847 296.7043
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Lutton, Sara - AMS

From:	Joanne Ivy
Sent:	Saturday, November 23, 2013 8:57 PM
То:	Kevin Burkum; John Howeth; Kristin Livermore
Cc:	Elizabeth (Schreiber) Jensen
Subject:	Fwd: Google Alert - egg products

I just received a copy of the Forbes article. I guess it is coming out in print December 16. The editor obviously does not know what is an egg replacer and referred to Egg Beaters, which I never mentioned. Egg Beaters is still an egg not a synthetic egg replacer. Plant-based egg replacers have been around for years. I would assume it is not worth it to provide a correction or clarification to the editor.

They also aggressively attack our production methods, which is out of date. We have a lot of positive messages that can be related from Hongwei's sustainability study.

It is another good promotion for Beyond Eggs and a negative article about eggs in comparison. We need to come up with a strategy to address Beyond Eggs appropriately in consumer press. They are not going away!

Very frustrating. The editor can't even get my comments correct. Joanne

Sent from my iPad

Begin forwarded message:

From: Google Alerts <<u>googlealerts-noreply@google.com</u>> Date: November 23, 2013 at 2:55:57 PM GMT+9 To: (b) (6) Subject: Google Alert - egg products

News

1 new result

<u>Bill Gates' Food Fetish: Hampton Creek Foods Looks To Crack The ...</u> Forbes The ratio of energy input to food energy output for chicken-laid **eggs** is about 39-to-1, behind only beef an Hampton Creek's plant **products** ... <u>See all stories on this topic »</u>

<u>Unsubscribe</u> from this alert. <u>Create</u> another alert. <u>Manage</u> your alerts.

Lutton, Sara - AMS

From:	(b) (6)
Sent:	Monday, November 25, 2013 10:48 AM
То:	Kevin Burkum; Kristin Livermore; John Howeth; andrew.liuzzi@edelman.com;
	Serena.Schaffner@edelman.com; Brad.Jaffe@edelman.com;
	missy.maher@edelman.com; elizabeth.jensen@edelman.com
Subject:	Fwd: Hampton Creek at it again
Attachments:	Hampton_Creek,_WSJ_Article,_11-24-13.pdf

FYI. I thought Bob Krouse's thoughts were interesting regarding the WSJ article and what could be perceived negative to the reader. See attached. Joanne -----Original Message-----From: Bob Krouse <bob@mpslp.com> To: Joanne Ivy (b) (6) Sent: Mon, Nov 25, 2013 9:56 am Subject: RE: Hampton Creek at it again

Joanne,

Attached is a copy of the WSJ article with a few things underlined that do not seem to do Hampton Creek any good.

Bob

From: Joanne Ivy [mailto(b) (6) Sent: Monday, November 25, 2013 9:40 AM To: Bob Krouse Subject: Fwd: Hampton Creek at it again

This is getting very frustrating -- and upsetting! We can't stop their publicity, but we have to do something to carefully refute their negative comments about eggs and the egg industry. We will address today! Joanne

http://online.wsj.com/news/articles/SB10001424052702304607104579216080221898594



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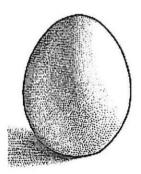
Startup Scrambles to Replace Eggs

Hampton Creek Foods Serves Up Plant Alternatives for Cookie Dougl Mayo By FARHAD MANJOO

E

Nov. 24, 2013 8:05 p.m. ET

The ordinary chicken egg is one of the world's most perfect foods. Eggs are a cheap, abundant, delicious source of protein. They're also extremely flexible, capable of performing as many as 22 different culinary functions in a wide array of foods.



A chicken egg

In cakes, eggs trap gasses in the batter, creating a light, airy texture. In mayonnaise, egg yolks stabilize an emulsion of oil and an acid. In a meatloaf, they bind disparate ingredients together. In a custard, they thicken liquids to form a gel.

There's only one problem with eggs. "They are fantastically inefficient," said Josh Tetrick, the founder of a San Francisco foodtechnology startup called Hampton Creek Foods, only he uses an F-word other than "fantastically."

Egg production is the fastest-growing segment of intensive agriculture as demand skyrockets in emerging economies. Mr. Tetrick points out that 1.8 trillion eggs are laid globally each year, and chicken feed—much of it soy and corn, which require vast

amounts of land, water, and fossil fuels to grow-accounts for 70% of the cost of an egg.

Mr. Tetrick thinks he can do better. He has secured financing from some of the tech industry's largest venture backers to do what most egg-loving foodies, myself included, consider both

sacrilegious and impossible: He wants to replace the chicken egg with plant-based protein sources.

Related

The Hunt for a Perfect Egg

Actually, that's underselling the goal: Hampton Creek wants to "surpass" the egg, to make eggless foods that taste better, are free of

cholesterol, last longer on the shelf, are more ecologically sustainable and humane, and are far cheaper than their eggy counterparts.

This is a gargantuan goal, and Mr. Tetrick concedes that the company isn't close to achieving it. But Hampton Creek is far enough along to illustrate the power of what you might call "food engineering."

To create its eggless products, the company's battalion of biochemists, food scientists, and software engineers are modeling their efforts on processes first used in drug companies and the tech industry. If their plan works—and my taste buds suggest it might—Hampton Creek may show how the software and biotech industries' innovation techniques might alter sectors far beyond.

Take Hampton Creek's cookie dough, which will go on sale in February. In a blind test, I was able to tell the difference between Mr. Tetrick's cookies and those containing eggs.

The eggy ones were slightly browner. Yet I preferred the eggless cookie's taste and texture. They weren't too sweet, were slightly salty, and achieved just the right balance between crunchy and chewy.

And the cookies are almost a side-benefit of the dough. Because the dough has no eggs, you don't even have to bother baking it. Indeed, Hampton Creek's product is called Eat the Dough. It comes in a carton with a spoon set in the lid, like something you'd buy from the ice-cream man.

Mr. Tetrick grew up in Birmingham, Ala., on a diet of "chicken wings and gristle." He's now a vegan and, while animal welfare was part of his motivation for founding Hampton Creek, he has been careful to play down that goal for his company . "That's a losing proposition in the marketplace," he said.

For Mr. Tetrick there are many more hard-nosed reasons for creating a better egg substitute. To borrow a favorite tech-industry slight, eggs can't scale.

He argues that they require too many resources for their production to grow indefinitely. And he has persuaded several tech luminaries to join his mission. Hampton Creek's investors include Khosla Ventures, <u>Bill Gates</u>, and Peter Thiel's Founders Fund.

Altogether, Hampton Creek has raised \$6 million, with which Mr. Tetrick believes it can eventually render eggs "obsolete" across every dimension, including price. At the moment,

Hampton Creek's egg replacement costs about 39 cents a pound, about half the price of a pound of liquid eggs.

"We want to drive the price through the floor so radically that it would be silly to consider anything else," he said.

How can Hampton Creek do that? Josh Klein, its director of biochemistry R&D, likens the company's egg-replacing strategy to the process a drug company might use to fight disease. Every day, the lab screens dozens of new plant species in search of applications that might be similar to those of eggs. Armed with the database, they mix and match plants to create new, eggless foods. Then, they prototype, taste, and repeat.

In a way, Hampton Creek is treating food like software, borrowing various bits of code from different kinds of plants._____

It's a novel, mathematical way to think about food—one that confounds the sensibilities of those who reject "processed foods" but may ultimately realize the dream of providing sustainable, tasty, healthy and affordable food for the entire planet.

So far the results are quite good. Hampton Creek discovered a specific kind of yellow pea that has fantastic powers of emulsion, leading to a mayonnaise that the firm claims beats leading brands in taste tests.

I found the texture exquisitely creamy and, compared with eggy store-bought mayo, Hampton Creek's mayo had a cleaner, less aggressive flavor profile.

Mr. Tetrick says that, in large quantities, he can make eggless mayo 10% cheaper than conventional egg mayo. Driven by price, many Whole Foods stores across the country have switched to Hampton Creek's mayo in their store-prepared foods (like the potato salad). But at retail, Hampton Creek's mayo isn't very cheap: It sells for \$3.50 or \$4.49 a jar at most Whole Foods stores. That's about the same price as egg-based mayo, but Mr. Tetrick says that Hampton Creek has room to cut its prices substantially.

The company's next goal is to make an eggless liquid that, when fried, turns into scrambled eggs. Right now, the product is in the prototype stage. One of Hampton Creek's scientists cooked up a plate for me, and I found the fake scramble slightly rubbery and grainy, more like a spongy crepe than an egg.

But Mr. Tetrick says he believes that it won't be long till the company creates the perfect eggless scramble. "The chicken is great, but it isn't getting any better," he said. In other words, it's a sitting duck.

Write to Farhad Manjoo at farhad.manjoo@wsj.com

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Lutton, Sara - AMS

From: Sent: To: Subject: Joanne Ivy (b) (6) Friday, September 20, 2013 10:09 AM John Howeth; Elisa Maloberti Fwd: just mayo

Interesting! I also talked to Simon yesterday before I left about his scam theory!

Sent from my iPad

Begin forwarded message:

From: Dean Hughson <(b) (6) > Date: September 20, 2013, 4:03:35 PM GMT+02:00 To: Joanne Ivy (b) (6) > Subject: Re: just mayo

You probably know that Michael Shevi (formerly Primera) owns the pea protein company up in Minnesota. They have failed to get it to sell well..basically pea protein is limited. Our mutual friend Simon Shane (who i kidded about being quoted by Hampton) thinks they are a scam and I believe it also.....just hustling the 'green people' for development money. Their product won't stand up.

I am coming in to S. Africa on monday...sorry I am late. Japanese threw a meeting on me for saturday this week. See you soon friend. Dean

On Fri, Sep 20, 2013 at 8:57 AM, Joanne Ivy (b) (6) wrote: Thanks for forwarding. They still have not provided a full nutrient label. I want to see for myself how natural is the product. Joanne

Sent from my iPad

On Sep 20, 2013, at 3:44 PM, Dean Hughson (b) (6) > wrote:

http://www.pymnts.com/news/businesswire-feed/2013/september/20/hamptoncreek-named-by-bill-gates-as-one-of-three-companies-shaping-the-future-of-fooddebuts-first-product-at-whole-foods-market-20130920005149

Dean Hughson, COO Henningsen Foods (b) (6) <u>www.henningsenfoods.com</u> tel 402-996-0433 fax 801-846-2314 https://www.facebook.com/pages/Henningsen-Foods-Inc/132331130144818

Lutton, Sara - AMS

From:	Joanne Ivy
Sent:	Monday, December 15, 2014 7:12 AM
То:	leslie.humbel@edelman.com; Missy Maher; Andrew Liuzzi
Cc:	Mia Roberts; Serena Schaffner; Kevin Burkum; John Howeth; Ashley Richardson; Jacinta
	LeDonne
Subject:	Fwd: Next version
Attachments:	image001.png; ATT00001.htm; ATT00002.htm; image003.png; ATT00003.htm;
	ATT00004.htm; image005.png; ATT00005.htm; image006.png; ATT00006.htm; AEB Crisis
	Scenario Map only - 12.12.14.docx; ATT00007.htm; Egg Replacer Key Messages as of
	12.12.14 v2.docx; ATT00008.htm; AEB Crisis Key Messaging -USDA Approved
	Comments 12-12-14.docx; ATT00009.htm

Leslie, I am resending this email as it did not go through yesterday.

Leslie, I am trying to keep this from getting too confusing by not providing you numerous copies of the crisis messaging plan as we make adjustments based on USDA's input. Since the last version that you received, we added a key message and tweaked the other messaging mainly for clarity. I also received some verbal comments from Kenny, which we incorporated in the last version that I submitted to USDA including removing all reference to Prop 2 and California. I only submitted to Kenny the first page with messaging as we can make the revisions and adjustments throughout the document based on his final comments. I did ask Ashley to start removing the references to Prop 2 and California throughout the plan as required by USDA, but you will notice that the removal of those terms do not make sense in all places, and we may just want to eliminate the question or statement – or just totally reword.

I am now turning it back over to Edelman to clean up. I am attaching three documents -- the USDA approved comments on the key messaging (page 1), the remainder of the document for you to clean up for consistency, and the USDA approved messaging on egg replacers for the question on Beyond eggs. Oh, I answered Kenny's comment on "sanitary," and I think we can keep that in the document.

Also, UEP/CMA remains with the decision not to have a Media Hotline, however, CMA/Hinda Mitchell will take the crisis calls directly to her cell phone 614.537.8926 or her email (<u>hindam@cmabuildstrust.com</u>) instead of Chad. You can also contact her through the email address provided for the general egg safety website.

I will be sending a copy of the completed Key Messaging Plan to the Board as well as a general information notice to the industry at the start of the year. We have decided not to send a communications piece to egg producers. UEP is handling.

I am thinking that we may want to have a brief 15-20 minute call on Monday after your team has looked over the changes in case you have any questions. I also have a few comments that I would rather not put in writing. I am not available from 1:30 - 4:00 p.m. – before or after. **Could you get on a call around 11:00 or 11:30 a.m. on Monday**? Thanks. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org <u>AEB.org</u>

Egg Replacers Approved Key Messages/Responses As of November 2014

- Plant-based egg replacers are not a novel concept and have been around for years. We still believe that the all-natural egg remains the best option for food companies and consumers for that matter.
- Eggs can deliver all the functional benefits (emulsification, texture, volume, etc.) that no other commonly used replacer can on its own, while continuing to retain its taste and nutritional benefits, such as high-quality protein.
- Using eggs can contribute to an ingredient statement in packaged or processed foods that consumers are comfortable and familiar with.
- All eggs are natural and provide one of the highest-quality protiens available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods.
- Eggs are a simple and important food containing 13 vitamins and minerals and only 70kcals, making it one of the best nutrient dense foods to eat. They cannot be replicated by any product that is artificially engineered by scientists in laboratories.

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SCENARIO	PRIMARYOWNER	RECOMMENDED APPROACH	SCENARIO–SPECIFIC KEY MESSAGES	1	1
Egg supply shortage in California results in negative media coverage Likelihood of Occurrence: HIGH	UEP /AEB	 Reinforce commitment to addressing supply concerns Monitor for media/social coverage and discuss inaccuracies and next steps 	 America's egg farmers are dedicated to providing consumers with only the highest quality, safest products available, and we take this responsibility very seriously. ADDITIONAL MESSAGING TO BE DEVELOPED IN RESPONSE TO SPECIFIC ISSUE 		
Prices of eggs or egg- based products (e.g., mayo) skyrocket, generating negative	UEP /AEB	 Reinforce commitment to addressing supply concerns Monitor for media/social coverage and discuss inaccuracies and next steps 	 America's egg farmers are dedicated to providing consumers with only the highest quality, safest products available, and wethey take this responsibility very seriously. The egg industry is committed to ensuring consumers 		Formatted: Font: (Intl) Calibri
media attention Likelihood of Occurrence: HIGH		Refer all pricing-related questions to Urner Barry 732-240-5330 or help@urnerbarry.com	 have access to nutritious, all-natural eggs – one of the highest-quality proteins of any food available. ADDITIONAL MESSAGING TO BE DEVELOPED IN RESPONSE TO SPECIFIC ISSUE 	•	Formatted: Font: (Default) Calibri, 10 pt, Fo
		⇒ <u>PICKED UP THE ABOVE FROM UB's</u> WEBSITE		Z	Formatted: Normal, Indent: Left: 0.32", N bullets or numbering Formatted: Highlight
Beyond Eggs/Josh Tetrick	AEB	Reactively respond to inquiries using media	→ While AEB recognizes the emergence of new egg-		Formatted: Normal, No bullets or numberin Formatted: Font: (Default) Calibri, 10 pt, Fo
everages Prop 2this law to renew media/marketing push around value of synthetic eggs over natural eggs Likelihood of Occurrence: HIGH		 holding statement/messages/Q&A Monitor for media/social coverage and discuss inaccuracies and next steps 	 Interference of the second seco		Color: Red

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isclosed herein a	00	compositions that can be use	00	Inventors	•	Joshua TETRICK, Johannee Antonius BOOT, Christopher Megan Alexander CLEMENT	Michael Jon

substitutes. The disclosure is directed to egg substitutes and methods of manufacturing the same, and compositions comprising the egg substitutes, including edible compositions such as baked goods and edible emulsions.

DESCRIPTION (OCR text may contain errors)

PLANT-BASED EGG SUBSTITUTE AND METHOD OF MANUFACTURE

[0001] This application claims priority under 35 U.S.C. 119 to U.S. Provisional Application 61/554,928, filed November 2, 2011, and to U.S. Provisional Application 61/621,425, filed April 6, 2012, the entire contents of each of which is hereby incorporated by reference.

FIELD OF THE INVENTION

[0002] The invention is directed to an egg substitute and a method of manufacturing the same, and compositions comprising the egg substitute, including edible compositions such as baked goods.

BACKGROUND OF THE INVENTION

[0003] Eggs are a versatile and near ubiquitous food and food component. The market for egg ingredients has been estimated to be \$1.8 billion domestically and \$6 billion globally, and continues to grow. Eggs are highly valued for numerous reasons. Eggs not only provide high nutritional content, they are also an essential component of a wide range of food products, ranging from, but not limited to: breads, cakes, cookies, custards, souffles, muffins, scones, biscuits, pasta, dressings, sauces, and ice cream.

[0004] However, eggs have a number of drawbacks. For example, eggs contain high levels of cholesterol and saturated fats, which increases risk for cardiovascular diseases and obesity.

Therefore, consumers that desire to reduce their risk of cardiovascular disease, or are otherwise concerned over maintaining a healthy diet and weight, represent an untapped market for eggs or egg- containing products. Other consumers that would benefit from the high nutritional content and enjoyment of egg-containing products may be prevented from doing so due to food allergies or other dietary restrictions. For instance, 1-2% of young children are estimated to be allergic to eggs. Significant population segments follow voluntary dietary restrictions, e.g., vegans and others may not eat eggs for religious or other reasons. In addition, the industrial scale production of eggs are associated with industrial farming of chickens, which incur high costs, such as, e.g., costs related to food health and safety restrictions for farmers, high transportation costs, and the cost of feeding and housing egg- laying birds. Furthermore, industrial chicken farming has a negative environmental impact, and raises a number of important humanitarian issues. CLAIMS (OCR text may contain errors)

External Links: Patentscope, Espacenet

WHAT IS CLAIMED IS:

Applicant

1. A composition comprising

(i) protein in an amount up to 80% by dry weight, and

Patent Citations (7), Classifications (17), Legal Events (1)

(ii) fat in amount from 5% to 15% by dry weight;

wherein said composition is essentially egg- free, and wherein said composition provides binding, moisturizing, leavening, and/or emulsifying properties similar to an egg.

Beyond Eggs, Inc.

OLIVEIRA, Lorenzo ALBANELLO, Less «

2. The composition of claim 1 wherein the protein content is between 10 and 20% by dry weight.

3. The composition of claim 1, wherein said protein comprises plant-based protein.

The composition of claim 3, wherein said plant-based protein comprises protein from beans or peas.

5. The composition of claim 1, wherein said fat comprises plant-based oils.

The composition of claim 5, wherein said plant-based oils comprise oils from garbanzo and/or fava beans.

7. The composition of claim 1, further comprising

(iii) one or more flours in an amount of 50% or more by dry weight, and

(iv) one or more gums and/or starches in an amount less than 20% by dry weight.

8. The composition of claim 7, further comprising high- fiber material in an amount up to 15%) by dry weight.

9. The composition of claim 8, wherein said high- fiber material comprises one or more brans.

10. The composition of claim 9, wherein said one or more brans comprise micronized corn bran.

11. The composition of claim 1, wherein said composition provides binding properties similar to that of a whole egg.

Moreover, eggs have limited shelf life, and are at risk of harboring infectious pathogens, such as, for example, Salmonella, E. coli, and other pathogens which may endanger public health. [0005] Many attempts have been made to create an egg substitute that recapitulates the desired features of natural eggs while minimizing the unwanted features of eggs. These attempts range from home-cooking based substitutes, e.g., mashed bananas and/or applesauce to replace eggs in baking, baking powder/baking soda mixtures to provide leavening, flour/water mixtures to provide binding and leavening. Commercially available substitutes include, for example, Eggbeaters™, Ener-G[™] egg substitute, Bob's Red Mill Egg Replacer™. However, all of these substitutes have certain limitations. For example, many of the home-based egg substitutes provide only a single limited desired property of eggs in cooking, e.g., mashed fruit provide moisture and binding but not leavening, baking powder/soda and flour/water substitutes provide some leavening but limited binding properties. Eggbeaters[™] is made from real egg whites, and is thus associated with low shelf life and risk of carrying pathogens, and is also avoided by vegans. Ener-G[™] vegan egg substitute, acts as an imperfect substitute for many baking purposes because of its inferior binding qualities. Disclosed herein are compositions for use as a whole- egg substitute that addresses the limitations of the current art.

SUMMARY OF THE INVENTION

[0006] Disclosed herein are multifunctional compositions that can be used as a whole egg substitute, driven by molecular gastronomy. In some embodiments, the compositions replace the whole egg or a part of the egg (e.g. the egg white or the yolk) in food products on a 1 : 1 basis by weight after reconstitution with water or other liquid, has a nutritional profile similar to eggs, and replicates one or more, if not alL of the egg's core functionalities. In some embodiments the whole egg is understood to include the contents of the egg as poured from the shell of the egg. In some embodiments, the core functionalities can be, but are not limited to achieving a desired crumb density, structure/texture, elasticity/springiness, coagulation, binding, mouthfeeL leavening, aeration/foaming, creaminess, and emulsification of the food product. The

functionalities described above can overlap or may be interdependent. In some embodiments, the compositions can functionally replace the whole egg or a part of the egg in baked goods and/or emulsions. In some embodiments, the compositions replace whole eggs or a part of the egg on a 1 :5 basis by weight, wherein 1 weight unit of the compositions replaces 5 weight units of eggs. In other embodiments, the compositions replaces whole eggs on a 10: 1, 9: 1, 8: 1, 7: 1, 6: 1, 5: 1, 4: 1, 3: 1, 2: 1, or 1 : 1 basis by weight. In other embodiments the compositions replace whole eggs or a part of the egg on a 1 : 10, 1 : 9, 1 : 8, 1 : 7, 1 : 6, 1 : 5, 1 : 4, 1 : 3, 1 : 2, or 1 : 1 basis by weight.

[0007] In some embodiments, the compositions may be used to replace egg yolks. In other embodiments, the compositions may be used to replace egg whites. In some embodiments, the compositions may be used as an egg substitute in non-food products, e.g., shampoos. In some embodiments, the compositions may be used to replicate desired functions of eggs while overcoming the limitations of natural eggs, e.g., high saturated fat content, high cholesterol content, and allergenic properties. In yet other embodiments, the compositions may be used for functions other than as an egg substitute, e.g., water binding function.

[0008] In one aspect, the composition comprises protein in an amount up to 80% by dry weight, and (ii) fat in amount from 5% to 15% by dry weight; wherein the composition is essentially egg- free, and wherein the composition provides binding, moisturizing, leavening, creaminess, and/or emulsifying properties similar to an egg.

[0009] In one aspect, the compositions comprises 10-20% protein and 5-15% fat by dry weight, wherein the composition is essentially egg free and can be used to provide binding, moisturizing, leavening, and/or emulsifying properties similar to an egg. In some cases, the protein comprises plant-based protein. In

12. The composition of claim 1, wherein said composition provides moisturizing properties similar to that of a whole egg.

13. The composition of claim 1, wherein said composition provides leavening properties similar to that of a whole egg.

14. The composition of claim 1, wherein said composition provides emulsifying properties similar to that of a whole egg.

15. The composition of claim 1, wherein said composition is egg-free.

16. The composition of claim 1, wherein said binding, moisturizing, leavening, and/or emulsifying properties are measured at between about 90-110% of the binding, moisturizing, leavening, and/or emulsifying properties of an egg.

17. A composition, comprising:

a) 60-99.5%) by dry weight of one or more bean flours; and

b) 0.5- 15%) by dry weight of one or more gums and/or starches.

18. The composition of claim 17, wherein said bean flour comprises garbanzo flour.

19. The composition of claim 18, wherein said garbanzo flour comprises about 40% or more of the dry weight of the composition.

20. The composition of claim 18, wherein said garbanzo flour comprises about 75% or more of the dry weight of the composition.

21. The composition of claim 18, wherein said garbanzo flour comprises about 85% or more of the dry weight of the composition.

22. The composition of claim 18, wherein said bean flour further comprises fava bean flour.

23. The composition of claim 22, wherein said fava bean flour and said garbanzo flour together comprise about 80% or more of the dry weight of the composition.

24. The composition of claim 22, wherein said garbanzo flour comprises from 80-85% of the dry weight of the composition, and wherein said fava bean flour comprises from 12.5-17.5%) of the dry weight of the composition, and wherein the combination of garbanzo flour and fava been flour is a maximum of 99.5% by dry weight of the the composition.

25. The composition of claim 22, wherein said garbanzo flour comprises about 45-55% of the dry weight of the composition, and wherein said fava bean flour comprises about 35-45% of the dry weight of the composition, and wherein the combination of garbanzo flour and fava been flour is a maximum of 99.5% by dry weight of the the composition.

26. The composition of claim 17, wherein said bean flour is essentially free of soy flour.

27. The composition of claim 17, wherein said bean flour is free of soy flour.

28. The composition of claim 17, wherein said one or more gums is selected from xanthan gum, acacia gum, and combinations thereof.

29. The composition of claim 28, wherein said one or more gums is a combination of xanthan gum and acacia gum.

30. The composition of claim 29, wherein said combination is an essentially1 : 1 ratio by weight of xanthan gum and acacia gum.

more particular cases, the plant-based protein comprises protein from garbanzo, fava beans, yellow pea, sweet brown rice, rye, golden lentil, chana dal, soybean, sorghum, sprouted green lentil, du pung style lentil, and/or white lima bean. In some cases, the fat comprises plant-based oils. In more particular cases, the plant-based oils comprise oils from garbanzo, fava beans, yellow pea, sweet brown rice, rye, golden lentil, chana dal, soybean, sorghum, sprouted green lentil, du pung style lentil, and/or white lima bean.

[0010] In some cases, the composition comprises over 50% by dry weight of one or more flours, and less than 20% of a mixture of one or more gums and/or starches. In some cases, the composition comprises over 60% by dry weight of one or more flours, and less than 20% of a mixture of one or more gums and/or starches. In some cases, the composition additionally comprises 0-15% of a high fiber material. In some cases, the high fiber material comprises one or more brans. In a particular case, the one or more brans comprise micronized corn bran.

[0011] In another aspect, the compositions comprise 60-99.5%) of bean flour and 0.5-15% of a mixture of gums and/or starches by dry weight. In some cases, the bean flour comprises garbanzo flour. In some cases, the garbanzo flour comprises more than about 40%, more than about 75%), or more than about 85% of the dry weight of the composition. In more particular cases, the bean flour comprises fava bean flour. In some cases, the fava bean flour and garbanzo flour together comprise more than 80% of the dry weight of the composition. In some cases, the garbanzo flour comprises about 80-85% of the dry weight of the composition, and the fava bean flour comprises about 12.5-17.5%) of the dry weight of the composition. In some cases, the garbanzo flour comprises about 45-55% of the dry weight of the composition, and the fava bean flour comprises about 35-45% of the dry weight of the composition. In some cases, the bean flour is essentially free of soy flour, or does not contain any soy flour. [0012] In some cases, the one or more gums are selected from xanthan gum and acacia gum. In some particular cases, the composition comprises both xanthan gum and acacia gum. In more particular cases, the composition comprises roughly equal amounts of xanthan gum and acacia gum. In some particular cases, the xanthan gum and acacia gum each comprise about 1-3% of the dry weight of the composition.

[0013] In some particular cases, the one or more gums is xanthan gum only. In yet more particular cases, the xanthan gum comprises about 1-7.5% of the dry weight of the composition. In other particular cases, the one or more gums is acacia gum only.

[0014] In some cases, the composition comprising one or more gums additionally comprises one or more starches. In other cases, the one or more starches is arrowroot starch. In some particular cases, the gum comprises about 4-9% of the dry weight of the composition, and the arrowroot starch comprises about 2-5% of the dry weight of the composition.

[0015] In one aspect, a composition is disclosed comprising (i) yellow pea flour, and (ii) modified starch; wherein the composition is essentially egg- free, and wherein the yellow pea flour and modified starch are in a weight ratio ranging from 7:3 to 3:7, and wherein the composition provides binding, moisturizing, leavening, and/or emulsifying properties similar to an egg. In various embodiments, the flour and starch are in a weight ratio of 6:4 to 4:6, such as in a weight ratio of about 1 : 1. In various embodiments, the composition further comprises one or more components selected from the group consisting of guar gum, xanthan gum, carboxy- methylcellulose, and mixtures thereof. For example, the composition may include the additional components in a combined amount weight ratio ranging from 1 :8 to 1 : 12 compared to the amount by weight of the combined yellow pea flour and modified starch. In various embodiments, the composition is an eggless mayonnaise.

[0016] In some embodiments, the compositions of the invention can be used as a substitute for egg yolks, egg whites, or whole eggs in the preparation of an equivalent product prepared using an equivalent amount of eggs. 31. The composition of claim 30, wherein said xanthan gum and said acacia gum each comprise about 1-3% of the dry weight of the composition.

32. The composition of claim 28, wherein said one or more gums is xanthan gum.

33. The composition of claim 32, wherein said xanthan gum comprises 1-7.5% of the dry weight of the composition.

34. The composition of claim 28, wherein said one or more gums is acacia gum.

35. The composition of claim 28, further comprising one or more starches.

36. The composition of claim 35, wherein said one or more starches is arrowroot starch.

37. The composition of claim 36, wherein said gum comprises about 4-9% of the dry weight of the composition, and said arrowroot starch comprises about 2-5% of the dry weight of the composition.

38. A composition comprising

(i) yellow pea flour, and

(ii) modified starch;

wherein said composition is essentially egg- free, and wherein said yellow pea flour and said modified starch are in a weight ratio ranging from 7:3 to 3:7, and wherein said composition provides binding, moisturizing, leavening, and/or emulsifying properties similar to an egg.

39. The composition of claim 38, wherein said flour and said starch are in a weight ratio of 6:4 to 4:6.

40. The composition of claim 38, wherein said flour and said starch are in a weight ratio of about 1: 1.

41. The composition of claim 38, wherein said composition further comprises one or more components selected from the group consisting of guar gum, xanthan gum,

carboxymethylcellulose, and mixtures thereof.

42. The composition of claim 38, wherein said composition further comprises guar gum, xanthan gum, and carboxymethylcellulose, wherein said guar gum, xanthan gum, and carboxymethylcellulose are present in a combined amount weight ratio ranging from 1 :8 to 1 : 12 compared to the amount by weight of the combined yellow pea flour and modified starch.

43. The composition according to claim 38, wherein said composition is an eggless mayonnaise.

44. A method of using the composition of any of the above claims as a substitute for egg yolks, egg whites, or whole eggs in the preparation of an equivalent product prepared using an equivalent weight of eggs.

45. The method of claim 44, wherein said method comprises use of the composition as a binding agent.

46. The method of claim 44, wherein said method comprises use of the composition as a moisturizing agent.

47. The method of claim 44, wherein said method comprises use of the composition as a leavening agent.

48. The method of claim 44, wherein said method comprises use of the composition as an emulsifying agent.

[0017] In some cases, the compositions are used as a binding agent. In some cases, the compositions are used as a moisturizing agent. In some cases, the compositions are used as an emulsifying agent. In some cases, the compositions are used as a leavening agent.

[0018] In some aspects, the invention provides a food product prepared using the compositions described herein, wherein the food product is indistinguishable from an equivalent product prepared using eggs. In some cases, the food product is a baked food product. In some cases, the food product is a sauce, dressing, or custard. In some cases, the food product is a scramble, omelet, or quiche indistinguishable from a scramble, omelet, or quiche prepared using eggs. In some cases, the food product is an ice cream, pasta, meatloaf, or burger patty. In some embodiments the food product is an emulsion, mayonnaise or dressings.

[0019] In some aspects, the invention provides a method of baking, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises 10.3-13.0 grams garbanzo flour, 1.2-1.5 grams micronized corn bran, and 0.4-0.6 grams xanthan gum. In other aspects, the invention provides a method of baking, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises 9.8-12.3 grams garbanzo flour, 1.7-2.2 grams fava bean flour, 0.2-0.3 grams xanthan gum, and 0.2-0.3 grams acacia gum. In yet other aspects, the invention provides a method of baking, using as a 1 : 1 replacement per egg an egg substitute comprises, 6.1-7.8 grams garbanzo flour, 4.6-5.9 grams fava bean flour, 0.8-1.1 grams acacia gum, and 0.4-0.6 grams arrowroot starch. In some aspects, a method is disclosed for preparing an edible emulsion, comprising using as a 1 : 1 replacement per egg, 44- 47% by weight yellow pea flour, 44-47% by weight modified starch, 3-5% by weight mixture of guar gum and xanthan gum, and 3-5% by weight carboxymethylcellulose.

[0020] In some aspects, the invention provides a method of making an emulsion such as mayonnaise, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises 10.3-13.0 grams garbanzo flour, 1.2-1.5 grams micronized corn bran, and 0.4-0.6 grams xanthan gum. In other aspects, the invention provides a method of making an emulsion such as mayonnaise, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises 9.8-12.3 grams garbanzo flour, 1.7-2.2 grams fava bean flour, 0.2-0.3 grams xanthan gum. In yet other

49. A food product prepared using the composition of any of claims 1-43 as an egg substitute, wherein said food product achieves a score within 20% of a score from an equivalent product prepared using eggs, wherein said score is based on an evaluation of one or more of texture, color, flavor, density, and roughness.

50. The food product of claim 49, wherein said food product is a baked food product.

51. The food product of claim 49, wherein said food product is a sauce, dressing,

mayonnaise, or custard.

52. The food product of claim 49, wherein said food product is a scramble, omelet, or quiche wherein said food product achieves a score within 20% of a score from a scramble, omelet, or quiche prepared using eggs, wherein said score is based on an evaluation of one or more of texture, color, flavor, density, and roughness.

53. The food product of claim 49, wherein said food product is an ice cream, pasta, meatloaf, or burger patty.

54. A method of baking, comprising using as a 1 : 1 replacement per egg, 10.3-13.0 grams garbanzo flour, 1.2-1.5 grams micronized corn bran, and 0.4-0.6 grams xanthan gum.

55. A method of baking, comprising using as a 1 : 1 replacement per egg, 9.8-12.4 grams garbanzo flour, 1.7-2.2 grams fava bean flour, 0.2-0.3 grams xanthan gum, and 0.2-0.3 grams acacia gum.

56. A method of baking, comprising using as a 1 : 1 replacement per egg, 6.1-7.8 grams garbanzo flour, 4.6-5.9 grams fava bean flour, 0.8-1.1 grams acacia gum, and 0.4-0.6 grams arrowroot starch.

57. A method of preparing an edible emulsion, comprising using as a 1 : 1 replacement per egg, a composition comprising 44-47% by weight yellow pea flour, 44-47% by weight modified starch, 3-5% by weight mixture of guar gum and xanthan gum, and 3-5% by weight carboxymethylcellulose.

aspects, the invention provides a method of making an emulsion such as mayonnaise, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises, 6.1-7.8 grams garbanzo flour, 4.6-5.9 grams fava bean flour, 0.8-1.1 grams acacia gum, and 0.4-0.6 grams arrowroot starch.

BRIEF DESCRIPTION OF THE FIGURES

[0021] Figure 1 provides a comparison of commercially available egg replacers versus eggs when measured for cake height.

[0022] Figure 2 provides a comparison of commercially available egg replacers versus eggs when measured for cake height/weight ratio.

[0023] Figure 3 provides a comparison of commercially available egg replacers versus eggs when measured for cake hardness.

[0024] Figure 4 provides a comparison of commercially available egg replacers versus eggs when measured for cake springiness. [0025] Figure 5 provides a comparison of commercially available egg replacers versus eggs when measured for cake cohesiveness.

[0026] Figure 6 provides a comparison of commercially available egg replacers versus eggs when measured for cake gumminess.

[0027] Figure 7 provides a comparison of a comparitive composition versus eggs when measured for muffin hardness.

[0028] Figure 8 provides a comparison of a comparitive composition versus eggs when measured for muffin height.

[0029] Figure 9 provides a comparison of a comparitive composition versus eggs when measured for muffin cohesiveness.

[0030] Figure 10 provides a comparison of a comparitive composition versus eggs when measured for muffin springiness.

[0031] Figure 11 provides data from a Bostwick consistometer for the effect of prehydration time on consistency.

[0032] Figure 12 provides data on emulsion formation and emulsion stability. Starch was added to pea protein and the mixture was tested for its capacity to form a stable emulsion.

[0033] Figure 13 provides data on consistency on mayonnaise as measured with a Bostwick consistometer.

[0034] Figure 14 provides comparison of eggless mayo in particle size distribution.

[0035] Figure 15 provides a comparison of cold- and hot-milled flours with egg on

height/leavening in muffins.

[0036] Figure 16 provides a comparison of cold- and hot-milled flours with egg on cohesiveness in muffins.

[0037] Figure 17 provides a comparison of cold- and hot-milled flours with egg on springiness in muffins.

INCORPORATION BY REFERENCE

[0038] All publications, patents, and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent, or patent application was specifically and individually indicated to be incorporated by reference.

DETAILED DESCRIPTION OF THE INVENTION

[0039] Several aspects of the invention are described below with reference to example applications for illustration. It should be understood that numerous specific details, relationships, and methods are set forth to provide a full understanding of the invention. One having ordinary skill in the relevant art, however, will readily recognize that the invention can be practiced without one or more of the specific details or with other methods.

[0040] The terminology and description used herein is for the purpose of describing particular embodiments only and is not intended to limit the invention. As used herein, the singular forms "a", "an" and "the" can be intended to include the plural forms as well, unless the context clearly indicates otherwise. The terms "including", "includes", "having", "has", "with", or variants thereof are intended to be inclusive in a manner similar to the term "comprising".

[0041] The term "about", "approximately", or "similar to" means within an acceptable error range for the particular value as determined by one of ordinary skill in the art, which can depend in part on how the value is measured or determined, or on the limitations of the measurement system. It should be understood that all ranges and quantities described below are

approximations and are not intended to limit the invention. Where ranges and numbers are used these can be approximate to include statistical ranges or measurement errors or variation. In some embodiments, for instance, measurements could be plus or minus 10%.

[0042] The phrase "essentially free of is used to indicate the indicated component, if present, is present in an amount that does not contribute, or contributes only in a de minimus fashion, to the properties of the composition. In various embodiments, where a composition is essentially free of a particular component, the component is present in less than a functional amount. In various embodiments, the component may be present in trace amounts. Particular limits will vary depending on the nature of the component, but may be, for example, selected from less than 10% by weight, less than 9% by weight, less than 7% by weight, less than 6% by weight, less than 5% by weight, less than 4% by weight, less than 3% by weight, less than 2% by weight, less than 1% by weight, or less than 0.5% by weight.

[0043] By "indistinguishable" is meant that a comparison of two samples provides essentially the same outcome. Alternatively, by "indistinguishable" is meant that a comparison provides results that are within the error bars of the particular form of measurement. For example, if measured by consumer acceptance, two products would be indistinguishable if when compared by consumers, the products were approximately equally acceptable to a group of consumers.

[0044] Functional Properties of the Compositions

[0045] Natural eggs have a number of useful properties that make them a useful component in a wide variety of food and non-food products. In some embodiments, the egg substitute will fulfill one or more qualities of natural eggs. In some embodiments, the compositions described herein will fulfill more than one quality of natural eggs. In more particular embodiments, the compositions disclosed herein will fulfill more than two, or more than three, or substantially most or all of the qualities of natural eggs. In various embodiments, binding, moisturizing, leavening, and/or emulsifying properties are determined to be similar to an egg if measured at between about 90-110% of the binding, moisturizing, leavening, and/or emulsifying properties of an egg.

[0046] Viscosity

[0047] Natural eggs can provide a desired viscosity to batter or dough for the preparation of baked goods. Viscosity can be qualitatively assessed by the rate or ease of flow, the ease of movement during handling, or may be quantitatively assessed by viscometers or rheometers. In some embodiments, the compositions can provide a desired viscosity to the batter or dough similar to batter or dough prepared using natural eggs. In some embodiments, the compositions provide a batter or dough similar to batter or dough prepared using natural eggs. In some embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%, about 40-90%, about 60-100% of the desired viscosity of a natural egg. In some embodiments, the compositions provide more than about 1%), about 2%, about 3%, about 4%, about 5%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%, about 90%, about 100% of the desired viscosity of a natural egg. In some embodiments the viscosity is in a cooked product. In some embodiments the viscosity is in a chemically crosslinked product. In some particular embodiments, the compositions provide more than about 50% of the desired viscosity of a natural egg. In some other particular embodiments, the compositions provide more than about 50% of the desired viscosity of a natural egg. In yet other particular embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In yet other particular embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In yet other particular embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired viscosity of a nat

[0048] pH

[0049] Natural eggs can have a pH range of about 6-8, although the pH of eggs can vary widely with freshness or other environmental factors. In some embodiments, the pH of the compositions provided herein can be similar to that of natural eggs. In some embodiments, the pH of the reconstituted compositions can be about 5.5-8.5, about 6-8, about 6.5-7 5, or about 7. In some embodiments, the pH of the compositions provided herein is different than natural eggs, e.g. more acidic or more basic than a natural egg composition. For example a composition provided herein can have, in some embodiments, a pH of less than 5.5, 5, 4.5, or less than 4. In other embodiments a composition provided herein can have a pH of greater than 6.5, 7, 7.5, or greater than 8. [0050] Binding Properties

[0051] Natural eggs provide binding properties that are useful in many cooking and non-cooking applications. Binding properties can refer to the properties of natural eggs that provide structural integrity to egg- containing or egg- substitute containing products, e g., baked goods. Structural integrity of an egg- containing or egg-substitute containing product may be compared and/or indicated by, for example, whether the product falls apart during or after preparation, or by the quantity of fragments or crumbs that are generated when the product is handled. In some embodiments, the compositions provide binding properties of natural eggs. In some

embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%, about 40- 90%), about 60-100%) of the binding properties of a natural egg. In some embodiments, the compositions provide more than about 1%>, about 2%, about 3%, about 4%, about 5%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%), about 90%), about 100% of the binding properties of a natural egg. In some particular embodiments, the compositions provide more than about 50% of the binding properties of a natural egg. In some other particular embodiments, the compositions provide more than about 50% of the binding properties of a natural egg. In some other particular embodiments, the compositions provide more than about 75%) of the binding properties of a natural egg. In yet other particular embodiments, the compositions provide more than about 90% of the binding properties of a natural egg. In some embodiments, the compositions provide more than about 55% of the binding properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the binding properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the binding properties of a natural egg. In some embodiments, the compositions provide binding properties.

[0052] Thickening agents

[0053] Eggs are commonly used as thickening agents for a number of food products, for example, sauces, custards, fillings, etc. Thickening can be caused by the physical interference of water molecules in the food product with molecules from the thickening product. Thickening properties of an egg-substitute product may be indicated by the ability to thicken the egg- substitute containing product to the desired amount in a smooth, consistent manner, while minimizing the formation of lumps. In some embodiments, the compositions can provide thickening properties. In some embodiments, the compositions can provide thickening properties. In some embodiments, the compositions provide more than about 60-100% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 2%, about 3%, about 4%, about 5%, about 10%, about 20%, about 20%, about 30%, about 40%, about 50%, about 70%, about 80%, about 90%, about 100% of the thickening properties of a natural egg. In some embodiments proverties of a natural egg. In some embodiments, the compositions provide more than about 50% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 50% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 75% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the thickening properties of a natural egg. In some embodiments, the compositions may not provide thickening properties.

[0054] Leavening agents

[0055] Eggs provide leavening properties that are useful in a number of cooking and non- cooking applications. A leavening agent can have foaming action that introduces air bubbles into the product, and can be used to provide height, lightening, and fluffiness of the finished product. For example, eggs are commonly used in cake, bread, muffin, souffle, and other recipes to impart a fluffy texture to the final product. Leavening properties of an egg or egg- substitute may be indicated by the height and texture of the final product. For example, a light, airy texture indicates superior leavening compared to a heavy, gummy texture. In some embodiments, the compositions can provide leavening properties similar to that of natural eggs. In some embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%, about

40- 90%), about 60-100%) of the leavening properties of a natural egg. In some embodiments, the compositions provide more than about 1%, about 2%, about 3%, about 4%, about 5%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%), about 90%), about 100% of the leavening properties of a natural egg. In some

embodiments, the compositions provide more than about 50% of the leavening properties of a natural egg. In particular embodiments, the compositions provide more than about 75% of the leavening properties of a natural egg. In yet more particular embodiments, the compositions provide more than about 90% of the leavening properties of a natural egg. In some

embodiments, the compositions do not provide leavening properties.

[0056] Emulsifying properties

[0057] The emulsifying properties of natural eggs are useful in the preparation of food products which require the mixing and integration of substances that are immiscible, such as oil and water. Many products for human consumption are oil- inwater emulsions, including but not limited to hollandaise sauces and mayonnaise. In oil-in-water emulsions, oil droplets are dispersed evenly throughout an aqueous phase. However, oil droplets will tend to coalesce over time. An emulsifying agent can prevent the coalescence of the oil droplets, resulting in a smooth, creamy mixture. The emulsifying properties of the present compositions may be determined by the texture, consistency, and stability of the finished product, e.g., a sauce. For example, a sauce that remains smooth indicates a superior emulsion compared to a sauce that has undergone partial or complete separation over time. In some embodiments, the compositions can provide emulsifying properties. In some embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%), about 40-90%, about 60-100%) of the emulsifying properties of a natural egg. In some embodiments, the compositions provide more than about 1% >, about 2%, about 3%, about 4%, about 5%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%), about 80%>, about 90%>, about 100% of the emulsifying properties of a natural egg. In some embodiments, the compositions provide more than about 50% of the emulsifying properties of a natural egg. In particular embodiments, the compositions provide more than about 75%) of the emulsifying properties of a natural egg. In yet more particular embodiments, the compositions provide more than about 90% of the emulsifying properties of a natural egg. In some embodiments, the compositions do not provide emulsifying properties.

[0058] Texture

[0059] Eggs are commonly used to provide moisture and fat to a product recipe, resulting in a non-dry texture. The ability of an egg or egg substitute to provide the desired moisture and fat to a product recipe (such as, for example, cake or bread recipes) may be indicated by the texture of the finished product, e.g., whether the product produces a moist or dry crumb. In some embodiments, the compositions provide a moisture imparting quality. In some embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%, about 40-90%, about 60-100% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 1%>, about 2%, about 3%, about 40%, about 50%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%, about 90%, about 100%) of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 50% of the desired moisture and fat of a natural egg. In particular embodiments, the compositions provide more than about 50% of the desired moisture and fat of a natural egg. In yet more particular embodiments, the compositions provide more than about 75% of the desired moisture and fat of a natural egg. In yet more particular embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the

[0060] Color

[0061] Eggs can sometimes be used to provide a certain color to the food or non-food product. In some embodiments, the compositions can provide the same or similar color to the product. In other embodiments, the compositions do not provide similar color to that of natural eggs. In some embodiments, the compositions can be color neutral and may not affect the color of the product. [0062] Flavor

[0063] Eggs can be sometimes used to provide a certain eggy taste to the food product. Taste may be qualitatively assessed by blind taste test of the product prepared using the compositions compared to the product prepared using an equivalent amount of eggs. In some embodiments, the compositions can provide the same or a similar eggy taste to the product. In other embodiments, the compositions do not provide an eggy taste to the product. In some

embodiments, the compositions can be taste-neutral.

[0064] Egg Replacement

[0065] In some embodiments, the compositions can be used as a replacement for whole eggs, egg yolks, or egg whites in food products. In some embodiments, the food products can be baked goods such as but not limited to muffins, cakes, cupcakes, brownies, cookies, biscotti, pancakes, breads, waffles, pastries, pies, tarts, scones, pretzels, crackers. In some embodiments, the compositions can be used as a replacement for eggs or egg parts in other products such as but not limited to pasta, noodles, meatloaf, burgers, custards, sauces, ice cream, mayonnaise, and/or salad dressings.

[0066] In some embodiments, the compositions can be used as a replacement for whole eggs, egg yolks, or egg whites in non-food products, such as but not limited to shampoos, facial washes or masks, creams, films, encapsulates. In other embodiments, the compositions can be used for functions other than as an egg substitute.

[0067] Subjective Properties of the Compositions

[0068] Mouthfeel is a concept used in the testing and description of food products. Products made using the compositions of the invention can be assessed for mouthfeel. In some embodiments products, e.g baked goods, made using compositions of the invention have mouthfeel that is similar to products made with natural eggs. In some embodiments the mouthfeel of the compositions of the invention is superior to the mouthfeel of previously known or attempted egg substitutes, e.g bananas, modified way proteins, or Egg BeatersTM.

[0069] Examples of properties which may be included in a measure of mouthfeel include:

Cohesiveness: Degree to which the sample deforms before rupturing when biting with molars; Density: Compactness of cross section of the sample after biting completely through with the molars; Dryness: Degree to which the sample feels dry in the mouth; Fracturability: Force with which the sample crumbles, cracks or shatters. Fracturability encompasses crumbliness, crispiness, crunchiness and brittleness; Graininess: Degree to which a sample contains small grainy particles, may be seen as the opposite of smoothness; Gumminess: Energy required to disintegrate a semi- solid food to a state ready for swallowing; Hardness: Force required to deform the product to given distance, i.e., force to compress between molars, bite through with incisors, compress between tongue and palate; Heaviness: Weight of product perceived when first placed on tongue; Moisture absorption: Amount of saliva absorbed by product; Moisture release: Amount of wetness/juiciness released from sample; Mouthcoating: Type and degree of coating in the mouth after mastication (for example, fat/oil); Roughness: Degree of abrasiveness of product's surface perceived by the tongue; Slipperiness: Degree to which the product slides over the tongue; Smoothness: Absence of any particles, lumps, bumps, etc., in the product; Uniformity: Degree to which the sample is even throughout; homogeneity;

Uniformity of Bite: Evenness of force through bite; Uniformity of Chew: Degree to which the chewing characteristics of the product are even throughout mastication; Viscosity: Force required to draw a liquid from a spoon over the tongue; and Wetness: Amount of moisture perceived on product's surface.

[0070] Compositions

[0071] Protein

[0072] Natural eggs typically comprise about 5-15% protein content by weight. The high protein content of natural eggs play a central role in providing the desired binding properties of the eggs. In some embodiments, the compositions provided herein comprise proteins, polypeptides, and/or peptides, referred to collectively as "protein". In some embodiments, the compositions can comprise about 1%, about 2%, about 3%, about 4%, about 5%, about 7.5%, about 10%, about 15%), about 20%), about 25%, about 30% protein by dry weight or total weight. In some embodiments, the compositions can comprise about 1-5%, about 5-20%, or about 10-30%) protein by dry weight or total weight. In particular embodiments, the compositions can comprise about 10-5% protein by dry weight or total weight.

[0073] In some embodiments, the proteins in the composition can comprise one or more plant- based proteins. In some embodiments, the one or more plant-based proteins may include, but are not limited to: pea proteins, isolates, and/or concentrates; garbanzo (chickpea) proteins, isolates, and/or concentrates; fava bean proteins, isolates, and/or concentrates; soy proteins, isolates, and/or concentrates; rice proteins, isolates, and/or concentrates; or any combinations thereof. Plant- based proteins may include, for example, soy protein (e.g., all forms including concentrate and isolate), other plant proteins that commercially are wheat and fractionated wheat proteins, corn and it fractions including zein, rice, oat, potato, peanut, green pea proteins can be derived from green peas or yellow peas.

[0074] In some embodiments, proteins in the composition can comprise undenatured proteins. In other embodiments, proteins in the composition can comprise denatured proteins. In some embodiments essentially no animal proteins are used in the compositions.

[0075] Enzymes

[0076] Natural eggs contain a number of enzymes that are used in human products. For example, lysozyme, which may be extracted from egg whites, can be used in eye drop

formulations or as a cheese preservative. In some embodiments, the compositions comprise an enzyme profile similar to that of eggs. In some embodiments, the compositions comprise an enzyme profile dissimilar to that of natural eggs. In some embodiments, the compositions comprise lysozyme. In some embodiments, the compositions do not comprise

lysozyme. In some embodiments the compositions provided herein contain enzymes that replicate the function of the natural egg enzymes. For example a natural egg enzyme may catalyze a particular known chemical reaction. Compounds of the invention can contain enzymes that catalyze the same or a similar reaction.

[0077] Oil/Fat

[0078] Natural chicken eggs typically comprise about 1 1% oil/fat content by weight. The fat content of natural eggs provides some of the desired moisture and texture to the egg- containing product, thus improving texture of the product. In some embodiments, the compositions can provide a similar fat profile to that of natural eggs. In other embodiments, the compositions can provide a lower fat profile to that of natural eggs while still imparting a desired moisture and texture to the product similar to an equivalent product prepared using natural eggs. In some embodiments, the compositions can comprise about 0.1%>, about 0.2%, about 0.5%>, about 1%, about 2%o, about 3%, about 4%, about 5%, about 7.5%, about 10%, about 15%, about 20%, about 25%), about 30%) fat by dry weight or total weight. In some embodiments, the compositions can comprise about 0.1-10%, about 0.5-15%, about 1-20%, or about 5-30% fat by total weight. In particular embodiments, the compositions can comprise about 0.1-10% fat by total weight. Natural eggs comprise about 3.1% saturated fats. The high saturated fat content of eggs may deter significant numbers of consumers from enjoying eggs or egg- containing products. In some embodiments, the compositions can comprise about 0.1%>, or essentially no saturated fat. In some embodiments, the fat content of the compositions can comprise plant-based oils. In some embodiments, the plant-based oils can comprise canola oil, sunflower oil, safflower oil, cocronut oil, corn oil, olive oil, peanut oil, or palm oil. In some embodiments, the plant-based oils can comprise oils from beans (e.g garbanzo beans or fava beans).

[0079] In some embodiments, the compositions are essentially free of fat and/or oil, such as animal fats or animal oils. In some embodiments, the compositions do not comprise fat. In some embodiments, the compositions do not comprise fat. In some embodiments, the compositions do not comprise any animal oils or fats. In some embodiments the compositions comprise less than 3%), less than 2%, less than 1%>, less than 0.5%>, or less than 0.1%> plant fats or oils. In some embodiments the compositions comprise less than 3%, less than 0.5%>, or less than 2%, less than 0.5%>, or less than 0.1%> animal fats or oils.

[0080] Nutrients

[0081] Eggs are also highly valued for their vitamin and nutrient content. In particular, eggs are a natural source of vitamins A, E, D, and other vitamins and nutrients, providing about 540 IU vitamin A, 1.050 mg vitamin E, and 47 IU vitamin D per 100 g total weight. In some embodiments, the compositions provide a vitamin profile similar to that of eggs by equivalent weight. In some embodiments, the compositions can be fortified with vitamins to provide a high nutritional value per unit weight compared to natural eggs. In some embodiments, the compositions of the invention is superior to natural eggs.

[0082] In addition, eggs are a source of choline, a nutrient that supports healthy brain

development. In some embodiments, the compositions provide similar amounts of choline as compared to an equivalent weight of eggs. In some embodiments, the compositions may be fortified with choline to provide a higher nutritional value per unit weight compared to natural eggs. In some embodiments, the compositions do not provide similar amounts of choline as an equivalent weight of natural eggs.

[0083] Nucleic Acids [0084] Eggs will contain nucleic acids from the species that laid the egg. So a bird egg will contain DNA from a bird and a reptile egg will contain DNA from a reptile. As the compositions of the invention are not derived from these species the compositions of the invention will not normally contain DNA normally associated with an egg. Therefore in some embodiments the compositions of the invention contain no nucleic acids from a bird, a reptile, an amphibian, or a fish. It is possible that for a variety of reasons one would wish to add the egg related nucleic acids to the compositions described herein. This would result in a product that contained an artificially added nucleic acid. In some embodiments the compositions of the invention contain no artificially added nucleic acids typically associated with an egg.

[0085] Flours

[0086] In some embodiments, the composition can comprise one or more flours. In some cases, flour is a powder ground from grains, seeds, roots, or other sources. Most flours have a high starch content which imparts thickening and binding properties, and may provide moisture content. In some embodiments, the one or more flours are selected from all-purpose flour, unbleached flour, bleached flour, bread flour, self-rising flour, wheat flour, cake flour, acorn flour, almond flour, amaranth flour, atta flour, rice flour, buckwheat flour, cassava flour, chestnut flour, chuno flour, coconut flour, corn (maize) flour, hemp flour, maida flour, mesquite flour, nut flour, peanut flour, potato flour, rice flour, rye flour, terff flour, soy flour, peanut flour, arrowroot flour, taro flour, acorn flour, bean flours such as, e.g., soy flour, garbanzo flour, fava bean flour, pea flour; or other flour. In some embodiments, the one or more flours are selected from Sorghum, White sorghum, Soy bean, Millet, Vallarta, Stueben, Green fagelot, Black beluga, Black calypso, Chana daL Amaranth, Lentil, Red lentil, Black lentiL Golden lentiL Do pung- style lentiL Sprouted green lentil, Sweet brown rice, Navy bean, Red bean, Pink bean, Canellini bean, Giant white lima bean, Christmas lime bean, Baby lima bean, Mung bean, Peeled fava bean,

Good mother stellard bean, Cranberry chorlottis bean, Santa maria pinguinto bean, Brown tepary bean, Black turtle bean, Yellow slit pea, Canadian yellow pea, Black turtle beans, Brown teff flour, Rye flour, Quinoa flour, Potato flour, White rice flour, Brown rice flour, Oat flour, Buckwheat flour, Whole grain corn flour, Stone ground cornmeaL Pre-cooked split pea, Pre-cooked garbanzo flour, Arrowroot powder, and Potato starch. In some embodiments, the composition can comprise about 10%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 85% about 90%, about 95%, about 100% flour. In some embodiments, the composition can comprise about 1-30%, about 10-40%, about 30-70%, about 50-99%, about 60-95%, about 70-90% total flour by dry weight. In some embodiments, the flour is cold-milled.

[0087] Flours can differ widely in their protein content, containing as low as 5% to as high as 30%) protein. Natural chicken eggs typically comprise about 10-15% protein content by weight. The high protein content of natural eggs play a central role in providing the desired binding properties of the eggs. Furthermore, flours can differ widely in their fat content, containing as low as 0.1%) to as high as 15% fat content. The fat content of natural eggs provides some of the desired moisture and fat to the egg-containing product, thus improving texture of the product. However, the high saturated fat content of eggs may deter significant numbers of consumers from enjoying the product.

[0088] Therefore, in some embodiments, the one or more flours are selected from flours with high protein content and a fat content similar to that of natural eggs, wherein the fat content is provided essentially by unsaturated fats. In some embodiments, the one or more flours may comprise garbanzo/chickpea flour, fava bean flour, soy flour, nut flours. A significant number of potential consumers may have nut allergies, therefore, in particular embodiments, the one or more flours comprise garbanzo and/or fava bean flours. In some embodiments, the composition may comprise about 10%>, about 20%>, about 30%>, about 40%>, about 50%>, about 60%>, about 70%, about 80%, about 85% about 90%, about 95%, about 100% garbanzo flour. In some embodiments, the composition may comprise about 20-40%>, about 40-60%>, about 45-55%> garbanzo flour. In other embodiments, the compositions may comprise about 50-100%), about 60-95%), about 70-90%>, about 80-85%> garbanzo flour. In a particular embodiment, the composition can contain about 86.46%> garbanzo flour. In another particular embodiment, the composition can contain about 82% garbanzo flour. In yet another particular embodiment, the composition can contain about 82% garbanzo flour. In yet another particular embodiment, the composition can contain about 82% garbanzo flour.

[0089] In some embodiments, the composition can comprise fava bean flour. In some embodiments, the composition may comprise about 10%>, about 20%>, about 30%>, about 40%>, about 50%, about 60%, about 70%, about 80%, about 85% about 90%, about 95%, about 100% fava bean flour. In some embodiments, the composition may comprise about 1-30%, about 10- 40%, or about 40-60% fava bean flour.

[0090] In some embodiments, the composition comprising garbanzo flour can also comprise fava bean flour. In some embodiments, the composition comprising garbanzo flour can also comprise about 0.5-60%), about 5-50%, about 10-45% fava bean flour. In a particular embodiment, the composition comprising garbanzo flour can also comprise about 14.46% fava bean flour. In yet another particular embodiment, the composition comprising garbanzo flour can also comprise about 38.98% fava bean flour.

[0091] In some embodiments, the garbanzo and fava bean flours together can comprise about 50- 99.5%) of the weight of the composition. In some embodiments, the garbanzo and fava bean flours together can comprise about 70-99%, or about 80-99%> of the weight of the composition. In a particular embodiment, the garbanzo and fava bean flours together can comprise about 96.46%) of the weight of the composition. In another embodiment, the garbanzo flour can comprise about 82% of the weight of the composition, and the fava bean flours together can comprise 14.46%) of the weight of the composition. In yet another embodiment, the garbanzo and fava bean flours together can comprise 50.85%> of the weight of the

composition, and the fava bean flour can comprise 38.98%> of the weight of the composition.

[0092] Gums

[0093] In some embodiments, the composition may also comprise one or more gums, such as, e.g., xanthan gum, acacia gum, gellan gum, guar gum, locust bean gum, tragacanth gum, carrageenan gum, or a combination thereof, for example. "Gums" refers to materials that act as gelling agents, often comprising polysaccharides and/or glycoproteins. Gums, such as xanthan gum, can be used in small amounts to provide significant thickening and viscosity, and can also be used to replace fat and emulsifiers. In some embodiments, the one or more gums comprise about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 12.5%, 15%, or 20% of the dry weight or total weight of the composition. In some embodiments, gums can comprise about 0.5-20%), about 1-15%), or about 2-10%> of the dry weight or total weight of the composition. In some embodiments, the composition can comprise about 1-5% of the dry weight or total weight of the composition. In some embodiments, the composition can comprise about 0.5-20%> of the total weight of the composition. In some embodiments, gums can comprise about 0.5-20%> of the total weight of the composition. In some embodiments, gums can comprise about 0.5-20%> of the total weight or total weight of the composition. In some embodiments, gums can comprise about 0.5-20%> of the total weight of the composition.

[0094] In some particular embodiments, the composition can comprise a single gum only. In some embodiments, the single gum can be xanthan gum. In particular embodiments, the composition can comprise about 1-10% of the single gum xanthan gum. In another particular embodiment, the composition can comprise 3.54% xanthan gum.

[0095] In other embodiments, the single gum can be acacia gum. In some embodiments, the composition can comprise about 1-10% of the single gum acacia gum. In a particular

embodiment, the composition can comprise 6.78% acacia gum. [0096] In other embodiments, the composition can comprise both xanthan gum and acacia gum. In some embodiments, the composition can comprise about 1-4% xanthan gum and about 1-4% acacia gum. In yet another embodiment, the composition can comprise 1.77% xanthan gum and 1.77 acacia gum.

[0097] In some embodiments, the composition can comprise one or more starches, such as, for example, arrowroot starch, cornstarch, tapioca starch, mung bean starch, potato starch, sweet potato starch, rice starch, sago starch, wheat starch. The term "starch" refers to polysaccharide materials, often produced by plants to act as energy stores. Starches can be used to impart thickening and stabilizing properties. In some embodiments, the one or more starches can comprise about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 12 5%, 15%, or 20% of the dry weight or total weight of the composition. In some embodiments, the one or more starches can comprise about 0.5-20%, about 1-15%, or about 2-10% of the dry weight or total weight of the composition. In some embodiments, the composition can comprise about 0.5-20% of the total weight of the composition. In some embodiments, the acacia gum and arrowroot starch together can comprise about 2-20% of the total weight of the composition. In other embodiments, the acacia gum and arrowroot starch together can comprise about 5-15% of the total weight of the composition. In yet another embodiment, the acacia gum and arrowroot starch together can comprise about 10% of the total weight of the composition. In a particular embodiment, the composition can comprise 6.78% acacia gum and 3.39% arrowroot starch.

[0098] In various embodiments, the starch may be modified starch. Suitable starches include, but are not limited to, pregelatinized starch (e.g., corn, wheat, tapioca), pregelatinized high amylose content starch, pregelatinized hydrolyzed starches (e.g., maltodextrins, corn syrup solids), chemically modified starches such as pregelatinized substituted starches (e.g., octenyl succinate modified starches), as well as mixtures of these starches. In various embodiments, the modified starch is a cold-water soluble modified starche form waxy maize. In various embodiments, the starch is sodium octenylsuccinate starch. Modified starches may be available commercially.

[0099] Mixes of guar gum and xanthan gum may be obtained in a commercial product, for example as Pre-Hydrated Stabilizer XC-8444, available from TIC Gums. Carboxy- methylcellulose may be obtained as a commercial product, for example, Pre-Hydrated®

Ticalose® CMC 2500 Powder available from TIC gums.

[00100] High-Fiber Content [00101] In some embodiments, the composition can also comprise a material with high-fiber content. In some embodiments, fiber in the composition can provide a high water-holding capacity that contributes to the overall texture of the final food product. In some embodiments, the high fiber material can be bran, e.g., a wheat bran, oat bran, corn bran, rice bran, or other bran. In some embodiments, the bran can be micronized into a fine powder. In some

embodiments, micronizing the bran prevents the introduction of a grainy texture to the final food product. In some embodiments, the micronized bran can be micronized corn bran. In some embodiments, the high fiber material can comprise about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 12.5%, 15%, 20%, 30%, 40%, 50% of the dry weight or total weight of the composition. In some embodiments, the high fiber material can comprise about 0.5-50%, about 1-30%), or about 2-20% of the dry weight or total weight of the composition. In other

embodiments, the composition does not comprise a high fiber material.

[00102] Lecithin

[00103] In some embodiments, the compositions can comprise lecithin. Lecithins are yellow brownish fatty substances that are present in animal and plant tissues, as well as egg yolk. Lecithin serves as an emulsifier, and has a similar fat profile to that of eggs. Lecithins are also non-allergenic. In some embodiments, the lecithins can comprise plant-based lecithins. In some embodiments, the lecithins can comprise garbanzo lecithin, fava bean lecithin, soy lecithin, sunflower lecithin, canola lecithin, or a combination thereof. In some embodiments, the compositions can comprise about 0.01%-25%, about 0.1%-20%, about 1-25%, about 0.01%- 10%), or about 4% of lecithin by dry weight or total weight of the composition. In some embodiments, the composition may not comprise lecithins.

[00104] Gypsum

[00105] In some embodiments, the compositions can comprise gypsum (calcium sulfate). Gypsum can advantageously provide coagulation and can have thickening properties as well. In some cases, the gypsum can be Terra Alba (calcium sulfate dihydrate). In some embodiments, the compositions can include, for example, between about 0.5%>-20%), between about 1%> - 15%, between about 0.5% -12%, or between about 0 5% - 2% by dry weight or total weight of gypsum. In some embodiments, the compositions may not comprise gypsum.

[00106] Magnesium Chloride and Papain [00107] In some embodiments, the compositions can comprise magnesium chloride

(Nigari) and/or papain (Papaya enzyme). In some embodiments, the composition can comprise, for example, between about 0.5% and about 20%, between about 1% and about 15%, or between about 0.5%) and about 12% by dry weight or total weight of magnesium chloride and/or papain. In some embodiments, the composition does not comprise magnesium chloride or papain.

[00108] Bases and Acids

[00109] In some embodiments, the composition can comprise one or more bases, e.g., potassium carbonate or calcium carbonate. In some embodiments, the composition can comprise one or more acids, e.g., citric acid. The one or more acids and/or bases can be utilized to modify the pH of the composition. The composition can comprise between about 0.5% and about 30%, between about 0.5% and about 15%, or between about 0.5% and about 5% by total weight by dry weight or total weight of acids and/or bases. In some cases, the composition does not comprise acids or bases.

[00110] In some embodiments, the compositions can comprise sodium bicarbonate (baking soda), baking powder, calcium lactate (including a calcium lactate not derived from dairy), calcium carbonate, or Versawhip 6000 (enzyme- altered soy protein, can replace a part or all of the percentage of the protein). In some embodiments, these agents may be utilized as additional leavening agents in he composition. In some embodiments, he compositions can comprise about 1%) -20%), or about 2- 12% by dry weight or by total weight of the above leaveners. In some embodiments, the compositions do not comprise sodium bicarbonate, baking powder, calcium lactate, calcium carbonate, or Versawhip 6000.

[00111] Coloring Agents

[00112] In some embodiments, the compositions can comprise one or more coloring agents. Various natural or ar ificial coloring agents are known to those skilled in the art, and can include, for example, caretonoids such as beta- carotene, turmeric, annatto, mango yellow, or palm-based oils. In some embodiments, the compositions can comprise about 0.1%-20%, or between about 0.5%- 15% by dry weight or by total weight of a coloring agent. In some embodiments, he compositions may not comprise a coloring agent.

[00113] Flavoring Agents

[00114] In some embodiments, the compositions can comprise one or more flavoring agents. Various natural or artificial flavoring agents are known to those skilled in the art, and can include, for example, salt, spices, sugar, sweeteners, monosodium glutamate, sulfuric flavoring agents such as black salt, or other flavoring agents.

[00115] Methods of Making and Storing the Compositions

[00116] In some embodiments, the compositions can be prepared by dry blending. In some embodiments, the compositions can be processed using an inline high-shear mixer, cell disrup ion, liquid chromatography, including HPLC, sonication, and/or rotor-stator mixing technology. In some embodiments, the mixer can have a pump capability of at least about 500 gallons/minute, with a hroughput of 50 gallons/minute. In some embodiments, the sonicator can have a throughput of at or above 5 gallons/minute. In o her embodiments, the compositions can be prepared using standard home kitchen materials, e.g., a kitchen scale, mixing bowL utensils, blender, or food processor. In some embodiments, the compositions can be stored as a dry material.

[00117] Storage and shelf life

[00118] Eggs and products made from eggs have a limited shelf-life. Raw eggs in the shells should only be stored with refrigeration for up to 5 weeks. When the yolk or the white are removed from the shell he storage life with refrigeration drops to only a maximum of 4 days. Commercially available non- sterile liquid egg substitutes also have a limited shelf life of up to about 7 days in the refrigerator. Similarly foods cooked with eggs have a limited storage life. A pie or a quiche cooked with eggs should only be stored for less than a week with refrigeration. Compositions of the invention can provide significant gains in shelf- life, for both the egg substitute and for products produced using the egg substitute.

[00119] Composi ions of the invention can, in some embodiments, be stable in storage at room temperature for up to 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 weeks. In some embodiments compositions of the invention are stable for storage at room temperature for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 months. In some embodiments compositions of the invention are stable for refrigerated or freezer storage for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 months. In some embodiments compositions of the invention are stable for refrigerated or freezer storage for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 months. In some embodiments compositions of he invention are stable for refrigerated or freezer storage for years, e.g. greater han 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 years. In some embodiments products produced using compositions of the invention are stable for storage at room temperature for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 years. In some embodiments products produced using compositions of the invention are stable for storage at room temperature for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 years. In some embodiments products produced using compositions of the invention are stable for storage at room temperature for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 months. In some embodiments produced using compositions of the invention are stable for storage at room temperature for years, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 wears.

[00120] In some embodiments, storage as a dry material can increase the shelf-life of he composition. In some embodiments the compositions are stored as a dry material for later reconstitution with a liquid, e.g. water.

[00121] Reconstituting from a Dry Composition

[00122] In some embodiments the compositions in the invention are reconstituted with a liquid, e.g. water, milk, or other liquid suitable for human consumption. In one example 36-45 grams of liquid can be added to 12-15 grams dry weight of the composition to produce a substitute for 1 whole egg. The amount of liquid can be varied to suit a particular purpose for the reconstituted composition.

[00123] In some embodiments, the compositions, prior to the addition of water, could be first subjected to a sonicator, and the water content then added via a higher throughput method such as the inline high- shear mixer or rotor- stator mixer. Ability to apply intense shear and shorten mixing cycles can be desirable in creating desirable emulsions, or agglomerated powders — to be dispersed into a liquid medium. In some embodiments, the inline mixer is positioned in a flowing stream, the mixing process can be more tightly controlled than in a batch configuration, ensuring that the number of passes through the high-shear zone can be monitored with greater confidence. In some embodiments, solid and liquid additions can also be injected into the flow and dispersed with reproducible results.

[00124] Pre-hydrating the protein (e.g. incubating the flour with water for 24 hours) can in some embodiments improve the properties of the composition. Accordingly, in some

embodiments a dry composition is prehydrated for several hours or days, e.g. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12 hours or 1,2, or 3 days. In one embodiment prehydrating the composition gives a thicker and stronger emulsion when the composition is used in food preparation.

[00125] Heating

[00126] Heat can be used to prepare the compositions of the invention. Heat can aid in reconstituting the compositions in a liquid. Heat can also serve to denature proteins of the compositions. However, in some embodiments heat is not necessary for preparing the compositions. Therefore in some embodiment the compositions of the invention are prepared by heating one or more components of the composition to a temperature of at least 60, 70, 80, 90, or 100 degrees Celsius. In some embodiments the components of the composition are heated to a temperature range of about between 60 and 80 or 85 degrees Celsius. In some embodiments the composition are heated to less than 60 degrees Celsius or to more than 85 degrees Celsius. In some embodiments the heated composition is held at the elevated temperature for 1 - 10 minutes for 10 - 20 minutes. In some embodiments the components of the compositions are held at the elevated temperature for less than 1 minute. In some embodiments the components of the composition are not heated for preparation of the composition.

[00127] Food Products

[00128] In some aspects, the invention provides a food product prepared using the compositions described herein, wherein the food product is indistinguishable from an equivalent product prepared using eggs. In some cases, the food product is a baked food product. Such baked food products include cookies, brownies, cake, and the like. In some cases, the food product is a sauce, dressing, or custard. In some cases, the food product is a scramble, or quiche indistinguishable from a scramble, or quiche prepared using eggs. In some cases, the food product is an ice cream, pasta, meatloaf, or burger patty. In some embodiments the food product is an emulsion, such as mayonnaise or dressings.

EXAMPLES

[00129] Example 1

[00130] One non-limiting composition is described below (by weight percentage).

Garbanzo Flour	86.5%
Micronized corn bran	10%
Xanthan gum	3.5%

[00131] Example 2

[00132] Another non-limiting composition is described below (by weight percentage).

Garbanzo Flour	82%
Fava bean flour	14.5%
Acacia gum	1.8%
Xanthan gum	1.8%

[00133] Example 3 [00134] Comparative composition is described below (by weight percentage):

Garbanzo Flour	51%
Fava bean flour	39%
Acacia gum	6.8%
Arrowroot starch	3.4%

[00135] Example 4

[00136] The compositions of Examples 1-2 and other compositions disclosed herein are used to replace eggs in traditional recipes, e.g. in baked goods, such as cakes, muffins, pastries, or cookies. The resulting foods, in this case baked goods, have superior qualities as compared to products baked with other egg substitutes. For example the mouthfeel of a yellow cake baked using the compositions of Examples 1-2 is more similar to yellow cake baked with eggs than yellow cake baked using previously attempted egg substitutes.

[00137] Mouthfeel ratings will demonstrate these similarities.

Product	Mouthfeel rating
Yellow cake baked with eggs	+++++
Yellow cake baked with Example 1 composition	+++++
Yellow cake baked with Example 2 composition	+++++
Yellow cake baked using Egg Beaters TM	+
Yellow cake baked with Ener-GTM	++
Yellow cake baked with banana as egg substitute	+
Yellow cake baked with Bob's Red MillTM	++
Yellow cake baked with Organ egg powderTM	++
Yellow cake baked with Silken TofuTM	+
Yellow cake baked with flax seed meal	+
Yellow cake baked with applesauce as egg substitute	+
Yellow cake baked with vinegar and baking soda as egg	+
substitute	
Yellow cake baked with buttermilk and yogurt as egg	+
substitute	

[00138] Example 5 [00139] In another example the taste of a cookie baked using the compositions of Examples 1-2 and further compositions described herein will be more similar a cookie baked using eggs than previously attempted egg substitutes.

[00140] Taste ratings will demonstrate these similarities.

Product	Taste rating
Cookie baked with eggs	+++++
Cookie baked with Example 1 composition	+++++
Cookie baked with Example 2 composition	+++++
Cookie baked using Egg BeatersTM	+
Cookie baked with Ener-GTM	+
Cookie baked with banana as egg substitute	++
Cookie baked with Bob's Red MillTM	+
Cookie baked with Organ egg powderTM	+
Cookie baked with Silken TofuTM	+
Cookie baked with flax seed meal	++
Cookie baked with applesauce as egg substitute	++
Cookie baked with vinegar and baking soda as egg	+
substitute	
Cookie baked with buttermilk and yogurt as egg	+
substitute	

[00141] Example 6

[00142] Foods prepared using the compositions provided herein will be shown to have substantially identical properties as foods prepared using natural eggs. A composition provided herein will allow the preparation of egg- free foods with substantially identical viscosity, binding properties, thickening properties, leavening properties, emulsifying properties, texture, color, and/or flavor.

[00143] Human assessments will demonstrate the substantially identical properties

	Product	Viscosity	Binding	Thickening	Leavening	Emulsifying	texture	color	flavor
	Food prepared	baseline	properties	properties	properties	properties	baseline	baseline	baseline
	with eggs Food prepared with Example	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
1 composition	L								
Food prepared Pass Pass F	Pass Pass	Pass F	Pass Pa	ss Pass	with Ex	ample			
2 composition									
Food prepared Fail on one	or more m	easure	s						
using Egg									
BeatersTM									
Food prepared Fail on one	or more m	easure	s						
with Ener- GTM									
Food prepared Fail on one	or more m	easure	s						
with banana as									
egg substitute									
Food prepared Fail on one	or more me	easure	s						
with Bob's Red									
MillTM									
Food prepared Fail on one	or more me	easure	s						
with Organ egg									
powderTM									
Food prepared Fail on one	or more m	easure	s						
with Silken									
TofuTM									
Food prepared Fail on one	or more m	easure	s						
with flax seed									
meal									
Food prepared Fail on one	or more m	easure	s						
with									
applesauce as									
egg substitute									
Food prepared Fail on one	or more m	easure	S						
with vinegar									
and baking									
soda as egg									
substitute									
Food prepared Pass Pass F	Pass Pass	Pass F	Pass Pa	ss Pass	with ad	ditional			
compositions									
disclosed									
herein									

Food prepared Fail on one or more measures

with buttermilk

and yogurt as

egg substitute

[00144] Example 6B [00145] Commercial egg-replacers tested in cake against an egg

[00146] As seen in the following table and Figure 1 through Figure 6, commercially available products achieved ratings similar to the blank (no egg, just water) in most quality parameters.

Ingredients (g)	Egg	Water	EnerG	PenTech	Scotsman Mill
Egg	208				
Water		131.92	73	71.52	78
EnerG			15.2		
Pan Tech				12	
Scotsman Mill					26
All purpose Flour	225	225	112.5	112.5	112.5
Cake flour	225	225	112.5	112.5	112.5
oil	200	200	100	100	100
baking powder	15	15	7.5	7.5	7.5
Salt	5	5	2.5	2.5	2.5
Sugar	225	225	112.5	112.5	112.5
milk	282.5	282.5	141.25	141.25	141.25
Total	1385.5	1309.42	676.95	672.27	692.75
% Water	0.316	0.316	0.316	0.316	0.316

[00147] Example 7

[00148] Replacing eggs in mayonnaise

[00149] Eggs in standard full-fat mayonnaises (e.g a 78% full- fat mayonnaise) can be replaced by a blend of 50%> pea protein isolate and 50%> modified starch. The pea protein contains 80%> protein, a maximum of 10%> carbohydrate, a maximum of 3% fat, and maximum of 1%) fiber. The modified starch is a cold-water soluble modified starch derived from waxy maize. See Figure 12.

[00150] Example 8

[00151] Replacing eggs in mayonnaise

[00152] Eggs in standard full-fat mayonnaises (e.g a 78% full- fat mayonnaise) can be replaced by a blend of 59% pea protein isolate and 41%> modified starch. The pea protein contains 80%> protein, a maximum of 10%> carbohydrate, a maximum of 3% fat, and maximum of 1%) fiber. The modified starch is a cold-water soluble modified starch derived from waxy maize. See Figure 12.

[00153] Example 9

[00154] Food products equivalent to full- fat mayonnaise [00155] Compositions of the inventions are useful for the production of food products that are substantially identical to food products produced with real eggs. For example the

compositions disclosed in Example 7 and 8 produce a product which is substantially similar to standard 78% full- fat mayonnaises. This will result in a product containing no egg or egg byproducts that when rated by a human is substantially the same as a standard full- fat mayonnaise.

[00156] In this example, pre-hydrating the protein (incubating the flour with water for 24 hours) gives a much thicker and stronger emulsion.

[00157] Example 10

[00158] Extraction of pea protein from an off-the-shelf pea protein product results in better results compared to use of the off-the-shelf pea protein product.

[00159] Example 11

[00160] A few dozen iterations of making mayonnaise with pea protein and starch (as above) in combination with a wide range of commercial gums and starches resulted in different product structures. Emulsion stability was highest using the pea protein/starch combination of Example 7 and Example 8.

[00161] These gums and starches include: guar gum, xanthan gum,

carboxymethylcelluloses and other maize starches in varying concentrations.

[00162] Example 12

[00163] Addition of gums and cellulose makes the structure of the egg substitute more creamy and smooth, but the stability of the emulsion may be less than without.

[00164] A typical formulation for a creamy egg substitute for an emulsion is:

46% pea protein isolate

46%) modified starch

4%) mix of guar gum and xanthan gum

4%) carboxymethylcellulose

[00165] Example 13

[00166] Replacing eggs in bakery products: cookies

[00167] An egg-replacer for cookies is:

74%) cold milled sorghum flour

17%) baking soda 8.3% micronized corn bran

0.6 % xanthan gum

[00168] A second egg-re lacer formulation in a range of cookies (chocolate chip, oatmeal raisin, peanut butter and snickerdoodle):

86% garbanzo(chickpea) flour

10%) micronized corn bran

3.2%) baking powder

0.8%) xanthan gum

[00169] Example 14

[00170] Cold milling methodology

[00171] Seeds milled in the presence of liquid nitrogen preserve protein conformation allowing them to remain more functional in the application. A typical formulation is cold milling of seeds to form flour that is used as a replacement for flour from seeds milled at ambient or elevated temperatures in any of the above uses or recipes.

[00172] Example 15

[00173] Replacing eggs in bakery products: cakes and muffins

[00174] Both cold- and ambient-milled extracts from the following seeds are tested for leavening, cohesiveness and springiness in muffins: Sorghum, White sorghum, Soy bean, Millet, Vallarta, Stueben, Green fagelot, Black beluga, Black calypso, Chana daL Amaranth, Lentil, Red lentiL Black lentiL Golden lentil, Do pung-style lentil, Sprouted green lentil, Sweet brown rice, Navy bean, Red bean, Pink bean, Canellini bean, Giant white lima bean, Christmas lime bean, Baby lima bean, Mung bean, Peeled fava bean, Good mother stellard bean, Cranberry chorlottis bean, Santa maria pinguinto bean, Brown tepary bean, Black turtle bean, Yellow split pea, Black turtle beans, Brown teff flour, Rye flour, Quinoa flour, Potato flour, White rice flour, Brown rice flour, Oat flour, Buckwheat flour, Whole grain corn flour, Stone ground cornmeal, Pre-cooked split pea, Pre-cooked garbanzo flour, Arrowroot powder, and Potato starch.

[00175] Example 16

[00176] Muffins

[00177] Following a standard recipe for muffins, 11 different types of muffins were made. Each batter was made at half recipe. The equivalent of a whole egg was mixed for each substitute, but only half the formulation was used in the recipe consistent with the half recipe batter volume.

	Change in Recipe	Result
1	Water control- (15 grams of water)	Bland/bready
2	Egg control- (1/2 an egg mixed)	airier, sweeter,
		more flavor
3	Garbanzo flour and Fava Bean Protein	crumbly
4	Pea Protein and Fava Bean Protein	good mouthfeel
5	Precooked Split Red Lentil Powder and	Mostly sweet
	Fava Bean Protein	
6	Precooked Split Yellow Pea Powder	Egg taste
	and Fava Bean Protein	
7	Pea Protein (no fava bean protein)	good mouthfeel
8	Precooked Split Red Lentil Powder (no	Rich flavor
	fava bean protein)	
9	Precooked Split Yellow Pea Powder	Sweet
	(no fava bean protein)	
10	Precooked Split Red Lentil Powder (no	Egg flavoring not
	fava bean protein) with 0.1 gram of egg	noticeable
	powder flavor	
11	Garbanzo flour and Fava Bean Protein	Egg flavoring not
	with 0.1 gram of egg powder flavor	noticeable

[00178] Example 17

[00179] Muffins

[00180] Following a standard recipe for muffins, 6 different types of muffins were made. Each batter was made at half recipe. The equivalent of a whole egg was mixed for each substitute, but only half the formulation was used in the recipe consistent with the half recipe batter volume.

Ingredient	Egg	Water	1	2	3	4
(grams)						
Egg	25	0	0	0	0	0
Water	0	12.5	12.5	12.5	12.5	12.5
Example 3	0	0	1.5	3	5.5	9

Flour 125 125 125 125 125 125

Sugar 98.5 98.5 98.5 98.5 98.5 98.5

Salt 1.5 1.5 1.5 1 5 1.5 1.5

Baking 6 6 6 6 6 6 Powder

Milk 150 150 150 150 150 150

Vegetable Oil 49 49 49 49 49 49

[00181] Results are shown in Figure 7 through Figure 10.

[00182] Example 18

Cryo-milled and ambient-milled extracts from the same type of grain or legume are showing different functional effects when used in baking standard recipe muffins. These functional effects comprise important parameters in baked goods such as cohesiveness, springiness, leavening, airiness.

[00183] Example 19

[00184] Extraction methodology

[00185] Flours are incubated with water to extract the soluble fraction, which is separated from the pellet by centrifugation after which the supernatant is used in the application.

[00186] Example 20

[00187] Pre-hydrating the protein

[00188] Incubating flour with water gave a thicker and stronger emulsion when the composition is used in food preparation. Egg-rep lacer was incubated with water for 1, 3 or 5 hours before using it to prepare an egg-less mayonnaise. The resulting mayonnaise was tested in a Bostwick consistometer. The thickness of the mayonnaise as reflected in a smaller distance travelled increased with hydration time. Results are shown in Figure 11. [00189] Example 20

[00190] Fractionating protein

[00191] Fractionating protein and adding the light fraction of flours to baked goods results in a better texture compared to adding the corresponding whole flours. Especially the

cohesiveness of the baked goods is stronger when prepared with the light fraction. The light fraction can be obtained by methods like centrifuging or air classification. [00192] Example 21

[00193] Mayonnaise

[00194] Mayonnaises made with eggs or with a pea protein- starch composition were made and compared at room temperature with a commercial egg-mayonnaise after dilution with 20 vol% water in a Bostwick consistometer. Freshmade egg mayonnaise and commercial egg mayonnaise have similar consistencies, which is a validation of the mayonnaise production process. The eggless mayonnaise had a thicker consistency than both the commercial and freshmade egg mayonnaise. See Figure 13.

[00195] Example 22

[00196] Egg-less mayonnaise

[00197] Particle size distribution of a control egg-mayonnaise (Con/dark line) and an eggless mayonnaise (Test/light line) made with pea protein and starch. Both mayonnaises were tested in a Malvern Mastersizer 3000 light- scattering device. The oil droplet size distribution of the eggless mayonnaise is similar to that of the control mayonnaise, demonstrating that using the egg-rep lacer resulted in a mayonnaise with the same oil droplet distribution as a control egg- mayonnaise. See Figure 14.

[00198] Example 23

[00199] Muffins

[00200] Muffins were prepared to test height, cohesiveness, and springiness.

[00201] For cryo-milling, beans/grains were placed in liquid nitrogen until thermal equilibrium was reached. Cryogenized beans/grains were milled in a heavy duty blender until the flour temperature reached a temperature of 20°C.

[00202] For ambient milling, beans/grains were processed in a heavy duty blender until the flour temperature reached a temperature 90°C after which they were kept at that temperature for 5 min.

[00203] Flours were collected from the blender and were tested in a standard recipe muffin. Cohesiveness and springiness were measured using a Brookfield Texture Analyzer. Height of the muffin was measured using a digital caliper. WL represents giant white lima beans. GM represents good mother stallard beans. BL represents black lentils. OB represents baby lima beans. See Figure 15 through Figure 17. [00204] While particular embodiments of the present invention have been shown and described herein, it will be obvious to those skilled in the art that such embodiments are provided by way of example only. Numerous variations, changes, and substitutions will now occur to those skilled in the art without departing from the invention. It should be understood that various alternatives to the embodiments of the invention described herein may be employed in practicing the invention. It is intended that the following claims define the scope of the invention and that methods and structures within the scope of these claims and their equivalents be covered thereby.

PATENT CITATIONS

Cited Patent	Filing date	Publication date	Applicant	Title
WO1986005362A2 *	Mar 13, 1986	Sep 25, 1986	Bio Isolates Ltd	Egg substitutes
US4120986 *	Jun 28, 1977	Oct 17, 1978	Stauffer Chemical Company	Whole egg replacer
US4777045 *	Jul 26, 1985	Oct 11, 1988	Nabisco Brands, Inc.	High bran snack
US6878394 *	Dec 17, 2003	Apr 12, 2005	Conopco, Inc.	Egg replacer concentrate and liquid egg replacer
US20080181990 *	Jan 24, 2008	Jul 31, 2008	Ledbetter Kati R	Compositions comprising wheat protein isolate and related methods
US20090041901 *	Aug 7, 2008	Feb 12, 2009	Archer-Daniels-Midland Company	Egg replacement and emulsifier system and related methods
US20110008522 *	Sep 9, 2010	Jan 13, 201 <mark>1</mark>	The Nisshin Oillio Group, Ltd.	Full-Fat Soybean Flour-Containing Composition, and Egg Substitute Composition

* Cited by examiner

CLASSIFICATIONS

International Classification	A23L1/20, A23L1/10
Cooperative	A23L1/24, A23L1/1016, A23L1/053, A23L1/035, A23L1/0522, A23L1/0526, A23L1/0534, A23L1/0541, A23L1/2005,
Classification	A23L1/3216, A21D2/186, A21D2/183, A21D10/002, A21D2/165, A21D2/266

LEGAL EVENTS

Date	Code	Event	Description
Jun 26. 2013	121		Country of ref document: EP Kind code of ref document: A1
	050201010		Ref document number: 12845681

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Lutton, Sara - AMS

From:	Mitch Kanter
Sent:	Thursday, December 26, 2013 8:24 AM
То:	Joanne Ivy; Kevin Burkum; John Howeth; Elisa Maloberti; Tia Rains
Subject:	Fwd: Patent
Attachments:	Beyond Eggs Patent-WO2013067453A1.pdf; ATT00001.htm

Patent assessment from Gil Leveille. He doesn't seem overly impressed. Mitch

Sent from my iPhone

Begin forwarded message:

From: "Gilbert Leveille" (b) (6) > To: "Mitch Kanter" <<u>MKanter@eggnutritioncenter.org</u>> Subject: RE: Patent

Mitch, a Christmas present for you!

I have now read through the patent and still come to the same conclusion - it is a composition patent which, by nature is not very strong and could be easily challenged with an alternate product. It is usually "iffy" if such patents will be approved but they lucked out and did get this one approved. Their challenge, from a business point of view, is to market the substitute. I believe this will be difficult but I have no real basis for that conclusion; also that is beyond the scope of what you asked me to do.

From your perspective it seems to be a question of how the marketing strategy can be blunted. It seems that their main attribute (at least touted in the patent) is that this product offers major advantages of shelf stability and avoiding the potential of pathogenic contamination from eggs. The shelf stability argument has some validity, however the safety argument is moot from the perspective that most of the product applications would involved cooked products which would destroy any potential pathogen. The other selling point would be the appeal to vegans, but this seems like such a small market that it is of little concern.

It seems to me that the primary counter to the proposed product would be on the nutritional quality side. They claim that their product has similar nutritional quality, clearly that is not true. They do have an equivalent amount of protein but make no reference (at least that I could find) to the quality of the protein. I believe this would be a major counter also the nutrient content of eggs is something that you (ENC) have touted, quite appropriately. They make no reference to matching the nutrient profile of eggs. Were I in your position I would focus on nutritional quality and on the emerging science, much of which ENC has sponsored.

Also, I have attached the patent you sent me with highlighted sections that address some of the nutrient issues they have addressed (pg 9 & 11); clearly there are few comments regarding the nutritional quality of their proposed products.

Don't know how helpful this will be, but hopefully it at least gives you one additional

perspective.

Let me know if there is anything else I can help with.

Happy New Year!

Gil

Gilbert A. Leveille Tel - 973-366-7823 e-mail: (b) (6)

From: Mitch Kanter [mailto:MKanter@eggnutritioncenter.org] Sent: Wednesday, December 11, 2013 6:57 PM To: 'Gilbert Leveille' Subject: RE: Patent

Thanks for quick top line review. A more extensive one would be great. A week-to-ten days would work.

Have a good Christmas.

Take care for now. Mitch

From: Gilbert Leveille (b) (6) Sent: Wednesday, December 11, 2013 4:51 PM To: Mitch Kanter Subject: RE: Patent

Mitch, good to hear from you and best wishes for a terrific holiday season!

I have quickly looked at the patent and agree with you that there isn't much there - in fact, I'm surprised that the patent was issued! Anyway I can look this over more closely but I don't think it will take much time. But I cannot get to it for a week or ten days - too much holiday stuff. But I will get something to you. If that timing is OK.

Be well,

Gil

Gilbert A. Leveille Tel - 973-366-7823 e-(b) (6)

(b) (6)

From: Mitch Kanter [mailto:MKanter@eggnutritioncenter.org] Sent: Monday, December 09, 2013 6:23 PM To: 'Gilbert Leveille' Subject: FW: Patent

Gil-

Hope you're doing well and staying warm, wherever you are at the moment.

Don't know if you've seen any of the press lately about a new egg replacer that's about to hit the market, called Beyond Eggs. At first blush I don't think the product is any different than any other egg replacer that's out there, but the folks who have created the product seem to be masters of PR. They are attacking the egg industry on animal ethics issues, as well as environmental footprint issues. They are saying they plan to "bring down" the egg industry and it's "inhumane" practices. A big factor in their favor is the fact that the Gates Foundation gave them a couple of million dollars in startup money to launch the product. They are definitely trying to appeal to the non-animal protein crowd, and if nothing else they've been successful so far at getting press. They've been written up in all the big newspapers/magazines, etc.

While I don't think anyone in the egg industry considers these folks to be a significant threat, there's always the concern that they can harm the industry on a couple of fronts. So we're trying to do due diligence on the product and the prospects for its success. Among other things, we've got a copy of their patent (attached) and will be reviewing it to see if they've really got anything novel here.

I was wondering if you might have some time to review the patent, and give me some general thoughts on what you find. Is there real novelty here? Do they make claims that they can strongly protect? Is the product a variation on various other similar products that have come before them?, etc. Any insights you can provide would be helpful.

Of course we'll compensate you for your time. So please let me know if this is something you'll have the time to do. A fairly quick turnaround would be preferred, so if you're tied up for the next few weeks it might not make sense for you to review. But if you can get us some info in the next couple of weeks your insights would be greatly appreciated.

Thanks for considering. Hope you and your family have a great holiday season. Hope to hear from you soon, whether you have the time to review the patent or not.

Take care for now. Mitch

						li l	oweth@ioillo
Patents	English	French			Find prior art	Discuss this application	\$
Plant-base nanufactu VO 20130674 JBSTRACT	re	ubstitute and me	thod of	Publication Publication Application Publication Filing date Priority date	type number date	WO2013067453 A1 Application PCT/US2012/063453 May 10, 2013 Nov 2, 2012 Nov 2, 2011	
isclosed herein a	00	compositions that can be use	00	Inventors	•	Joshua TETRICK, Johannee Antonius BOOT, Christopher Megan Alexander CLEMENT	Michael Jon

substitutes. The disclosure is directed to egg substitutes and methods of manufacturing the same, and compositions comprising the egg substitutes, including edible compositions such as baked goods and edible emulsions.

DESCRIPTION (OCR text may contain errors)

PLANT-BASED EGG SUBSTITUTE AND METHOD OF MANUFACTURE

[0001] This application claims priority under 35 U.S.C. 119 to U.S. Provisional Application 61/554,928, filed November 2, 2011, and to U.S. Provisional Application 61/621,425, filed April 6, 2012, the entire contents of each of which is hereby incorporated by reference.

FIELD OF THE INVENTION

[0002] The invention is directed to an egg substitute and a method of manufacturing the same, and compositions comprising the egg substitute, including edible compositions such as baked goods.

BACKGROUND OF THE INVENTION

[0003] Eggs are a versatile and near ubiquitous food and food component. The market for egg ingredients has been estimated to be \$1.8 billion domestically and \$6 billion globally, and continues to grow. Eggs are highly valued for numerous reasons. Eggs not only provide high nutritional content, they are also an essential component of a wide range of food products, ranging from, but not limited to: breads, cakes, cookies, custards, souffles, muffins, scones, biscuits, pasta, dressings, sauces, and ice cream.

[0004] However, eggs have a number of drawbacks. For example, eggs contain high levels of cholesterol and saturated fats, which increases risk for cardiovascular diseases and obesity.

Therefore, consumers that desire to reduce their risk of cardiovascular disease, or are otherwise concerned over maintaining a healthy diet and weight, represent an untapped market for eggs or egg- containing products. Other consumers that would benefit from the high nutritional content and enjoyment of egg-containing products may be prevented from doing so due to food allergies or other dietary restrictions. For instance, 1-2% of young children are estimated to be allergic to eggs. Significant population segments follow voluntary dietary restrictions, e.g., vegans and others may not eat eggs for religious or other reasons. In addition, the industrial scale production of eggs are associated with industrial farming of chickens, which incur high costs, such as, e.g., costs related to food health and safety restrictions for farmers, high transportation costs, and the cost of feeding and housing egg- laying birds. Furthermore, industrial chicken farming has a negative environmental impact, and raises a number of important humanitarian issues. CLAIMS (OCR text may contain errors)

External Links: Patentscope, Espacenet

WHAT IS CLAIMED IS:

Applicant

1. A composition comprising

(i) protein in an amount up to 80% by dry weight, and

Patent Citations (7), Classifications (17), Legal Events (1)

(ii) fat in amount from 5% to 15% by dry weight;

wherein said composition is essentially egg- free, and wherein said composition provides binding, moisturizing, leavening, and/or emulsifying properties similar to an egg.

Beyond Eggs, Inc.

OLIVEIRA, Lorenzo ALBANELLO, Less «

2. The composition of claim 1 wherein the protein content is between 10 and 20% by dry weight.

3. The composition of claim 1, wherein said protein comprises plant-based protein.

The composition of claim 3, wherein said plant-based protein comprises protein from beans or peas.

5. The composition of claim 1, wherein said fat comprises plant-based oils.

The composition of claim 5, wherein said plant-based oils comprise oils from garbanzo and/or fava beans.

7. The composition of claim 1, further comprising

(iii) one or more flours in an amount of 50% or more by dry weight, and

(iv) one or more gums and/or starches in an amount less than 20% by dry weight.

8. The composition of claim 7, further comprising high- fiber material in an amount up to 15%) by dry weight.

9. The composition of claim 8, wherein said high- fiber material comprises one or more brans.

10. The composition of claim 9, wherein said one or more brans comprise micronized corn bran.

11. The composition of claim 1, wherein said composition provides binding properties similar to that of a whole egg.

Moreover, eggs have limited shelf life, and are at risk of harboring infectious pathogens, such as, for example, Salmonella, E. coli, and other pathogens which may endanger public health. [0005] Many attempts have been made to create an egg substitute that recapitulates the desired features of natural eggs while minimizing the unwanted features of eggs. These attempts range from home-cooking based substitutes, e.g., mashed bananas and/or applesauce to replace eggs in baking, baking powder/baking soda mixtures to provide leavening, flour/water mixtures to provide binding and leavening. Commercially available substitutes include, for example, Eggbeaters™, Ener-G[™] egg substitute, Bob's Red Mill Egg Replacer™. However, all of these substitutes have certain limitations. For example, many of the home-based egg substitutes provide only a single limited desired property of eggs in cooking, e.g., mashed fruit provide moisture and binding but not leavening, baking powder/soda and flour/water substitutes provide some leavening but limited binding properties. Eggbeaters[™] is made from real egg whites, and is thus associated with low shelf life and risk of carrying pathogens, and is also avoided by vegans. Ener-G[™] vegan egg substitute, acts as an imperfect substitute for many baking purposes because of its inferior binding qualities. Disclosed herein are compositions for use as a whole- egg substitute that addresses the limitations of the current art.

SUMMARY OF THE INVENTION

[0006] Disclosed herein are multifunctional compositions that can be used as a whole egg substitute, driven by molecular gastronomy. In some embodiments, the compositions replace the whole egg or a part of the egg (e.g. the egg white or the yolk) in food products on a 1 : 1 basis by weight after reconstitution with water or other liquid, has a nutritional profile similar to eggs, and replicates one or more, if not alL of the egg's core functionalities. In some embodiments the whole egg is understood to include the contents of the egg as poured from the shell of the egg. In some embodiments, the core functionalities can be, but are not limited to achieving a desired crumb density, structure/texture, elasticity/springiness, coagulation, binding, mouthfeeL leavening, aeration/foaming, creaminess, and emulsification of the food product. The

functionalities described above can overlap or may be interdependent. In some embodiments, the compositions can functionally replace the whole egg or a part of the egg in baked goods and/or emulsions. In some embodiments, the compositions replace whole eggs or a part of the egg on a 1 :5 basis by weight, wherein 1 weight unit of the compositions replaces 5 weight units of eggs. In other embodiments, the compositions replaces whole eggs on a 10: 1, 9: 1, 8: 1, 7: 1, 6: 1, 5: 1, 4: 1, 3: 1, 2: 1, or 1 : 1 basis by weight. In other embodiments the compositions replace whole eggs or a part of the egg on a 1 : 10, 1 : 9, 1 : 8, 1 : 7, 1 : 6, 1 : 5, 1 : 4, 1 : 3, 1 : 2, or 1 : 1 basis by weight.

[0007] In some embodiments, the compositions may be used to replace egg yolks. In other embodiments, the compositions may be used to replace egg whites. In some embodiments, the compositions may be used as an egg substitute in non-food products, e.g., shampoos. In some embodiments, the compositions may be used to replicate desired functions of eggs while overcoming the limitations of natural eggs, e.g., high saturated fat content, high cholesterol content, and allergenic properties. In yet other embodiments, the compositions may be used for functions other than as an egg substitute, e.g., water binding function.

[0008] In one aspect, the composition comprises protein in an amount up to 80% by dry weight, and (ii) fat in amount from 5% to 15% by dry weight; wherein the composition is essentially egg- free, and wherein the composition provides binding, moisturizing, leavening, creaminess, and/or emulsifying properties similar to an egg.

[0009] In one aspect, the compositions comprises 10-20% protein and 5-15% fat by dry weight, wherein the composition is essentially egg free and can be used to provide binding, moisturizing, leavening, and/or emulsifying properties similar to an egg. In some cases, the protein comprises plant-based protein. In

12. The composition of claim 1, wherein said composition provides moisturizing properties similar to that of a whole egg.

13. The composition of claim 1, wherein said composition provides leavening properties similar to that of a whole egg.

14. The composition of claim 1, wherein said composition provides emulsifying properties similar to that of a whole egg.

15. The composition of claim 1, wherein said composition is egg-free.

16. The composition of claim 1, wherein said binding, moisturizing, leavening, and/or emulsifying properties are measured at between about 90-110% of the binding, moisturizing, leavening, and/or emulsifying properties of an egg.

17. A composition, comprising:

a) 60-99.5%) by dry weight of one or more bean flours; and

b) 0.5- 15%) by dry weight of one or more gums and/or starches.

18. The composition of claim 17, wherein said bean flour comprises garbanzo flour.

19. The composition of claim 18, wherein said garbanzo flour comprises about 40% or more of the dry weight of the composition.

20. The composition of claim 18, wherein said garbanzo flour comprises about 75% or more of the dry weight of the composition.

21. The composition of claim 18, wherein said garbanzo flour comprises about 85% or more of the dry weight of the composition.

22. The composition of claim 18, wherein said bean flour further comprises fava bean flour.

23. The composition of claim 22, wherein said fava bean flour and said garbanzo flour together comprise about 80% or more of the dry weight of the composition.

24. The composition of claim 22, wherein said garbanzo flour comprises from 80-85% of the dry weight of the composition, and wherein said fava bean flour comprises from 12.5-17.5%) of the dry weight of the composition, and wherein the combination of garbanzo flour and fava been flour is a maximum of 99.5% by dry weight of the the composition.

25. The composition of claim 22, wherein said garbanzo flour comprises about 45-55% of the dry weight of the composition, and wherein said fava bean flour comprises about 35-45% of the dry weight of the composition, and wherein the combination of garbanzo flour and fava been flour is a maximum of 99.5% by dry weight of the the composition.

26. The composition of claim 17, wherein said bean flour is essentially free of soy flour.

27. The composition of claim 17, wherein said bean flour is free of soy flour.

28. The composition of claim 17, wherein said one or more gums is selected from xanthan gum, acacia gum, and combinations thereof.

29. The composition of claim 28, wherein said one or more gums is a combination of xanthan gum and acacia gum.

30. The composition of claim 29, wherein said combination is an essentially1 : 1 ratio by weight of xanthan gum and acacia gum.

more particular cases, the plant-based protein comprises protein from garbanzo, fava beans, yellow pea, sweet brown rice, rye, golden lentil, chana dal, soybean, sorghum, sprouted green lentil, du pung style lentil, and/or white lima bean. In some cases, the fat comprises plant-based oils. In more particular cases, the plant-based oils comprise oils from garbanzo, fava beans, yellow pea, sweet brown rice, rye, golden lentil, chana dal, soybean, sorghum, sprouted green lentil, du pung style lentil, and/or white lima bean.

[0010] In some cases, the composition comprises over 50% by dry weight of one or more flours, and less than 20% of a mixture of one or more gums and/or starches. In some cases, the composition comprises over 60% by dry weight of one or more flours, and less than 20% of a mixture of one or more gums and/or starches. In some cases, the composition additionally comprises 0-15% of a high fiber material. In some cases, the high fiber material comprises one or more brans. In a particular case, the one or more brans comprise micronized corn bran.

[0011] In another aspect, the compositions comprise 60-99.5%) of bean flour and 0.5-15% of a mixture of gums and/or starches by dry weight. In some cases, the bean flour comprises garbanzo flour. In some cases, the garbanzo flour comprises more than about 40%, more than about 75%), or more than about 85% of the dry weight of the composition. In more particular cases, the bean flour comprises fava bean flour. In some cases, the fava bean flour and garbanzo flour together comprise more than 80% of the dry weight of the composition. In some cases, the garbanzo flour comprises about 80-85% of the dry weight of the composition, and the fava bean flour comprises about 12.5-17.5%) of the dry weight of the composition. In some cases, the garbanzo flour comprises about 45-55% of the dry weight of the composition, and the fava bean flour comprises about 35-45% of the dry weight of the composition. In some cases, the bean flour is essentially free of soy flour, or does not contain any soy flour. [0012] In some cases, the one or more gums are selected from xanthan gum and acacia gum. In some particular cases, the composition comprises both xanthan gum and acacia gum. In more particular cases, the composition comprises roughly equal amounts of xanthan gum and acacia gum. In some particular cases, the xanthan gum and acacia gum each comprise about 1-3% of the dry weight of the composition.

[0013] In some particular cases, the one or more gums is xanthan gum only. In yet more particular cases, the xanthan gum comprises about 1-7.5% of the dry weight of the composition. In other particular cases, the one or more gums is acacia gum only.

[0014] In some cases, the composition comprising one or more gums additionally comprises one or more starches. In other cases, the one or more starches is arrowroot starch. In some particular cases, the gum comprises about 4-9% of the dry weight of the composition, and the arrowroot starch comprises about 2-5% of the dry weight of the composition.

[0015] In one aspect, a composition is disclosed comprising (i) yellow pea flour, and (ii) modified starch; wherein the composition is essentially egg- free, and wherein the yellow pea flour and modified starch are in a weight ratio ranging from 7:3 to 3:7, and wherein the composition provides binding, moisturizing, leavening, and/or emulsifying properties similar to an egg. In various embodiments, the flour and starch are in a weight ratio of 6:4 to 4:6, such as in a weight ratio of about 1 : 1. In various embodiments, the composition further comprises one or more components selected from the group consisting of guar gum, xanthan gum, carboxy- methylcellulose, and mixtures thereof. For example, the composition may include the additional components in a combined amount weight ratio ranging from 1 :8 to 1 : 12 compared to the amount by weight of the combined yellow pea flour and modified starch. In various embodiments, the composition is an eggless mayonnaise.

[0016] In some embodiments, the compositions of the invention can be used as a substitute for egg yolks, egg whites, or whole eggs in the preparation of an equivalent product prepared using an equivalent amount of eggs. 31. The composition of claim 30, wherein said xanthan gum and said acacia gum each comprise about 1-3% of the dry weight of the composition.

32. The composition of claim 28, wherein said one or more gums is xanthan gum.

33. The composition of claim 32, wherein said xanthan gum comprises 1-7.5% of the dry weight of the composition.

34. The composition of claim 28, wherein said one or more gums is acacia gum.

35. The composition of claim 28, further comprising one or more starches.

36. The composition of claim 35, wherein said one or more starches is arrowroot starch.

37. The composition of claim 36, wherein said gum comprises about 4-9% of the dry weight of the composition, and said arrowroot starch comprises about 2-5% of the dry weight of the composition.

38. A composition comprising

(i) yellow pea flour, and

(ii) modified starch;

wherein said composition is essentially egg- free, and wherein said yellow pea flour and said modified starch are in a weight ratio ranging from 7:3 to 3:7, and wherein said composition provides binding, moisturizing, leavening, and/or emulsifying properties similar to an egg.

39. The composition of claim 38, wherein said flour and said starch are in a weight ratio of 6:4 to 4:6.

40. The composition of claim 38, wherein said flour and said starch are in a weight ratio of about 1: 1.

41. The composition of claim 38, wherein said composition further comprises one or more components selected from the group consisting of guar gum, xanthan gum,

carboxymethylcellulose, and mixtures thereof.

42. The composition of claim 38, wherein said composition further comprises guar gum, xanthan gum, and carboxymethylcellulose, wherein said guar gum, xanthan gum, and carboxymethylcellulose are present in a combined amount weight ratio ranging from 1 :8 to 1 : 12 compared to the amount by weight of the combined yellow pea flour and modified starch.

43. The composition according to claim 38, wherein said composition is an eggless mayonnaise.

44. A method of using the composition of any of the above claims as a substitute for egg yolks, egg whites, or whole eggs in the preparation of an equivalent product prepared using an equivalent weight of eggs.

45. The method of claim 44, wherein said method comprises use of the composition as a binding agent.

46. The method of claim 44, wherein said method comprises use of the composition as a moisturizing agent.

47. The method of claim 44, wherein said method comprises use of the composition as a leavening agent.

48. The method of claim 44, wherein said method comprises use of the composition as an emulsifying agent.

[0017] In some cases, the compositions are used as a binding agent. In some cases, the compositions are used as a moisturizing agent. In some cases, the compositions are used as an emulsifying agent. In some cases, the compositions are used as a leavening agent.

[0018] In some aspects, the invention provides a food product prepared using the compositions described herein, wherein the food product is indistinguishable from an equivalent product prepared using eggs. In some cases, the food product is a baked food product. In some cases, the food product is a sauce, dressing, or custard. In some cases, the food product is a scramble, omelet, or quiche indistinguishable from a scramble, omelet, or quiche prepared using eggs. In some cases, the food product is an ice cream, pasta, meatloaf, or burger patty. In some embodiments the food product is an emulsion, mayonnaise or dressings.

[0019] In some aspects, the invention provides a method of baking, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises 10.3-13.0 grams garbanzo flour, 1.2-1.5 grams micronized corn bran, and 0.4-0.6 grams xanthan gum. In other aspects, the invention provides a method of baking, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises 9.8-12.3 grams garbanzo flour, 1.7-2.2 grams fava bean flour, 0.2-0.3 grams xanthan gum, and 0.2-0.3 grams acacia gum. In yet other aspects, the invention provides a method of baking, using as a 1 : 1 replacement per egg substitute comprises, 6.1-7.8 grams garbanzo flour, 4.6-5.9 grams fava bean flour, 0.8-1.1 grams acacia gum, and 0.4-0.6 grams arrowroot starch. In some aspects, a method is disclosed for preparing an edible emulsion, comprising using as a 1 : 1 replacement per egg, 44- 47% by weight yellow pea flour, 44-47% by weight modified starch, 3-5% by weight mixture of guar gum and xanthan gum, and 3-5% by weight carboxymethylcellulose.

[0020] In some aspects, the invention provides a method of making an emulsion such as mayonnaise, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises 10.3-13.0 grams garbanzo flour, 1.2-1.5 grams micronized corn bran, and 0.4-0.6 grams xanthan gum. In other aspects, the invention provides a method of making an emulsion such as mayonnaise, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises 9.8-12.3 grams garbanzo flour, 1.7-2.2 grams fava bean flour, 0.2-0.3 grams xanthan gum. In yet other

49. A food product prepared using the composition of any of claims 1-43 as an egg substitute, wherein said food product achieves a score within 20% of a score from an equivalent product prepared using eggs, wherein said score is based on an evaluation of one or more of texture, color, flavor, density, and roughness.

50. The food product of claim 49, wherein said food product is a baked food product.

51. The food product of claim 49, wherein said food product is a sauce, dressing,

mayonnaise, or custard.

52. The food product of claim 49, wherein said food product is a scramble, omelet, or quiche wherein said food product achieves a score within 20% of a score from a scramble, omelet, or quiche prepared using eggs, wherein said score is based on an evaluation of one or more of texture, color, flavor, density, and roughness.

53. The food product of claim 49, wherein said food product is an ice cream, pasta, meatloaf, or burger patty.

54. A method of baking, comprising using as a 1 : 1 replacement per egg, 10.3-13.0 grams garbanzo flour, 1.2-1.5 grams micronized corn bran, and 0.4-0.6 grams xanthan gum.

55. A method of baking, comprising using as a 1 : 1 replacement per egg, 9.8-12.4 grams garbanzo flour, 1.7-2.2 grams fava bean flour, 0.2-0.3 grams xanthan gum, and 0.2-0.3 grams acacia gum.

56. A method of baking, comprising using as a 1 : 1 replacement per egg, 6.1-7.8 grams garbanzo flour, 4.6-5.9 grams fava bean flour, 0.8-1.1 grams acacia gum, and 0.4-0.6 grams arrowroot starch.

57. A method of preparing an edible emulsion, comprising using as a 1 : 1 replacement per egg, a composition comprising 44-47% by weight yellow pea flour, 44-47% by weight modified starch, 3-5% by weight mixture of guar gum and xanthan gum, and 3-5% by weight carboxymethylcellulose.

aspects, the invention provides a method of making an emulsion such as mayonnaise, using as a 1 : 1 replacement per egg an egg substitute, wherein the egg substitute comprises, 6.1-7.8 grams garbanzo flour, 4.6-5.9 grams fava bean flour, 0.8-1.1 grams acacia gum, and 0.4-0.6 grams arrowroot starch.

BRIEF DESCRIPTION OF THE FIGURES

[0021] Figure 1 provides a comparison of commercially available egg replacers versus eggs when measured for cake height.

[0022] Figure 2 provides a comparison of commercially available egg replacers versus eggs when measured for cake height/weight ratio.

[0023] Figure 3 provides a comparison of commercially available egg replacers versus eggs when measured for cake hardness.

[0024] Figure 4 provides a comparison of commercially available egg replacers versus eggs when measured for cake springiness. [0025] Figure 5 provides a comparison of commercially available egg replacers versus eggs when measured for cake cohesiveness.

[0026] Figure 6 provides a comparison of commercially available egg replacers versus eggs when measured for cake gumminess.

[0027] Figure 7 provides a comparison of a comparitive composition versus eggs when measured for muffin hardness.

[0028] Figure 8 provides a comparison of a comparitive composition versus eggs when measured for muffin height.

[0029] Figure 9 provides a comparison of a comparitive composition versus eggs when measured for muffin cohesiveness.

[0030] Figure 10 provides a comparison of a comparitive composition versus eggs when measured for muffin springiness.

[0031] Figure 11 provides data from a Bostwick consistometer for the effect of prehydration time on consistency.

[0032] Figure 12 provides data on emulsion formation and emulsion stability. Starch was added to pea protein and the mixture was tested for its capacity to form a stable emulsion.

[0033] Figure 13 provides data on consistency on mayonnaise as measured with a Bostwick consistometer.

[0034] Figure 14 provides comparison of eggless mayo in particle size distribution.

[0035] Figure 15 provides a comparison of cold- and hot-milled flours with egg on

height/leavening in muffins.

[0036] Figure 16 provides a comparison of cold- and hot-milled flours with egg on cohesiveness in muffins.

[0037] Figure 17 provides a comparison of cold- and hot-milled flours with egg on springiness in muffins.

INCORPORATION BY REFERENCE

[0038] All publications, patents, and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent, or patent application was specifically and individually indicated to be incorporated by reference.

DETAILED DESCRIPTION OF THE INVENTION

[0039] Several aspects of the invention are described below with reference to example applications for illustration. It should be understood that numerous specific details, relationships, and methods are set forth to provide a full understanding of the invention. One having ordinary skill in the relevant art, however, will readily recognize that the invention can be practiced without one or more of the specific details or with other methods.

[0040] The terminology and description used herein is for the purpose of describing particular embodiments only and is not intended to limit the invention. As used herein, the singular forms "a", "an" and "the" can be intended to include the plural forms as well, unless the context clearly indicates otherwise. The terms "including", "includes", "having", "has", "with", or variants thereof are intended to be inclusive in a manner similar to the term "comprising".

[0041] The term "about", "approximately", or "similar to" means within an acceptable error range for the particular value as determined by one of ordinary skill in the art, which can depend in part on how the value is measured or determined, or on the limitations of the measurement system. It should be understood that all ranges and quantities described below are

approximations and are not intended to limit the invention. Where ranges and numbers are used these can be approximate to include statistical ranges or measurement errors or variation. In some embodiments, for instance, measurements could be plus or minus 10%.

[0042] The phrase "essentially free of is used to indicate the indicated component, if present, is present in an amount that does not contribute, or contributes only in a de minimus fashion, to the properties of the composition. In various embodiments, where a composition is essentially free of a particular component, the component is present in less than a functional amount. In various embodiments, the component may be present in trace amounts. Particular limits will vary depending on the nature of the component, but may be, for example, selected from less than 10% by weight, less than 9% by weight, less than 7% by weight, less than 6% by weight, less than 5% by weight, less than 4% by weight, less than 3% by weight, less than 2% by weight, less than 1% by weight, or less than 0.5% by weight.

[0043] By "indistinguishable" is meant that a comparison of two samples provides essentially the same outcome. Alternatively, by "indistinguishable" is meant that a comparison provides results that are within the error bars of the particular form of measurement. For example, if measured by consumer acceptance, two products would be indistinguishable if when compared by consumers, the products were approximately equally acceptable to a group of consumers.

[0044] Functional Properties of the Compositions

[0045] Natural eggs have a number of useful properties that make them a useful component in a wide variety of food and non-food products. In some embodiments, the egg substitute will fulfill one or more qualities of natural eggs. In some embodiments, the compositions described herein will fulfill more than one quality of natural eggs. In more particular embodiments, the compositions disclosed herein will fulfill more than two, or more than three, or substantially most or all of the qualities of natural eggs. In various embodiments, binding, moisturizing, leavening, and/or emulsifying properties are determined to be similar to an egg if measured at between about 90-110% of the binding, moisturizing, leavening, and/or emulsifying properties of an egg.

[0046] Viscosity

[0047] Natural eggs can provide a desired viscosity to batter or dough for the preparation of baked goods. Viscosity can be qualitatively assessed by the rate or ease of flow, the ease of movement during handling, or may be quantitatively assessed by viscometers or rheometers. In some embodiments, the compositions can provide a desired viscosity to the batter or dough similar to batter or dough prepared using natural eggs. In some embodiments, the compositions provide a batter or dough similar to batter or dough prepared using natural eggs. In some embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%, about 40-90%, about 60-100% of the desired viscosity of a natural egg. In some embodiments, the compositions provide more than about 1%), about 2%, about 3%, about 4%, about 5%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%, about 90%, about 100% of the desired viscosity of a natural egg. In some embodiments the viscosity is in a cooked product. In some embodiments the viscosity is in a chemically crosslinked product. In some particular embodiments, the compositions provide more than about 50% of the desired viscosity of a natural egg. In some other particular embodiments, the compositions provide more than about 50% of the desired viscosity of a natural egg. In yet other particular embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In yet other particular embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In yet other particular embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired viscosity of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired viscosity of a nat

[0048] pH

[0049] Natural eggs can have a pH range of about 6-8, although the pH of eggs can vary widely with freshness or other environmental factors. In some embodiments, the pH of the compositions provided herein can be similar to that of natural eggs. In some embodiments, the pH of the reconstituted compositions can be about 5.5-8.5, about 6-8, about 6.5-7 5, or about 7. In some embodiments, the pH of the compositions provided herein is different than natural eggs, e.g. more acidic or more basic than a natural egg composition. For example a composition provided herein can have, in some embodiments, a pH of less than 5.5, 5, 4.5, or less than 4. In other embodiments a composition provided herein can have a pH of greater than 6.5, 7, 7.5, or greater than 8. [0050] Binding Properties

[0051] Natural eggs provide binding properties that are useful in many cooking and non-cooking applications. Binding properties can refer to the properties of natural eggs that provide structural integrity to egg- containing or egg- substitute containing products, e g., baked goods. Structural integrity of an egg- containing or egg-substitute containing product may be compared and/or indicated by, for example, whether the product falls apart during or after preparation, or by the quantity of fragments or crumbs that are generated when the product is handled. In some embodiments, the compositions provide binding properties of natural eggs. In some

embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%, about 40- 90%), about 60-100%) of the binding properties of a natural egg. In some embodiments, the compositions provide more than about 1%>, about 2%, about 3%, about 4%, about 5%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%), about 90%), about 100% of the binding properties of a natural egg. In some particular embodiments, the compositions provide more than about 50% of the binding properties of a natural egg. In some other particular embodiments, the compositions provide more than about 50% of the binding properties of a natural egg. In some other particular embodiments, the compositions provide more than about 75%) of the binding properties of a natural egg. In yet other particular embodiments, the compositions provide more than about 90% of the binding properties of a natural egg. In some embodiments, the compositions provide more than about 55% of the binding properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the binding properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the binding properties of a natural egg. In some embodiments, the compositions provide binding properties.

[0052] Thickening agents

[0053] Eggs are commonly used as thickening agents for a number of food products, for example, sauces, custards, fillings, etc. Thickening can be caused by the physical interference of water molecules in the food product with molecules from the thickening product. Thickening properties of an egg-substitute product may be indicated by the ability to thicken the egg- substitute containing product to the desired amount in a smooth, consistent manner, while minimizing the formation of lumps. In some embodiments, the compositions can provide thickening properties. In some embodiments, the compositions can provide thickening properties. In some embodiments, the compositions provide more than about 60-100% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 2%, about 3%, about 4%, about 5%, about 10%, about 20%, about 20%, about 30%, about 40%, about 50%, about 70%, about 80%, about 90%, about 100% of the thickening properties of a natural egg. In some embodiments proverties of a natural egg. In some embodiments, the compositions provide more than about 50% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 50% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 75% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the thickening properties of a natural egg. In some embodiments, the compositions provide more than about 90% of the thickening properties of a natural egg. In some embodiments, the compositions may not provide thickening properties.

[0054] Leavening agents

[0055] Eggs provide leavening properties that are useful in a number of cooking and non- cooking applications. A leavening agent can have foaming action that introduces air bubbles into the product, and can be used to provide height, lightening, and fluffiness of the finished product. For example, eggs are commonly used in cake, bread, muffin, souffle, and other recipes to impart a fluffy texture to the final product. Leavening properties of an egg or egg- substitute may be indicated by the height and texture of the final product. For example, a light, airy texture indicates superior leavening compared to a heavy, gummy texture. In some embodiments, the compositions can provide leavening properties similar to that of natural eggs. In some embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%, about

40- 90%), about 60-100%) of the leavening properties of a natural egg. In some embodiments, the compositions provide more than about 1%, about 2%, about 3%, about 4%, about 5%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%), about 90%), about 100% of the leavening properties of a natural egg. In some

embodiments, the compositions provide more than about 50% of the leavening properties of a natural egg. In particular embodiments, the compositions provide more than about 75% of the leavening properties of a natural egg. In yet more particular embodiments, the compositions provide more than about 90% of the leavening properties of a natural egg. In some

embodiments, the compositions do not provide leavening properties.

[0056] Emulsifying properties

[0057] The emulsifying properties of natural eggs are useful in the preparation of food products which require the mixing and integration of substances that are immiscible, such as oil and water. Many products for human consumption are oil- inwater emulsions, including but not limited to hollandaise sauces and mayonnaise. In oil-in-water emulsions, oil droplets are dispersed evenly throughout an aqueous phase. However, oil droplets will tend to coalesce over time. An emulsifying agent can prevent the coalescence of the oil droplets, resulting in a smooth, creamy mixture. The emulsifying properties of the present compositions may be determined by the texture, consistency, and stability of the finished product, e.g., a sauce. For example, a sauce that remains smooth indicates a superior emulsion compared to a sauce that has undergone partial or complete separation over time. In some embodiments, the compositions can provide emulsifying properties. In some embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%), about 40-90%, about 60-100%) of the emulsifying properties of a natural egg. In some embodiments, the compositions provide more than about 1% >, about 2%, about 3%, about 4%, about 5%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%), about 80%>, about 90%>, about 100% of the emulsifying properties of a natural egg. In some embodiments, the compositions provide more than about 50% of the emulsifying properties of a natural egg. In particular embodiments, the compositions provide more than about 75%) of the emulsifying properties of a natural egg. In yet more particular embodiments, the compositions provide more than about 90% of the emulsifying properties of a natural egg. In some embodiments, the compositions do not provide emulsifying properties.

[0058] Texture

[0059] Eggs are commonly used to provide moisture and fat to a product recipe, resulting in a non-dry texture. The ability of an egg or egg substitute to provide the desired moisture and fat to a product recipe (such as, for example, cake or bread recipes) may be indicated by the texture of the finished product, e.g., whether the product produces a moist or dry crumb. In some embodiments, the compositions provide a moisture imparting quality. In some embodiments, the compositions provide about 1-30%, about 20-50%, about 30-70%, about 40-90%, about 60-100% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 1%>, about 2%, about 3%, about 40%, about 50%, about 10%, about 15%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%, about 90%, about 100%) of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 50% of the desired moisture and fat of a natural egg. In particular embodiments, the compositions provide more than about 50% of the desired moisture and fat of a natural egg. In yet more particular embodiments, the compositions provide more than about 75% of the desired moisture and fat of a natural egg. In yet more particular embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the desired moisture and fat of a natural egg. In some embodiments, the compositions provide more than about 90% of the

[0060] Color

[0061] Eggs can sometimes be used to provide a certain color to the food or non-food product. In some embodiments, the compositions can provide the same or similar color to the product. In other embodiments, the compositions do not provide similar color to that of natural eggs. In some embodiments, the compositions can be color neutral and may not affect the color of the product. [0062] Flavor

[0063] Eggs can be sometimes used to provide a certain eggy taste to the food product. Taste may be qualitatively assessed by blind taste test of the product prepared using the compositions compared to the product prepared using an equivalent amount of eggs. In some embodiments, the compositions can provide the same or a similar eggy taste to the product. In other embodiments, the compositions do not provide an eggy taste to the product. In some

embodiments, the compositions can be taste-neutral.

[0064] Egg Replacement

[0065] In some embodiments, the compositions can be used as a replacement for whole eggs, egg yolks, or egg whites in food products. In some embodiments, the food products can be baked goods such as but not limited to muffins, cakes, cupcakes, brownies, cookies, biscotti, pancakes, breads, waffles, pastries, pies, tarts, scones, pretzels, crackers. In some embodiments, the compositions can be used as a replacement for eggs or egg parts in other products such as but not limited to pasta, noodles, meatloaf, burgers, custards, sauces, ice cream, mayonnaise, and/or salad dressings.

[0066] In some embodiments, the compositions can be used as a replacement for whole eggs, egg yolks, or egg whites in non-food products, such as but not limited to shampoos, facial washes or masks, creams, films, encapsulates. In other embodiments, the compositions can be used for functions other than as an egg substitute.

[0067] Subjective Properties of the Compositions

[0068] Mouthfeel is a concept used in the testing and description of food products. Products made using the compositions of the invention can be assessed for mouthfeel. In some embodiments products, e.g baked goods, made using compositions of the invention have mouthfeel that is similar to products made with natural eggs. In some embodiments the mouthfeel of the compositions of the invention is superior to the mouthfeel of previously known or attempted egg substitutes, e.g bananas, modified way proteins, or Egg BeatersTM.

[0069] Examples of properties which may be included in a measure of mouthfeel include:

Cohesiveness: Degree to which the sample deforms before rupturing when biting with molars; Density: Compactness of cross section of the sample after biting completely through with the molars; Dryness: Degree to which the sample feels dry in the mouth; Fracturability: Force with which the sample crumbles, cracks or shatters. Fracturability encompasses crumbliness, crispiness, crunchiness and brittleness; Graininess: Degree to which a sample contains small grainy particles, may be seen as the opposite of smoothness; Gumminess: Energy required to disintegrate a semi- solid food to a state ready for swallowing; Hardness: Force required to deform the product to given distance, i.e., force to compress between molars, bite through with incisors, compress between tongue and palate; Heaviness: Weight of product perceived when first placed on tongue; Moisture absorption: Amount of saliva absorbed by product; Moisture release: Amount of wetness/juiciness released from sample; Mouthcoating: Type and degree of coating in the mouth after mastication (for example, fat/oil); Roughness: Degree of abrasiveness of product's surface perceived by the tongue; Slipperiness: Degree to which the product slides over the tongue; Smoothness: Absence of any particles, lumps, bumps, etc., in the product; Uniformity: Degree to which the sample is even throughout; homogeneity;

Uniformity of Bite: Evenness of force through bite; Uniformity of Chew: Degree to which the chewing characteristics of the product are even throughout mastication; Viscosity: Force required to draw a liquid from a spoon over the tongue; and Wetness: Amount of moisture perceived on product's surface.

[0070] Compositions

[0071] Protein

[0072] Natural eggs typically comprise about 5-15% protein content by weight. The high protein content of natural eggs play a central role in providing the desired binding properties of the eggs. In some embodiments, the compositions provided herein comprise proteins, polypeptides, and/or peptides, referred to collectively as "protein". In some embodiments, the compositions can comprise about 1%, about 2%, about 3%, about 4%, about 5%, about 7.5%, about 10%, about 15%), about 20%), about 25%, about 30% protein by dry weight or total weight. In some embodiments, the compositions can comprise about 1-5%, about 5-20%, or about 10-30%) protein by dry weight or total weight. In particular embodiments, the compositions can comprise about 10-5% protein by dry weight or total weight.

[0073] In some embodiments, the proteins in the composition can comprise one or more plant- based proteins. In some embodiments, the one or more plant-based proteins may include, but are not limited to: pea proteins, isolates, and/or concentrates; garbanzo (chickpea) proteins, isolates, and/or concentrates; fava bean proteins, isolates, and/or concentrates; soy proteins, isolates, and/or concentrates; rice proteins, isolates, and/or concentrates; or any combinations thereof. Plant- based proteins may include, for example, soy protein (e.g., all forms including concentrate and isolate), other plant proteins that commercially are wheat and fractionated wheat proteins, corn and it fractions including zein, rice, oat, potato, peanut, green pea proteins can be derived from green peas or yellow peas.

[0074] In some embodiments, proteins in the composition can comprise undenatured proteins. In other embodiments, proteins in the composition can comprise denatured proteins. In some embodiments essentially no animal proteins are used in the compositions.

[0075] Enzymes

[0076] Natural eggs contain a number of enzymes that are used in human products. For example, lysozyme, which may be extracted from egg whites, can be used in eye drop

formulations or as a cheese preservative. In some embodiments, the compositions comprise an enzyme profile similar to that of eggs. In some embodiments, the compositions comprise an enzyme profile dissimilar to that of natural eggs. In some embodiments, the compositions comprise lysozyme. In some embodiments, the compositions do not comprise

lysozyme. In some embodiments the compositions provided herein contain enzymes that replicate the function of the natural egg enzymes. For example a natural egg enzyme may catalyze a particular known chemical reaction. Compounds of the invention can contain enzymes that catalyze the same or a similar reaction.

[0077] Oil/Fat

[0078] Natural chicken eggs typically comprise about 1 1% oil/fat content by weight. The fat content of natural eggs provides some of the desired moisture and texture to the egg- containing product, thus improving texture of the product. In some embodiments, the compositions can provide a similar fat profile to that of natural eggs. In other embodiments, the compositions can provide a lower fat profile to that of natural eggs while still imparting a desired moisture and texture to the product similar to an equivalent product prepared using natural eggs. In some embodiments, the compositions can comprise about 0.1%>, about 0.2%, about 0.5%>, about 1%, about 2%o, about 3%, about 4%, about 5%, about 7.5%, about 10%, about 15%, about 20%, about 25%), about 30%) fat by dry weight or total weight. In some embodiments, the compositions can comprise about 0.1-10%, about 0.5-15%, about 1-20%, or about 5-30% fat by total weight. In particular embodiments, the compositions can comprise about 0.1-10% fat by total weight. Natural eggs comprise about 3.1% saturated fats. The high saturated fat content of eggs may deter significant numbers of consumers from enjoying eggs or egg- containing products. In some embodiments, the compositions can comprise about 0.1%>, or essentially no saturated fat. In some embodiments, the fat content of the compositions can comprise plant-based oils. In some embodiments, the plant-based oils can comprise canola oil, sunflower oil, safflower oil, cocronut oil, corn oil, olive oil, peanut oil, or palm oil. In some embodiments, the plant-based oils can comprise oils from beans (e.g garbanzo beans or fava beans).

[0079] In some embodiments, the compositions are essentially free of fat and/or oil, such as animal fats or animal oils. In some embodiments, the compositions do not comprise fat. In some embodiments, the compositions do not comprise fat. In some embodiments, the compositions do not comprise any animal oils or fats. In some embodiments the compositions comprise less than 3%), less than 2%, less than 1%>, less than 0.5%>, or less than 0.1%> plant fats or oils. In some embodiments the compositions comprise less than 3%, less than 0.5%>, or less than 2%, less than 0.5%>, or less than 0.1%> animal fats or oils.

[0080] Nutrients

[0081] Eggs are also highly valued for their vitamin and nutrient content. In particular, eggs are a natural source of vitamins A, E, D, and other vitamins and nutrients, providing about 540 IU vitamin A, 1.050 mg vitamin E, and 47 IU vitamin D per 100 g total weight. In some embodiments, the compositions provide a vitamin profile similar to that of eggs by equivalent weight. In some embodiments, the compositions can be fortified with vitamins to provide a high nutritional value per unit weight compared to natural eggs. In some embodiments, the compositions of the invention is superior to natural eggs.

[0082] In addition, eggs are a source of choline, a nutrient that supports healthy brain

development. In some embodiments, the compositions provide similar amounts of choline as compared to an equivalent weight of eggs. In some embodiments, the compositions may be fortified with choline to provide a higher nutritional value per unit weight compared to natural eggs. In some embodiments, the compositions do not provide similar amounts of choline as an equivalent weight of natural eggs.

[0083] Nucleic Acids [0084] Eggs will contain nucleic acids from the species that laid the egg. So a bird egg will contain DNA from a bird and a reptile egg will contain DNA from a reptile. As the compositions of the invention are not derived from these species the compositions of the invention will not normally contain DNA normally associated with an egg. Therefore in some embodiments the compositions of the invention contain no nucleic acids from a bird, a reptile, an amphibian, or a fish. It is possible that for a variety of reasons one would wish to add the egg related nucleic acids to the compositions described herein. This would result in a product that contained an artificially added nucleic acid. In some embodiments the compositions of the invention contain no artificially added nucleic acids typically associated with an egg.

[0085] Flours

[0086] In some embodiments, the composition can comprise one or more flours. In some cases, flour is a powder ground from grains, seeds, roots, or other sources. Most flours have a high starch content which imparts thickening and binding properties, and may provide moisture content. In some embodiments, the one or more flours are selected from all-purpose flour, unbleached flour, bleached flour, bread flour, self-rising flour, wheat flour, cake flour, acorn flour, almond flour, amaranth flour, atta flour, rice flour, buckwheat flour, cassava flour, chestnut flour, chuno flour, coconut flour, corn (maize) flour, hemp flour, maida flour, mesquite flour, nut flour, peanut flour, potato flour, rice flour, rye flour, terff flour, soy flour, peanut flour, arrowroot flour, taro flour, acorn flour, bean flours such as, e.g., soy flour, garbanzo flour, fava bean flour, pea flour; or other flour. In some embodiments, the one or more flours are selected from Sorghum, White sorghum, Soy bean, Millet, Vallarta, Stueben, Green fagelot, Black beluga, Black calypso, Chana daL Amaranth, Lentil, Red lentil, Black lentiL Golden lentiL Do pung- style lentiL Sprouted green lentil, Sweet brown rice, Navy bean, Red bean, Pink bean, Canellini bean, Giant white lima bean, Christmas lime bean, Baby lima bean, Mung bean, Peeled fava bean,

Good mother stellard bean, Cranberry chorlottis bean, Santa maria pinguinto bean, Brown tepary bean, Black turtle bean, Yellow slit pea, Canadian yellow pea, Black turtle beans, Brown teff flour, Rye flour, Quinoa flour, Potato flour, White rice flour, Brown rice flour, Oat flour, Buckwheat flour, Whole grain corn flour, Stone ground cornmeaL Pre-cooked split pea, Pre-cooked garbanzo flour, Arrowroot powder, and Potato starch. In some embodiments, the composition can comprise about 10%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 85% about 90%, about 95%, about 100% flour. In some embodiments, the composition can comprise about 1-30%, about 10-40%, about 30-70%, about 50-99%, about 60-95%, about 70-90% total flour by dry weight. In some embodiments, the flour is cold-milled.

[0087] Flours can differ widely in their protein content, containing as low as 5% to as high as 30%) protein. Natural chicken eggs typically comprise about 10-15% protein content by weight. The high protein content of natural eggs play a central role in providing the desired binding properties of the eggs. Furthermore, flours can differ widely in their fat content, containing as low as 0.1%) to as high as 15% fat content. The fat content of natural eggs provides some of the desired moisture and fat to the egg-containing product, thus improving texture of the product. However, the high saturated fat content of eggs may deter significant numbers of consumers from enjoying the product.

[0088] Therefore, in some embodiments, the one or more flours are selected from flours with high protein content and a fat content similar to that of natural eggs, wherein the fat content is provided essentially by unsaturated fats. In some embodiments, the one or more flours may comprise garbanzo/chickpea flour, fava bean flour, soy flour, nut flours. A significant number of potential consumers may have nut allergies, therefore, in particular embodiments, the one or more flours comprise garbanzo and/or fava bean flours. In some embodiments, the composition may comprise about 10%>, about 20%>, about 30%>, about 40%>, about 50%>, about 60%>, about 70%, about 80%, about 85% about 90%, about 95%, about 100% garbanzo flour. In some embodiments, the composition may comprise about 20-40%>, about 40-60%>, about 45-55%> garbanzo flour. In other embodiments, the compositions may comprise about 50-100%), about 60-95%), about 70-90%>, about 80-85%> garbanzo flour. In a particular embodiment, the composition can contain about 86.46%> garbanzo flour. In another particular embodiment, the composition can contain about 82% garbanzo flour. In yet another particular embodiment, the composition can contain about 82% garbanzo flour. In yet another particular embodiment, the composition can contain about 82% garbanzo flour.

[0089] In some embodiments, the composition can comprise fava bean flour. In some embodiments, the composition may comprise about 10%>, about 20%>, about 30%>, about 40%>, about 50%, about 60%, about 70%, about 80%, about 85% about 90%, about 95%, about 100% fava bean flour. In some embodiments, the composition may comprise about 1-30%, about 10- 40%, or about 40-60% fava bean flour.

[0090] In some embodiments, the composition comprising garbanzo flour can also comprise fava bean flour. In some embodiments, the composition comprising garbanzo flour can also comprise about 0.5-60%), about 5-50%, about 10-45% fava bean flour. In a particular embodiment, the composition comprising garbanzo flour can also comprise about 14.46% fava bean flour. In yet another particular embodiment, the composition comprising garbanzo flour can also comprise about 38.98% fava bean flour.

[0091] In some embodiments, the garbanzo and fava bean flours together can comprise about 50- 99.5%) of the weight of the composition. In some embodiments, the garbanzo and fava bean flours together can comprise about 70-99%, or about 80-99%> of the weight of the composition. In a particular embodiment, the garbanzo and fava bean flours together can comprise about 96.46%) of the weight of the composition. In another embodiment, the garbanzo flour can comprise about 82% of the weight of the composition, and the fava bean flours together can comprise 14.46%) of the weight of the composition. In yet another embodiment, the garbanzo and fava bean flours together can comprise 50.85%> of the weight of the

composition, and the fava bean flour can comprise 38.98%> of the weight of the composition.

[0092] Gums

[0093] In some embodiments, the composition may also comprise one or more gums, such as, e.g., xanthan gum, acacia gum, gellan gum, guar gum, locust bean gum, tragacanth gum, carrageenan gum, or a combination thereof, for example. "Gums" refers to materials that act as gelling agents, often comprising polysaccharides and/or glycoproteins. Gums, such as xanthan gum, can be used in small amounts to provide significant thickening and viscosity, and can also be used to replace fat and emulsifiers. In some embodiments, the one or more gums comprise about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 12.5%, 15%, or 20% of the dry weight or total weight of the composition. In some embodiments, gums can comprise about 0.5-20%), about 1-15%), or about 2-10%> of the dry weight or total weight of the composition. In some embodiments, the composition can comprise about 1-5% of the dry weight or total weight of the composition. In some embodiments, the composition can comprise about 0.5-20%> of the total weight of the composition. In some embodiments, gums can comprise about 0.5-20%> of the total weight of the composition. In some embodiments, gums can comprise about 0.5-20%> of the total weight or total weight of the composition. In some embodiments, gums can comprise about 0.5-20%> of the total weight of the composition.

[0094] In some particular embodiments, the composition can comprise a single gum only. In some embodiments, the single gum can be xanthan gum. In particular embodiments, the composition can comprise about 1-10% of the single gum xanthan gum. In another particular embodiment, the composition can comprise 3.54% xanthan gum.

[0095] In other embodiments, the single gum can be acacia gum. In some embodiments, the composition can comprise about 1-10% of the single gum acacia gum. In a particular

embodiment, the composition can comprise 6.78% acacia gum. [0096] In other embodiments, the composition can comprise both xanthan gum and acacia gum. In some embodiments, the composition can comprise about 1-4% xanthan gum and about 1-4% acacia gum. In yet another embodiment, the composition can comprise 1.77% xanthan gum and 1.77 acacia gum.

[0097] In some embodiments, the composition can comprise one or more starches, such as, for example, arrowroot starch, cornstarch, tapioca starch, mung bean starch, potato starch, sweet potato starch, rice starch, sago starch, wheat starch. The term "starch" refers to polysaccharide materials, often produced by plants to act as energy stores. Starches can be used to impart thickening and stabilizing properties. In some embodiments, the one or more starches can comprise about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 12 5%, 15%, or 20% of the dry weight or total weight of the composition. In some embodiments, the one or more starches can comprise about 0.5-20%, about 1-15%, or about 2-10% of the dry weight or total weight of the composition. In some embodiments, the composition can comprise about 0.5-20% of the total weight of the composition. In some embodiments, the acacia gum and arrowroot starch together can comprise about 2-20% of the total weight of the composition. In other embodiments, the acacia gum and arrowroot starch together can comprise about 5-15% of the total weight of the composition. In yet another embodiment, the acacia gum and arrowroot starch together can comprise about 10% of the total weight of the composition. In a particular embodiment, the composition can comprise 6.78% acacia gum and 3.39% arrowroot starch.

[0098] In various embodiments, the starch may be modified starch. Suitable starches include, but are not limited to, pregelatinized starch (e.g., corn, wheat, tapioca), pregelatinized high amylose content starch, pregelatinized hydrolyzed starches (e.g., maltodextrins, corn syrup solids), chemically modified starches such as pregelatinized substituted starches (e.g., octenyl succinate modified starches), as well as mixtures of these starches. In various embodiments, the modified starch is a cold-water soluble modified starch derived from waxy maize. In various embodiments, the starch is sodium octenylsuccinate starch. Modified starches may be available commercially.

[0099] Mixes of guar gum and xanthan gum may be obtained in a commercial product, for example as Pre-Hydrated Stabilizer XC-8444, available from TIC Gums. Carboxy- methylcellulose may be obtained as a commercial product, for example, Pre-Hydrated®

Ticalose® CMC 2500 Powder available from TIC gums.

[00100] High-Fiber Content [00101] In some embodiments, the composition can also comprise a material with high-fiber content. In some embodiments, fiber in the composition can provide a high water-holding capacity that contributes to the overall texture of the final food product. In some embodiments, the high fiber material can be bran, e.g., a wheat bran, oat bran, corn bran, rice bran, or other bran. In some embodiments, the bran can be micronized into a fine powder. In some

embodiments, micronizing the bran prevents the introduction of a grainy texture to the final food product. In some embodiments, the micronized bran can be micronized corn bran. In some embodiments, the high fiber material can comprise about 0.5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 12.5%, 15%, 20%, 30%, 40%, 50% of the dry weight or total weight of the composition. In some embodiments, the high fiber material can comprise about 0.5-50%, about 1-30%), or about 2-20% of the dry weight or total weight of the composition. In other

embodiments, the composition does not comprise a high fiber material.

[00102] Lecithin

[00103] In some embodiments, the compositions can comprise lecithin. Lecithins are yellow brownish fatty substances that are present in animal and plant tissues, as well as egg yolk. Lecithin serves as an emulsifier, and has a similar fat profile to that of eggs. Lecithins are also non-allergenic. In some embodiments, the lecithins can comprise plant-based lecithins. In some embodiments, the lecithins can comprise garbanzo lecithin, fava bean lecithin, soy lecithin, sunflower lecithin, canola lecithin, or a combination thereof. In some embodiments, the compositions can comprise about 0.01%-25%, about 0.1%-20%, about 1-25%, about 0.01%- 10%), or about 4% of lecithin by dry weight or total weight of the composition. In some embodiments, the composition may not comprise lecithins.

[00104] Gypsum

[00105] In some embodiments, the compositions can comprise gypsum (calcium sulfate). Gypsum can advantageously provide coagulation and can have thickening properties as well. In some cases, the gypsum can be Terra Alba (calcium sulfate dihydrate). In some embodiments, the compositions can include, for example, between about 0.5%>-20%), between about 1%> - 15%, between about 0.5% -12%, or between about 0 5% - 2% by dry weight or total weight of gypsum. In some embodiments, the compositions may not comprise gypsum.

[00106] Magnesium Chloride and Papain [00107] In some embodiments, the compositions can comprise magnesium chloride

(Nigari) and/or papain (Papaya enzyme). In some embodiments, the composition can comprise, for example, between about 0.5% and about 20%, between about 1% and about 15%, or between about 0.5%) and about 12% by dry weight or total weight of magnesium chloride and/or papain. In some embodiments, the composition does not comprise magnesium chloride or papain.

[00108] Bases and Acids

[00109] In some embodiments, the composition can comprise one or more bases, e.g., potassium carbonate or calcium carbonate. In some embodiments, the composition can comprise one or more acids, e.g., citric acid. The one or more acids and/or bases can be utilized to modify the pH of the composition. The composition can comprise between about 0.5% and about 30%, between about 0.5% and about 15%, or between about 0.5% and about 5% by total weight by dry weight or total weight of acids and/or bases. In some cases, the composition does not comprise acids or bases.

[00110] In some embodiments, the compositions can comprise sodium bicarbonate (baking soda), baking powder, calcium lactate (including a calcium lactate not derived from dairy), calcium carbonate, or Versawhip 6000 (enzyme- altered soy protein, can replace a part or all of the percentage of the protein). In some embodiments, these agents may be utilized as additional leavening agents in he composition. In some embodiments, he compositions can comprise about 1%) -20%), or about 2- 12% by dry weight or by total weight of the above leaveners. In some embodiments, the compositions do not comprise sodium bicarbonate, baking powder, calcium lactate, calcium carbonate, or Versawhip 6000.

[00111] Coloring Agents

[00112] In some embodiments, the compositions can comprise one or more coloring agents. Various natural or ar ificial coloring agents are known to those skilled in the art, and can include, for example, caretonoids such as beta- carotene, turmeric, annatto, mango yellow, or palm-based oils. In some embodiments, the compositions can comprise about 0.1%-20%, or between about 0.5%- 15% by dry weight or by total weight of a coloring agent. In some embodiments, he compositions may not comprise a coloring agent.

[00113] Flavoring Agents

[00114] In some embodiments, the compositions can comprise one or more flavoring agents. Various natural or artificial flavoring agents are known to those skilled in the art, and can include, for example, salt, spices, sugar, sweeteners, monosodium glutamate, sulfuric flavoring agents such as black salt, or other flavoring agents.

[00115] Methods of Making and Storing the Compositions

[00116] In some embodiments, the compositions can be prepared by dry blending. In some embodiments, the compositions can be processed using an inline high-shear mixer, cell disrup ion, liquid chromatography, including HPLC, sonication, and/or rotor-stator mixing technology. In some embodiments, the mixer can have a pump capability of at least about 500 gallons/minute, with a hroughput of 50 gallons/minute. In some embodiments, the sonicator can have a throughput of at or above 5 gallons/minute. In o her embodiments, the compositions can be prepared using standard home kitchen materials, e.g., a kitchen scale, mixing bowL utensils, blender, or food processor. In some embodiments, the compositions can be stored as a dry material.

[00117] Storage and shelf life

[00118] Eggs and products made from eggs have a limited shelf-life. Raw eggs in the shells should only be stored with refrigeration for up to 5 weeks. When the yolk or the white are removed from the shell he storage life with refrigeration drops to only a maximum of 4 days. Commercially available non- sterile liquid egg substitutes also have a limited shelf life of up to about 7 days in the refrigerator. Similarly foods cooked with eggs have a limited storage life. A pie or a quiche cooked with eggs should only be stored for less than a week with refrigeration. Compositions of the invention can provide significant gains in shelf- life, for both the egg substitute and for products produced using the egg substitute.

[00119] Composi ions of the invention can, in some embodiments, be stable in storage at room temperature for up to 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 weeks. In some embodiments compositions of the invention are stable for storage at room temperature for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 months. In some embodiments compositions of the invention are stable for refrigerated or freezer storage for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 months. In some embodiments compositions of the invention are stable for refrigerated or freezer storage for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 months. In some embodiments compositions of he invention are stable for refrigerated or freezer storage for years, e.g. greater han 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 years. In some embodiments products produced using compositions of the invention are stable for storage at room temperature for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 years. In some embodiments products produced using compositions of the invention are stable for storage at room temperature for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 years. In some embodiments products produced using compositions of the invention are stable for storage at room temperature for months, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 months. In some embodiments produced using compositions of the invention are stable for storage at room temperature for years, e.g. greater than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, or 13 wears.

[00120] In some embodiments, storage as a dry material can increase the shelf-life of he composition. In some embodiments the compositions are stored as a dry material for later reconstitution with a liquid, e.g. water.

[00121] Reconstituting from a Dry Composition

[00122] In some embodiments the compositions in the invention are reconstituted with a liquid, e.g. water, milk, or other liquid suitable for human consumption. In one example 36-45 grams of liquid can be added to 12-15 grams dry weight of the composition to produce a substitute for 1 whole egg. The amount of liquid can be varied to suit a particular purpose for the reconstituted composition.

[00123] In some embodiments, the compositions, prior to the addition of water, could be first subjected to a sonicator, and the water content then added via a higher throughput method such as the inline high- shear mixer or rotor- stator mixer. Ability to apply intense shear and shorten mixing cycles can be desirable in creating desirable emulsions, or agglomerated powders — to be dispersed into a liquid medium. In some embodiments, the inline mixer is positioned in a flowing stream, the mixing process can be more tightly controlled than in a batch configuration, ensuring that the number of passes through the high-shear zone can be monitored with greater confidence. In some embodiments, solid and liquid additions can also be injected into the flow and dispersed with reproducible results.

[00124] Pre-hydrating the protein (e.g. incubating the flour with water for 24 hours) can in some embodiments improve the properties of the composition. Accordingly, in some

embodiments a dry composition is prehydrated for several hours or days, e.g. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12 hours or 1,2, or 3 days. In one embodiment prehydrating the composition gives a thicker and stronger emulsion when the composition is used in food preparation.

[00125] Heating

[00126] Heat can be used to prepare the compositions of the invention. Heat can aid in reconstituting the compositions in a liquid. Heat can also serve to denature proteins of the compositions. However, in some embodiments heat is not necessary for preparing the compositions. Therefore in some embodiment the compositions of the invention are prepared by heating one or more components of the composition to a temperature of at least 60, 70, 80, 90, or 100 degrees Celsius. In some embodiments the components of the composition are heated to a temperature range of about between 60 and 80 or 85 degrees Celsius. In some embodiments the composition are heated to less than 60 degrees Celsius or to more than 85 degrees Celsius. In some embodiments the heated composition is held at the elevated temperature for 1 - 10 minutes for 10 - 20 minutes. In some embodiments the components of the compositions are held at the elevated temperature for less than 1 minute. In some embodiments the components of the composition are not heated for preparation of the composition.

[00127] Food Products

[00128] In some aspects, the invention provides a food product prepared using the compositions described herein, wherein the food product is indistinguishable from an equivalent product prepared using eggs. In some cases, the food product is a baked food product. Such baked food products include cookies, brownies, cake, and the like. In some cases, the food product is a sauce, dressing, or custard. In some cases, the food product is a scramble, or quiche indistinguishable from a scramble, or quiche prepared using eggs. In some cases, the food product is an ice cream, pasta, meatloaf, or burger patty. In some embodiments the food product is an emulsion, such as mayonnaise or dressings.

EXAMPLES

[00129] Example 1

[00130] One non-limiting composition is described below (by weight percentage).

Garbanzo Flour	86.5%
Micronized corn bran	10%
Xanthan gum	3.5%

[00131] Example 2

[00132] Another non-limiting composition is described below (by weight percentage).

Garbanzo Flour	82%
Fava bean flour	14.5%
Acacia gum	1.8%
Xanthan gum	1.8%

[00133] Example 3 [00134] Comparative composition is described below (by weight percentage):

Garbanzo Flour	51%
Fava bean flour	39%
Acacia gum	6.8%
Arrowroot starch	3.4%

[00135] Example 4

[00136] The compositions of Examples 1-2 and other compositions disclosed herein are used to replace eggs in traditional recipes, e.g. in baked goods, such as cakes, muffins, pastries, or cookies. The resulting foods, in this case baked goods, have superior qualities as compared to products baked with other egg substitutes. For example the mouthfeel of a yellow cake baked using the compositions of Examples 1-2 is more similar to yellow cake baked with eggs than yellow cake baked using previously attempted egg substitutes.

[00137] Mouthfeel ratings will demonstrate these similarities.

Product	Mouthfeel rating
Yellow cake baked with eggs	+++++
Yellow cake baked with Example 1 composition	+++++
Yellow cake baked with Example 2 composition	+++++
Yellow cake baked using Egg Beaters TM	+
Yellow cake baked with Ener-GTM	++
Yellow cake baked with banana as egg substitute	+
Yellow cake baked with Bob's Red MillTM	++
Yellow cake baked with Organ egg powderTM	++
Yellow cake baked with Silken TofuTM	+
Yellow cake baked with flax seed meal	+
Yellow cake baked with applesauce as egg substitute	+
Yellow cake baked with vinegar and baking soda as egg	+
substitute	
Yellow cake baked with buttermilk and yogurt as egg	+
substitute	

[00138] Example 5 [00139] In another example the taste of a cookie baked using the compositions of Examples 1-2 and further compositions described herein will be more similar a cookie baked using eggs than previously attempted egg substitutes.

[00140] Taste ratings will demonstrate these similarities.

Product	Taste rating
Cookie baked with eggs	+++++
Cookie baked with Example 1 composition	+++++
Cookie baked with Example 2 composition	+++++
Cookie baked using Egg BeatersTM	+
Cookie baked with Ener-GTM	+
Cookie baked with banana as egg substitute	++
Cookie baked with Bob's Red MillTM	+
Cookie baked with Organ egg powderTM	+
Cookie baked with Silken TofuTM	+
Cookie baked with flax seed meal	++
Cookie baked with applesauce as egg substitute	++
Cookie baked with vinegar and baking soda as egg	+
substitute	
Cookie baked with buttermilk and yogurt as egg	+
substitute	

[00141] Example 6

[00142] Foods prepared using the compositions provided herein will be shown to have substantially identical properties as foods prepared using natural eggs. A composition provided herein will allow the preparation of egg- free foods with substantially identical viscosity, binding properties, thickening properties, leavening properties, emulsifying properties, texture, color, and/or flavor.

[00143] Human assessments will demonstrate the substantially identical properties

	Product	Viscosity	Binding	Thickening	Leavening	Emulsifying	texture	color	flavor
	Food prepared	baseline	properties	properties	properties	properties	baseline	baseline	baseline
	with eggs Food prepared with Example	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
1 composition	L								
Food prepared Pass Pass F	Pass Pass	Pass F	Pass Pa	ss Pass	with Ex	ample			
2 composition									
Food prepared Fail on one	or more m	easure	s						
using Egg									
BeatersTM									
Food prepared Fail on one	or more m	easure	s						
with Ener- GTM									
Food prepared Fail on one	or more m	easure	s						
with banana as									
egg substitute									
Food prepared Fail on one	or more m	easure	s						
with Bob's Red									
MillTM									
Food prepared Fail on one	or more m	easure	s						
with Organ egg									
powderTM									
Food prepared Fail on one	or more m	easure	s						
with Silken									
TofuTM									
Food prepared Fail on one	or more m	easure	s						
with flax seed									
meal									
Food prepared Fail on one	or more m	easure	s						
with									
applesauce as									
egg substitute									
Food prepared Fail on one	or more m	easure	S						
with vinegar									
and baking									
soda as egg									
substitute									
Food prepared Pass Pass F	Pass Pass	Pass F	Pass Pa	ss Pass	with ad	ditional			
compositions									
disclosed									
herein									

Food prepared Fail on one or more measures

with buttermilk

and yogurt as

egg substitute

[00144] Example 6B [00145] Commercial egg-replacers tested in cake against an egg

[00146] As seen in the following table and Figure 1 through Figure 6, commercially available products achieved ratings similar to the blank (no egg, just water) in most quality parameters.

Ingredients (g)	Egg	Water	EnerG	PenTech	Scotsman Mill
Egg	208				
Water		131.92	73	71.52	78
EnerG			15.2		
Pan Tech				12	
Scotsman Mill					26
All purpose Flour	225	225	112.5	112.5	112.5
Cake flour	225	225	112.5	112.5	112.5
oil	200	200	100	100	100
baking powder	15	15	7.5	7.5	7.5
Salt	5	5	2.5	2.5	2.5
Sugar	225	225	112.5	112.5	112.5
milk	282.5	282.5	141.25	141.25	141.25
Total	1385.5	1309.42	676.95	672.27	692.75
% Water	0.316	0.316	0.316	0.316	0.316

[00147] Example 7

[00148] Replacing eggs in mayonnaise

[00149] Eggs in standard full-fat mayonnaises (e.g a 78% full- fat mayonnaise) can be replaced by a blend of 50%> pea protein isolate and 50%> modified starch. The pea protein contains 80%> protein, a maximum of 10%> carbohydrate, a maximum of 3% fat, and maximum of 1%) fiber. The modified starch is a cold-water soluble modified starch derived from waxy maize. See Figure 12.

[00150] Example 8

[00151] Replacing eggs in mayonnaise

[00152] Eggs in standard full-fat mayonnaises (e.g a 78% full- fat mayonnaise) can be replaced by a blend of 59% pea protein isolate and 41%> modified starch. The pea protein contains 80%> protein, a maximum of 10%> carbohydrate, a maximum of 3% fat, and maximum of 1%) fiber. The modified starch is a cold-water soluble modified starch derived from waxy maize. See Figure 12.

[00153] Example 9

[00154] Food products equivalent to full- fat mayonnaise [00155] Compositions of the inventions are useful for the production of food products that are substantially identical to food products produced with real eggs. For example the

compositions disclosed in Example 7 and 8 produce a product which is substantially similar to standard 78% full- fat mayonnaises. This will result in a product containing no egg or egg byproducts that when rated by a human is substantially the same as a standard full- fat mayonnaise.

[00156] In this example, pre-hydrating the protein (incubating the flour with water for 24 hours) gives a much thicker and stronger emulsion.

[00157] Example 10

[00158] Extraction of pea protein from an off-the-shelf pea protein product results in better results compared to use of the off-the-shelf pea protein product.

[00159] Example 11

[00160] A few dozen iterations of making mayonnaise with pea protein and starch (as above) in combination with a wide range of commercial gums and starches resulted in different product structures. Emulsion stability was highest using the pea protein/starch combination of Example 7 and Example 8.

[00161] These gums and starches include: guar gum, xanthan gum,

carboxymethylcelluloses and other maize starches in varying concentrations.

[00162] Example 12

[00163] Addition of gums and cellulose makes the structure of the egg substitute more creamy and smooth, but the stability of the emulsion may be less than without.

[00164] A typical formulation for a creamy egg substitute for an emulsion is:

46% pea protein isolate

46%) modified starch

4%) mix of guar gum and xanthan gum

4%) carboxymethylcellulose

[00165] Example 13

[00166] Replacing eggs in bakery products: cookies

[00167] An egg-replacer for cookies is:

74%) cold milled sorghum flour

17%) baking soda 8.3% micronized corn bran

0.6 % xanthan gum

[00168] A second egg-re lacer formulation in a range of cookies (chocolate chip, oatmeal raisin, peanut butter and snickerdoodle):

86% garbanzo(chickpea) flour

10%) micronized corn bran

3.2%) baking powder

0.8%) xanthan gum

[00169] Example 14

[00170] Cold milling methodology

[00171] Seeds milled in the presence of liquid nitrogen preserve protein conformation allowing them to remain more functional in the application. A typical formulation is cold milling of seeds to form flour that is used as a replacement for flour from seeds milled at ambient or elevated temperatures in any of the above uses or recipes.

[00172] Example 15

[00173] Replacing eggs in bakery products: cakes and muffins

[00174] Both cold- and ambient-milled extracts from the following seeds are tested for leavening, cohesiveness and springiness in muffins: Sorghum, White sorghum, Soy bean, Millet, Vallarta, Stueben, Green fagelot, Black beluga, Black calypso, Chana daL Amaranth, Lentil, Red lentiL Black lentiL Golden lentil, Do pung-style lentil, Sprouted green lentil, Sweet brown rice, Navy bean, Red bean, Pink bean, Canellini bean, Giant white lima bean, Christmas lime bean, Baby lima bean, Mung bean, Peeled fava bean, Good mother stellard bean, Cranberry chorlottis bean, Santa maria pinguinto bean, Brown tepary bean, Black turtle bean, Yellow split pea, Black turtle beans, Brown teff flour, Rye flour, Quinoa flour, Potato flour, White rice flour, Brown rice flour, Oat flour, Buckwheat flour, Whole grain corn flour, Stone ground cornmeal, Pre-cooked split pea, Pre-cooked garbanzo flour, Arrowroot powder, and Potato starch.

[00175] Example 16

[00176] Muffins

[00177] Following a standard recipe for muffins, 11 different types of muffins were made. Each batter was made at half recipe. The equivalent of a whole egg was mixed for each substitute, but only half the formulation was used in the recipe consistent with the half recipe batter volume.

	Change in Recipe	Result
1	Water control- (15 grams of water)	Bland/bready
2	Egg control- (1/2 an egg mixed)	airier, sweeter,
		more flavor
3	Garbanzo flour and Fava Bean Protein	crumbly
4	Pea Protein and Fava Bean Protein	good mouthfeel
5	Precooked Split Red Lentil Powder and	Mostly sweet
	Fava Bean Protein	
6	Precooked Split Yellow Pea Powder	Egg taste
	and Fava Bean Protein	
7	Pea Protein (no fava bean protein)	good mouthfeel
8	Precooked Split Red Lentil Powder (no	Rich flavor
	fava bean protein)	
9	Precooked Split Yellow Pea Powder	Sweet
	(no fava bean protein)	
10	Precooked Split Red Lentil Powder (no	Egg flavoring not
	fava bean protein) with 0.1 gram of egg	noticeable
	powder flavor	
11	Garbanzo flour and Fava Bean Protein	Egg flavoring not
	with 0.1 gram of egg powder flavor	noticeable

[00178] Example 17

[00179] Muffins

[00180] Following a standard recipe for muffins, 6 different types of muffins were made. Each batter was made at half recipe. The equivalent of a whole egg was mixed for each substitute, but only half the formulation was used in the recipe consistent with the half recipe batter volume.

Ingredient	Egg	Water	1	2	3	4
(grams)						
Egg	25	0	0	0	0	0
Water	0	12.5	12.5	12.5	12.5	12.5
Example 3	0	0	1.5	3	5.5	9

Flour 125 125 125 125 125 125

Sugar 98.5 98.5 98.5 98.5 98.5 98.5

Salt 1.5 1.5 1.5 1 5 1.5 1.5

Baking 6 6 6 6 6 6 Powder

Milk 150 150 150 150 150 150

Vegetable Oil 49 49 49 49 49 49

[00181] Results are shown in Figure 7 through Figure 10.

[00182] Example 18

Cryo-milled and ambient-milled extracts from the same type of grain or legume are showing different functional effects when used in baking standard recipe muffins. These functional effects comprise important parameters in baked goods such as cohesiveness, springiness, leavening, airiness.

[00183] Example 19

[00184] Extraction methodology

[00185] Flours are incubated with water to extract the soluble fraction, which is separated from the pellet by centrifugation after which the supernatant is used in the application.

[00186] Example 20

[00187] Pre-hydrating the protein

[00188] Incubating flour with water gave a thicker and stronger emulsion when the composition is used in food preparation. Egg-rep lacer was incubated with water for 1, 3 or 5 hours before using it to prepare an egg-less mayonnaise. The resulting mayonnaise was tested in a Bostwick consistometer. The thickness of the mayonnaise as reflected in a smaller distance travelled increased with hydration time. Results are shown in Figure 11. [00189] Example 20

[00190] Fractionating protein

[00191] Fractionating protein and adding the light fraction of flours to baked goods results in a better texture compared to adding the corresponding whole flours. Especially the

cohesiveness of the baked goods is stronger when prepared with the light fraction. The light fraction can be obtained by methods like centrifuging or air classification. [00192] Example 21

[00193] Mayonnaise

[00194] Mayonnaises made with eggs or with a pea protein- starch composition were made and compared at room temperature with a commercial egg-mayonnaise after dilution with 20 vol% water in a Bostwick consistometer. Freshmade egg mayonnaise and commercial egg mayonnaise have similar consistencies, which is a validation of the mayonnaise production process. The eggless mayonnaise had a thicker consistency than both the commercial and freshmade egg mayonnaise. See Figure 13.

[00195] Example 22

[00196] Egg-less mayonnaise

[00197] Particle size distribution of a control egg-mayonnaise (Con/dark line) and an eggless mayonnaise (Test/light line) made with pea protein and starch. Both mayonnaises were tested in a Malvern Mastersizer 3000 light- scattering device. The oil droplet size distribution of the eggless mayonnaise is similar to that of the control mayonnaise, demonstrating that using the egg-rep lacer resulted in a mayonnaise with the same oil droplet distribution as a control egg- mayonnaise. See Figure 14.

[00198] Example 23

[00199] Muffins

[00200] Muffins were prepared to test height, cohesiveness, and springiness.

[00201] For cryo-milling, beans/grains were placed in liquid nitrogen until thermal equilibrium was reached. Cryogenized beans/grains were milled in a heavy duty blender until the flour temperature reached a temperature of 20°C.

[00202] For ambient milling, beans/grains were processed in a heavy duty blender until the flour temperature reached a temperature 90°C after which they were kept at that temperature for 5 min.

[00203] Flours were collected from the blender and were tested in a standard recipe muffin. Cohesiveness and springiness were measured using a Brookfield Texture Analyzer. Height of the muffin was measured using a digital caliper. WL represents giant white lima beans. GM represents good mother stallard beans. BL represents black lentils. OB represents baby lima beans. See Figure 15 through Figure 17. [00204] While particular embodiments of the present invention have been shown and described herein, it will be obvious to those skilled in the art that such embodiments are provided by way of example only. Numerous variations, changes, and substitutions will now occur to those skilled in the art without departing from the invention. It should be understood that various alternatives to the embodiments of the invention described herein may be employed in practicing the invention. It is intended that the following claims define the scope of the invention and that methods and structures within the scope of these claims and their equivalents be covered thereby.

PATENT CITATIONS

Cited Patent	Filing date	Publication date	Applicant	Title
WO1986005362A2 *	Mar 13, 1986	Sep 25, 1986	Bio Isolates Ltd	Egg substitutes
US4120986 *	Jun 28, 1977	Oct 17, 1978	Stauffer Chemical Company	Whole egg replacer
US4777045 *	Jul 26, 1985	Oct 11, 1988	Nabisco Brands, Inc.	High bran snack
US6878394 *	Dec 17, 2003	Apr 12, 2005	Conopco, Inc.	Egg replacer concentrate and liquid egg replacer
US20080181990 *	Jan 24, 2008	Jul 31, 2008	Ledbetter Kati R	Compositions comprising wheat protein isolate and related methods
US20090041901 *	Aug 7, 2008	Feb 12, 2009	Archer-Daniels-Midland Company	Egg replacement and emulsifier system and related methods
US20110008522 *	Sep 9, 2010	Jan 13, 201 <mark>1</mark>	The Nisshin Oillio Group, Ltd.	Full-Fat Soybean Flour-Containing Composition, and Egg Substitute Composition

* Cited by examiner

CLASSIFICATIONS

International Classification	A23L1/20, A23L1/10
Cooperative	A23L1/24, A23L1/1016, A23L1/053, A23L1/035, A23L1/0522, A23L1/0526, A23L1/0534, A23L1/0541, A23L1/2005,
Classification	A23L1/3216, A21D2/186, A21D2/183, A21D10/002, A21D2/165, A21D2/266

LEGAL EVENTS

Date	Code	Event	Description
Jun 26. 2013	121		Country of ref document: EP Kind code of ref document: A1
	10.000		Ref document number: 12845681

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Lutton, Sara - AMS

From:	Mitch Kanter
Sent:	Thursday, December 26, 2013 11:08 AM
То:	Joanne Ivy; Kevin Burkum; John Howeth; Elisa Maloberti; Tia Rains
Subject:	Fwd: Plant-Based Egg Alternative Campaign

Good news from Bob Elkin at Penn State. I think the info we sent them had an impact. Mitch

Sent from my iPhone

Begin forwarded message:

From: Robert G Elkin <<u>rge3@psu.edu</u>> Date: December 26, 2013 at 9:52:55 AM CST To: "Mondock, John" <<u>xjm4@psu.edu</u>> Cc: Mitch Kanter <<u>MKanter@eggnutritioncenter.org</u>>, Terry Etherton (b) (6) >, Barbara Christ <<u>ebf@psu.edu</u>> Subject: Re: Plant-Based Egg Alternative Campaign

Dear John:

Thank you for sharing your reply to Ms. Morse. I am very pleased to hear that PSU Food Services has decided to continue to provide it's guests with a wide variety of both plant- and animal-based products, including eggs.

With kind regards, and best wishes for the Holidays,

Bob

Robert G. Elkin, Ph.D. Professor of Avian Nutritional Biochemistry Department of Animal Science The Pennsylvania State University 213 Henning Building University Park, PA 16802 Tel: (814) 863-2102 Fax: (814) 865-5691 http://animalscience.psu.edu

Sent from my iPhone

On Dec 26, 2013, at 10:35 AM, "Mondock, John" <<u>xjm4@psu.edu</u>> wrote:

Hello all,

As you may know, I met with Laura Morse last week to further discuss egg alternatives and PSU Food Services and the discussion went very well. In addition to our face to face

conversation, I also responded to Ms. Morse's original email. Thanks to everyone for their information and input on the response.

Happy holidays

John K. Mondock

Director of Purchasing

Penn State Housing & Food Service

003 Housing & Food Services Bldg.

University Park, PA 16802

Phone: 814-865-6386

Fax: 814-863-4577

Email:xjm4@psu.edu

From: Mondock, John Sent: Thursday, December 26, 2013 10:20 AM To: Laura Morse; Office of the President Subject: RE: Plant-Based Egg Alternative Campaign

Dear Ms. Morse:

Thank you again for your interest in Penn State Food Services and the products that we serve. It was good meeting with you last week.

Housing and Food Services and all of our staff are committed to ensuring quality food and customer service for all of our guests. As we discussed, we have carefully evaluated the information and product samples that you provided.

In addition to our internal reviews, we have also reached out to Food Science and Food Service experts for additional consultation on this topic.

We sincerely appreciate the passion you and the Vegetarian Club have for protecting the environment and safeguarding animal welfare. We share many of those same values.

You may be interested in a recent study cited by Robert G. Elkin, Ph.D. a Professor of Avian Nutritional Biochemistry at PSU (<u>http://www.prnewswire.com/news-releases/landmark-egg-production-</u> <u>study-reveals-vast-reduction-in-environmental-impact-over-the-past-50-years-</u> <u>229861011.html</u>). This article highlights the steps the egg industry has taken to make egg production more efficient by using fewer resources and producing less waste. According to Dr. Elkin, the egg industry has significantly reduced its environmental impact over the past 50 years. Since 1960, the industry has decreased greenhouse gas emissions by more than 70 percent and uses 32 percent less water.

Additionally, the study referenced above takes a look at the innovations that have taken place in the egg industry over the past five decades. Today's egg farmers are working hard to provide safe, fresh eggs, while caring for hens in accordance with the highest standards in the nation. As a result, the study suggests hens today are producing more eggs and living longer due to better health and nutrition along with ventilation, temperature and lighting advancements in their living environment.

In 2010, Housing and Food Services, conducted an internal review of its egg sourcing practices to ensure our requirements and standards promoted good hen welfare practices and ensured proper food safety. As part of our developed standards, HFS requires that all eggs used in our facilities are UEP or American Humane certified. These standards address the safety of egg products, while also promoting and auditing good animal welfare practices.

In addition to food safety and animal welfare, nutritional offerings for our guests are also important. Housing and Food Service strives to offer a balanced portfolio of menu offerings for all of our guests and takes health and wellness seriously. From a nutritional standpoint, eggs provide important nutritional benefits; they are rich in vitamins, minerals, one of the highest quality proteins of any food available and are an item that many of our guests choose to consume.

We are also very pleased that within residential dining over 25 percent of our entrees are vegan and nearly 43% of our menu items are vegetarian or vegan. By having a broad scope of items, our guests can choose the options that meet their menu and dietary choices.

Foodservice and food science are both exciting industries. The developments of new items, as well as, existing traditional natural ingredients allow all consumers to make conscious choices in their diets. Egg replacement options and other engineered foods are beginning to become more prevalent in the industry and we continue to evaluate all options as they become available. However, we still believe that eggs remain the best option for the applications presented in your information. Though, as you can see from the information included we still offer a wealth of options for those consumers that choose not to consume eggs.

Thanks you again for your time and interest on this matter and we always welcome the opportunity to discuss new ideas.

John K. Mondock

Director of Purchasing

Penn State Housing & Food Service

003 Housing & Food Services Bldg.

University Park, PA 16802

Phone: 814-865-6386

Fax: 814-863-4577

Email:xjm4@psu.edu

From: Laura Morse [lgm122@psu.edu]
Sent: Friday, December 06, 2013 3:08 PM
To: Office of the President
Cc: Mondock, John
Subject: Plant-Based Egg Alternative Campaign

Dear President Erickson and Food Services,

Plant-Based Egg Alternative Campaign: A Call for Sustainability and Transparency in the Penn State Food Supply

We would like to draw to your attention to the issue of using eggs in baked goods and mayonnaise by Food Services. Eggs could be replaced by a sustainable plantbased alternative. Factory farmed eggs, which Penn State utilizes, cause numerous environmental and health issues. Intensive animal agriculture is energyinefficient, pollutes water resources, and contributes to climate change. There are clearly associated health risks with egg consumption, such as increased risk of prostate cancer in men, and elevated blood cholesterol. Numerous ethical problems are raised by confining laying hens (at great detriment to their welfare) and feeding their eggs to a population already at risk for obesity and heart disease. This can be done away with through being open to innovations in food science. Penn State Food Services has not released any egg consumption, supplier or cost data to us. This is troubling - as students we reserve the right to know where our money is going.

Eggs in baked goods and condiments are unnecessary and easily replaceable. Products made by companies such as Bill Gates-supported Beyond Eggs, and Ener-G Egg Replacer are specially designed to replace the eggs in baked goods in large-scale operations, such as Penn State food production.

We hope to have your support in this campaign. On December 9, 2013 at 2:00 pm, we will deliver over 700 students signatures in support of this campaign to the office of the Director of Purchasing Services. We hope to soon arrange a meeting with Food Services to make this plant-based egg transition happen. The campaign letter is attached.

For student health, the environment, and the animals,

The Penn State Vegetarian Club

Laura Morse, President (<u>lgm122@psu.edu</u>)

Alexandra Pearce, Vice-President (arp5244@psu.edu)

Jill Beaver, Treasurer (jeb5801@psu.edu)

Patricia Nicholson, Secretary (pyn5027@psu.edu)

Lutton, Sara - AMS

From:	Joanne Ivy
Sent:	Monday, December 16, 2013 10:56 AM
То:	John Howeth
Subject:	Fwd: Report to industry
Attachments:	image001.png; image002.png; image003.png; image004.png; image005.png; image006.png

Hi John, I am on a very delayed flight. I just got word that the broken plane just left Chicago, so I should make it in the office by 2:00 pm. I hope!

Below is the report to the egg industry about Beyond Eggs that I will be sending out late today or tomorrow morning. I would appreciate if you will add the section, Food Manufacturers. You can use information from existing articles, etc., but I thought it would be faster for you to pull together since you are closer to it. And, there may be some activities that we have not reported on yet. Thanks. Joanne

Sent from my iPad

From: Jensen, Elizabeth (Schreiber) [mailto:elizabeth.jensen@edelman.com]
Sent: Thursday, December 12, 2013 10:18 AM
To: Joanne Ivy; Schaffner, Serena; Maher, Missy; Jaffe, Brad
Cc: Mitch Kanter; John Howeth; Kevin Burkum
Subject: RE: Report to industry

Good morning Joanne!

Please see below for the note we drafted for you to share with the industry regarding Beyond Eggs programming. We've included a placeholder at the bottom to include what John is doing as well. Please let us know if you have any questions.

Best,

Elizabeth

Hi everyone,

I wanted to provide an update on actions AEB is taking in response to the increased media coverage surrounding the new egg replacer from Hampton Creek Foods. AEB has been working diligently on your behalf to respond and defend real eggs.

As you may have seen, much of the media coverage has been in the technology and business press. As we all know, there have been egg replacers before Hampton Creek Foods came along, and there will be egg replacers that come after them, but the media seems enamored with this company because of high-profile investors Bill Gates, Peter Thiel and Vinod Khosla. We are continually monitoring mainstream media along with social channels to keep a pulse on the coverage of Beyond Eggs. As news of Beyond Eggs increased over the past couple weeks due to two syndicated media articles, we conducted an analysis of the media landscape to compare whole shell egg coverage volume to that of Beyond Eggs. Despite the recent increase of Beyond Eggs news, real eggs remain at the forefront of overall coverage and conversations, <u>being talked about 87 percent more than Beyond Eggs</u>. Our current holiday baking promotional campaign, featuring advertising, in-store, search, as well as traditional and social media outreach, is clearly drowning out Hampton Creek in the consumer marketplace.

However, we do expect media coverage of the company will continue to be picked up by journalists (albeit on a less frequent basis) because it is new, well-funded, and therefore interesting. But, it is untested. Our approach is to continue to tell the good news of the tried and true good egg, focusing on the 50-year environmental study along with the many benefits of real eggs to drive egg purchase and consumption. We are continually reviewing traditional media coverage/social media commentary that offers inaccurate portrayals of the natural egg industry and responding on a case by case basis with letters to the editors, media statements, and where appropriate, media interviews.

We are also utilizing online technology tools to help maintain the focus on real eggs, including:

- 1. Engaging a handful of influential bloggers to showcase the many benefits of eggs from nutrition, to environmental footprint, to animal care. By enlisting blogger advocates, we are able to reach consumers via outlets they implicitly trust and look to for information about foods they purchase for their families and recommend to friends, etc.
- 2. Paid search on Google, Bing and Yahoo so that when consumers search for terms related to Beyond Eggs, they will also see a link to our website where they will be directed to information on the 50-year environmental study.
- 3. Behavioral and content targeting where users who are viewing content about Beyond Eggs will be presented with links to positive egg industry information selected by us.

Food Manufacturers

ххх

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, December 10, 2013 8:58 AM
To: Jensen, Elizabeth (Schreiber); Schaffner, Serena; Maher, Missy
Cc: Mitch Kanter; John Howeth; Kevin Burkum
Subject: Report to industry

Elizabeth, I know Mitch has a meeting today with some of the Edelman folks, but I would like for someone at Edelman to pull together what we have been doing to address the Beyond Egg situation including that Edelman is monitoring their coverage and reporting to AEB staff on a twice daily schedule. There has been a lot going on, and it would be great to "package" this information to show the egg industry what is being done. I receive regular calls asking what AEB is doing.

I would like to start off the report with the activities that AEB has been doing in conjunction with Edelman, which will probably be the greatest portion of this report/update. I will then add to my report what John Howeth is doing. I will also add anything that I know AEB has done that is not included in your report. If I could get your portion by end-of-day on Thursday, it would be greatly appreciated, and then I have Friday to finish it up.

I was hoping to get this out on Monday as a President's message that goes to the full egg industry. I may also repurpose it to go to the trade press. Thanks. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Lutton, Sara - AMS

From: Sent: To: Cc: Subject: John Howeth Wednesday, November 20, 2013 2:33 PM Elisa Maloberti John Howeth Here's what I have

EPM

- Sustainability Ad& Banner
- Clean Label (Phase 2)
 - o Ad #2
 - o Video Testimonials
 - Beyond Eggs
 - 12 Questions
- Leonard's Proposal
- Production Process Brochure
- Conversion Video
- Year of the Yolk (FS & EPM)
 - o What we're doing in FS

FS

- BB Reformat need it for a new ad/eblast
- Ad for QSR
- School Ad/Brief
- Dunkin' Donuts

John Howeth | Vice President of Ingredient & Commercial Marketing

American Egg Board

O 847.296.7043 | D 224.563.3705 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Lutton, Sara - AMS

From:	Karen Diepeveen <kdiepeveen@eggs.ca></kdiepeveen@eggs.ca>
Sent:	Monday, November 10, 2014 1:33 PM
То:	John Howeth
Subject:	Introduction/AEB media content analysis

Good afternoon Mr. Howeth,

I'm writing from Egg Farmers of Canada, where I work as the Research and Knowledge Mobilization Officer within the Corporate and Public Affairs team.

One of my colleagues at EFC mentioned that the AEB is undertaking a content analysis of the media coverage surrounding eggs and Hampton Creek. I'm curious about how AEB is going about this content analysis – we're preparing to undertake a similar process for a different topic here in Canada, and any information around how AEB has gone about performing this analysis would be incredibly helpful to the development of our process.

If you're able to share any general thoughts around your content analysis process, or direct me to one of your colleagues who would be best placed to discuss this, it would be much appreciated. I'd be happy to chat about this further over the phone, if you prefer – I can be reached at 1-613-238-2514 x2269.

Thanks very much for your time.

All the best, Karen Diepeveen

Karen Diepeveen

Research and Knowledge Mobilization Officer Agente de recherche et de mobilisation des connaissances

21, rue Florence Street, Ottawa, ON K2P 0W6 t. 613 238 2514 ext. 2269 f. 613 238 1967 kdiepeveen@eggs.ca / kdiepeveen@lesoeufs.ca www.eggs.ca / www.lesoeufs.ca



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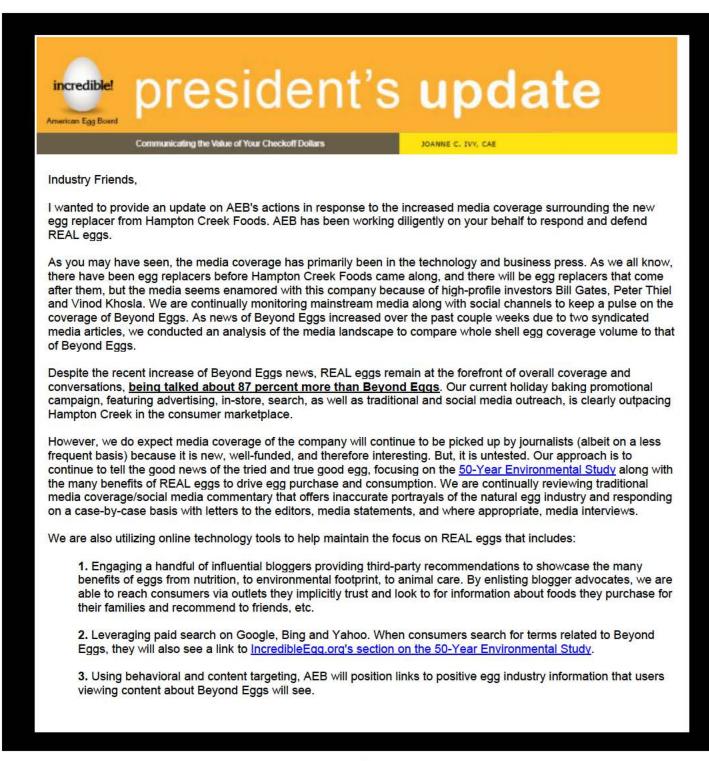
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From:	jivy@aeb.org on behalf of Joanne Ivy <jivy@aeb.org></jivy@aeb.org>
Sent:	Wednesday, December 18, 2013 9:15 AM
To:	Elisa Maloberti
Subject:	American Egg Board addresses Beyond Eggs

Having trouble viewing this email? Click here



Food Manufacturers

AEB's major initiative to address Beyond Egg is targeting food manufacturers such as General Mills, Unilever, Kraft, etc. Beyond Eggs is a plant-based egg replacer, and as I have already stated, egg replacers have been around for years. It is nothing new.

AEB's strategic response campaign targets food manufacturers and highlights the benefits of using REAL eggs versus egg replacer ingredients. AEB's objectives are to:

* Convince food manufacturers to continue to use REAL eggs within their formulations and be inspired to develop new products with egg ingredients.

* Discourage food manufacturers from considering egg replacers or, at the very least, question the viability of that option.

AEB aims to educate this market segment about the breadth and versatility of eggs' functional aspects. Food manufacturers don't always realize that eggs are multi-functional performing several roles in food formulations. Most egg replacers are single-function. Without eggs, a more complex and lengthy ingredient statement occurs.

Today's consumers demand transparency and simplicity in their food products. The number of consumers interested in the contents of ingredient labels continues to climb, and they are looking for very specific information. According to the 2013 International Food Information Council "Health and Wellness" annual survey, 93 percent of consumers prefer to see familiar ingredients, such as eggs, on food labels.

A print and digital ad campaign launched in October will continue throughout 2014 in *Prepared Foods, Food Processing,* and *Food Technology* ingredient trade publications and digital advertising on those publications websites as well as FoodNavigator-USA.com, Bakeryandsnacks.com, Foodproductdesign.com, and Foodbusinessnews.net promoting eggs as a familiar, trustworthy ingredient that can make a difference in the quality of packaged goods and consumer buying decisions.

This campaign will generate more than 665,000 impressions with the target audience of food manufacturers. Both the print and digital ads will contain links to access the digital version of "<u>The Eqg & Clean Labeling</u>" white paper. On social media, this target audience will read these messages through Twitter and blog posts.

Elements of this surround-sound campaign include a white paper titled "The Egg & Clean Labeling" that outlines the relevance and importance of eggs in today's marketplace and their power to build trust with consumers. The white paper has been posted on <u>AEB.org/RealEggs</u>.

In 2014, AEB will leverage video testimonials from food manufacturers who tried replacers but were disappointed with the results. Additional tactics for next year include:

- * Webinar showcasing how eggs contribute to clean labels
- * Web-based animated infographic
- * Press releases and social media
- * Additional white papers

All these efforts and those still in development reinforce that REAL eggs are valuable in meeting diverse formulation requirements, while providing the clean labels consumers insist on. It is important that food manufacturers understand that consumers will not purchase products made with synthetic egg replacers, and thus, they should not be considered for their food applications.

If you have any questions or comments, please do not hesitate to contact me.

Best Jeanne C. Wurg

President and CEO American Egg Board

Forward this email





This email was sent to emaloberti@aeb.org by jivy@aeb.org |

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From:	John Howeth
Sent:	Monday, February 24, 2014 11:15 AM
То:	Elisa Maloberti
Cc:	Amanda Ferencz; John Howeth
Subject:	Meeting at QL tomorrow
Attachments:	Agenda for Quiet Light Communications Status Meeting - 2-25-14.docx

Here's an agenda, take a look. If you have anything to add, please do so. Let's try to think strategically about where we should be going and try to stay away from tactics.

John Howeth | Vice President of Ingredient & Commercial Marketing

 American Egg Board

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 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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Agenda for Quiet Light Communications Status Meeting; Tuesday, February 25, 2014

Where Do We Go From Here

- 1. Assess what has been effective since we started working together.
- 2. What are other organizations doing that has strategically been effective?
- 3. How do we move forward?

AEB Issues/Concerns/Opportunities

<u>AEB</u>

- 1. Communication Strategy for California production law
- 2. Beyond Eggs 23M and what that means for AEB

Egg Product Marketing

- 1. Food Technology Advisory Council
- 2. Egg products in sporting/health world
- 3. Workshops as a strategy for reaching our targets
 - a. Best way to present info for workshops and trade shows
 - i. Communicate trends
 - ii. Identify top 10 businesses
 - iii. Budget
 - iv. Any other additional PR initiatives

Foodservice

- 1. DSR Strategy next steps
- 2. Thoughts on National Accounts program

From:	John Howeth
Sent:	Tuesday, March 25, 2014 1:23 PM
То:	Joanne Ivy
Cc:	John Howeth
Subject:	Meeting Minutes - FS & EPM
Attachments:	Meeting Minutes - FINAL - Mar2014.docx

Joanne, attached please find our meeting minutes. Let me know if we need any changes/additions. Thank you.

John Howeth | Vice President, Foodservice & Egg Product Marketing

American Egg Board

O 847.296.7043 | D 224.563.3705 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org <u>AEB.org</u>



MINUTES **Egg Product Marketing / Foodservice Committee** Hilton Rosemont/Chicago O'Hare March 12, 2014

<u>Committee Members</u> Brian Joyer, Chairman Roy Patterson John Puglisi Tom Stoller Blair Van Zetten <u>Presenters</u> Jerry Smiley, Strategic Growth Partners Steve Solomon, FSInsights

Egg Product Advisor Elliot Gibber

<u>AEB Staff</u> John Howeth Elisa Maloberti Amanda Ferencz Dennis Kane (part time)

Alex Simpson Lisa Timmerman State Representative

Steve Olson

Members Absent

Lee Regensburger

Chairman Brian Joyer called the meeting to order at 1:00 p.m. A motion was made by Tom Stoller, seconded by John Puglisi, to accept the minutes of the November 7, 2013 Committee Meeting. Motion carried unanimously.

Foodservice Program report began with John Howeth reporting the results of each of the five Foodservice 2013 Objectives:

Objective: Increase number of QSR units serving breakfast by 2%. **Results:** Achieved. QSR units serving breakfast grew by 2%.

Objective: Increase egg servings at QSR Morning Meal by 3%. **Results:** Not achieved. QSR egg servings grew by 1%. During 2013, most QSR chains focused their promotional efforts towards the lunch and dinner dayparts, there was very little TV advertising and promotion.

Objective: Create/support for new egg menu items at target chains that have application into breakfast or breakfast all-day.

Results: Achieved. We saw assisted multiple QSR chains with innovation and introduction of several hand-held breakfast items.

Objective: Increase visits to website by 3%.

Results: Achieved. In 2013 there were 91,089 visits to the site compared with 8,314 in 2012. This represents a 33.3% increase.

Objective: Maintain average banner ad performance 15% above the B-2-B average click-through rate benchmark.

Results: Achieved. AEB banner ads in QSR Magazine achieved a .31% score, far exceeding the 15% objective.

Foodservice Marketing Strategies for 2014 were reviewed by Howeth and includes a continued effort to develop leadership messaging, content, research and other communications to position AEB as The Breakfast Expert to help drive innovation and increase egg sales at QSRs. A new area of focus is to develop a compelling school foodservice program that features the benefits of serving eggs to students. AEB's Sustainability Initiative will be supported by communicating our positive messages to our foodservice constituents.

Howeth explained during 2014, leadership messaging content, research, and other communications will continue to position AEB as the breakfast expert. Howeth discussed the need to increase egg usage to top QSR chains by promoting eggs in other day parts beyond breakfast. Howeth also explained the need to expand AEB's breakfast focus to include assistance to a few top mid-scale restaurants as they have experienced a slump in breakfast traffic.

For the year ending 2013, foodservice breakfast trend data reveals that 75% of eggs in foodservice are consumed at QSR. Of the top 12 QSR chains in 2013, breakfast accounts for nearly \$110 billion and egg servings have experienced a 25% growth between 2006 and 2013. Over the past five years, over 40 new egg breakfast items were introduced at QSR, and more items will be introduced during 2014 as Taco Bell begins serving breakfast.

Howeth reviewed the results of the September 2013 Good Egg Project Promotion with Denny's that garnered national TV exposure for AEB's partnership with Share Our Strength. For every "Build Your Own Omelet" ordered, one egg was donated to Share Our Strength. At the end of the week long program, 750K eggs were donated by America's Egg Farmers. AEB's Good Egg Project enjoyed national exposure again during early March 2014. For every Dunkin' Donuts' Eggs Benedict Sandwich purchased, America's Egg Farmers will donate one egg, up to 750K eggs, to eight Feeding America food banks.

Howeth expressed the importance of research to increase AEB's knowledge of breakfast by digging deeper into needs of target audience, including ethnic groups, and the opportunity of serving breakfast at other dayparts. This research will be leveraged into Breakfast Beat newsletter content, press releases to industry media and AEB's newly created Incredible Breakfast Trends (IBT) content on AEB.org. Howeth explained Incredible Breakfast Trends as a cooperative effort between foodservice and egg product marketing to leverage AEB's expertise in the breakfast arena. The rationale to include egg product marketing into IBT content is because food manufacturers look to foodservice trends as the inspiration for retail packaged goods. New breakfast trend information will be posted each quarter and will be supported by press releases and web banners to drive traffic to AEB's website.

New school foodservice recipes (including HACCP information and meal assembly suggestions), photography and a white paper titled "The Incredible Edible Egg in School Meals" were posted on AEB.org in time for National School Breakfast Week March 3-7, 2014. Print and digital ads were developed to promote eggs as a versatile, protein-packed as well as vegetarian alternative that can help meet nutritional guidelines. Additional interaction with school foodservice directors will take place at the annual School Nutrition Association (SNA) expo, presentations at regional SNA meetings and possibly a webinar later this year.

Howeth explained another cooperative effort between foodservice and egg product marketing departments is the refresh and update of AEB.org foodservice and food manufacturing content. A new

website with improved navigation, enhanced search capability and social media integration is expected to go live early May.

Howeth also states his desire to create a foodservice distributor discussion, with companies such as Sysco and pursue new product development with the Culinary Institute of America.

Steve Solomon updated committee members about his involvement with AEB's national accounts. Solomon explained that breakfast remains the "star" of foodservice as it is the lifeblood of QSR. However, during 2013, growth in QSR breakfast traffic was flat due to the lack of breakfast advertising and breakfast promotions. Solomon explained 2014 as the beginning of the QSR breakfast wars, with increased breakfast advertising, limited time offers and the promotion of egg breakfast sandwiches with premium coffee.

Howeth reviewed the 2014 foodservice budget. A motion was made by Blair Van Zetten and seconded by Tom Stoller to approve a carryover of \$150,000 to complete Dunkin' Donuts promotions and for Jack in the Box's CARE training program that were initiated in 2013. Motion carried unanimously.

Egg Product Marketing portion of the meeting begins with a recap of the 2013 Egg Product Volumetric results by Jerry Smiley. Results of this study included all formats of egg products including liquid, frozen, dried and precooked. Key findings of the study reveal that foodservice is the largest channel for egg products, however, it experienced flat growth versus 2012. Food manufacturing is second with 34% share and experienced slight growth of 1%. Export of egg products remains small with a 7% share, but experienced the strongest growth of 7%. Retail liquid eggs is the smallest segment with 5% share, but declined 0.6%. Within food manufacturing , liquid is the largest format with 65% share, followed by precooked with 17% share, frozen 12% share, dried 6% share and hard-cooked (negligible). Precooked remains the growth at 5%. All other formats are flat.

Elisa Maloberti reported the results of each of the five 2013 Food Manufacturing Objectives.

Objective: Work directly with four major food manufacturers to increase their use of egg products. **Results:** Achieved. There were 6 companies that received assistance from either AEB or Dr. Froning.

Objective: Grow industry presence by increasing trade events from two to three. **Results:** Achieved. Exhibited at seven industry events in 2013.

Objective: Conduct at least two American Institute of Baking (AIB) workshops and two AEB manufacturer workshops to educate about the functional benefits of egg products. **Results:** Achieved. Presented at AIB in February and November. Presented at Hillshire Brands in May and Batory Foods in November.

Objectives: Maintain trade press editorial mentions equivalent to 2012 (39). **Results:** Achieved. Obtained 41 editorial mentions in 2013.

Objective: Increase visits to AEB.org/FoodManufacturers website by 5% over 2012 visits. **Results:** Achieved. 2012 visits = 31,837 visits, 2013 visits = 41,128 visits, an increase of 29.18%.

Food Manufacturing Strategies for 2014 were reviewed by Maloberti and includes a continued effort to aggressively combat the use of egg replacers, to deliver our key messages by increasing industry

presence and participation in workshops, industry events and public relations efforts. Develop and implement a strategic plan that increases the use of egg products in food and non-food applications. Maintain the promotion of the 20+ functions of egg products while focusing on the health and wellness attributes of natural egg products and support AEB's sustainability initiative by communicating positive messages to our manufacturing constituents.

Maloberti reviewed the workshops completed so far in 2014 and the industry events that will be attended. Plans for the 2014 Food Technology Advisory Council May 8-9, 2014 in Chicago are underway.

The egg product nutrient analysis project is almost complete; results can be expected by early May 2014. Maloberti explained that information from this project will be used to update all AEB's egg product nutrient figures in print and digital properties.

Maloberti debuted three new print and digital ads. First contains new photography highlighting the functional attributes of eggs. This is the first of several new ads focusing on a single egg functionality. A second print ad is the second in the Clean Label series supporting how "eggs fit naturally in today's clean label marketplace". For both of these ads, readers are directed to download AEB's white paper "The Egg and Clean Labeling" to learn more about the benefits of using REAL Eggs in applications. The third ad supports the egg industry's 50-year sustainability study. This ad is similar in look of the Clean Label ad with the copy "Sustainability study reveals: Eggs really can be green!" For this ad, readers are directed to download a new white paper titled "Landmark 50-year Study Documents U.S. Egg Industry Environmental Footprint" that contains simplified messages taken from the Egg Industry Center sustainability study. All three ads contain the tagline "<u>REAL</u> Eggs make a REAL difference."

An update of AEB's activities towards egg replacers, specifically Beyond Eggs was presented by Maloberti. AEB continues to fill the media pipeline with positive egg messages (nutrition, environmental footprint and animal care) help to support the benefits of using REAL eggs in formulations. Ongoing media monitoring helps focus AEB's response towards inaccuracies on a case-by-case basis, and media interviews and responses conducted as appropriate. AEB is funding a comparative environmental footprint study of eggs with competing animal (milk, poultry, pork and beef), plant-based food products and Beyond Eggs products. Study results are anticipated to be available in four months from beginning of study. A new brochure is planned for food manufacturers to remind them of the benefits of Real egg products while highlighting the formulation challenges when switching to egg replacer ingredients.

Maloberti led a discussion amongst committee members about Genetically Modified Organisms (GMO) as it's an often asked question related to eggs by food formulators at AEB's in-person food industry events. Scientists involved with Center For Food Integrity have the opinion that eggs are not a GMO food, and Elliot Gibber advised us to seek out existing USDA documentation on GMO foods. Committee agreed that AEB needs to investigate what messaging is allowable by USDA then produce white paper on eggs and GMO to be promoted through print and digital advertising.

Sports nutrition is another potential opportunity for egg products that was discussed by committee. Although current supply of egg whites is limited, committee decided that we should investigate the opportunity further and put together a plan and budget. The growth of egg products long term was the key driver.

Maloberti reviewed the 2014 Egg Product Marketing budget highlighting key areas of interest and explained the proposed carryover projects. **A motion was made by Blair Van Zetten, seconded by Tom**

Stoller, to approve a carryover in the Egg Product Marketing budget in the total amount of \$92,550 to complete the Egg Product Volumetric Study and nutrient analysis research that were begun in 2013. Motion carried unanimously.

State Representative Steve Olson reported on various industry meetings occurring in Minnesota and invited all to attend.

A brief Executive Session was held.

Having no further business, the Committee meeting adjourned at 4:45 PM.

Brian Joyer, Chairman

Date

From:	John Howeth
Sent:	Friday, April 04, 2014 2:38 PM
То:	Brian Joyer (Brian.Joyer@sparboe.com)
Cc:	Elisa Maloberti; John Howeth
Subject:	Meeting Minutes - FS & EPM
Attachments:	Meeting Minutes - FINAL - Mar2014.docx

Brian, attached please find the minutes from the committee meeting. If you have changes, please let me know, otherwise I'd appreciate it if you'd sign and send back to me. Have a great weekend.

John Howeth | Vice President, Foodservice & Egg Product Marketing

 American Egg Board

 0 847.296.7043 | D 224.563.3705 | F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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MINUTES **Egg Product Marketing / Foodservice Committee** Hilton Rosemont/Chicago O'Hare March 12, 2014

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Egg Product Marketing portion of the meeting begins with a recap of the 2013 Egg Product Volumetric results by Jerry Smiley. Results of this study included all formats of egg products including liquid, frozen, dried and precooked. Key findings of the study reveal that foodservice is the largest channel for egg products, however, it experienced flat growth versus 2012. Food manufacturing is second with 34% share and experienced slight growth of 1%. Export of egg products remains small with a 7% share, but experienced the strongest growth of 7%. Retail liquid eggs is the smallest segment with 5% share, but declined 0.6%. Within food manufacturing , liquid is the largest format with 65% share, followed by precooked with 17% share, frozen 12% share, dried 6% share and hard-cooked (negligible). Precooked remains the growth at 5%. All other formats are flat.

Elisa Maloberti reported the results of each of the five 2013 Food Manufacturing Objectives.

Objective: Work directly with four major food manufacturers to increase their use of egg products. **Results:** Achieved. There were 6 companies that received assistance from either AEB or Dr. Froning.

Objective: Grow industry presence by increasing trade events from two to three. **Results:** Achieved. Exhibited at seven industry events in 2013.

Objective: Conduct at least two American Institute of Baking (AIB) workshops and two AEB manufacturer workshops to educate about the functional benefits of egg products. **Results:** Achieved. Presented at AIB in February and November. Presented at Hillshire Brands in May and Batory Foods in November.

Objectives: Maintain trade press editorial mentions equivalent to 2012 (39). **Results:** Achieved. Obtained 41 editorial mentions in 2013.

Objective: Increase visits to AEB.org/FoodManufacturers website by 5% over 2012 visits. **Results:** Achieved. 2012 visits = 31,837 visits, 2013 visits = 41,128 visits, an increase of 29.18%.

Food Manufacturing Strategies for 2014 were reviewed by Maloberti and includes a continued effort to aggressively combat the use of egg replacers, to deliver our key messages by increasing industry

presence and participation in workshops, industry events and public relations efforts. Develop and implement a strategic plan that increases the use of egg products in food and non-food applications. Maintain the promotion of the 20+ functions of egg products while focusing on the health and wellness attributes of natural egg products and support AEB's sustainability initiative by communicating positive messages to our manufacturing constituents.

Maloberti reviewed the workshops completed so far in 2014 and the industry events that will be attended. Plans for the 2014 Food Technology Advisory Council May 8-9, 2014 in Chicago are underway.

The egg product nutrient analysis project is almost complete; results can be expected by early May 2014. Maloberti explained that information from this project will be used to update all AEB's egg product nutrient figures in print and digital properties.

Maloberti debuted three new print and digital ads. First contains new photography highlighting the functional attributes of eggs. This is the first of several new ads focusing on a single egg functionality. A second print ad is the second in the Clean Label series supporting how "eggs fit naturally in today's clean label marketplace". For both of these ads, readers are directed to download AEB's white paper "The Egg and Clean Labeling" to learn more about the benefits of using REAL Eggs in applications. The third ad supports the egg industry's 50-year sustainability study. This ad is similar in look of the Clean Label ad with the copy "Sustainability study reveals: Eggs really can be green!" For this ad, readers are directed to download a new white paper titled "Landmark 50-year Study Documents U.S. Egg Industry Environmental Footprint" that contains simplified messages taken from the Egg Industry Center sustainability study. All three ads contain the tagline "<u>REAL</u> Eggs make a REAL difference."

An update of AEB's activities towards egg replacers, specifically Beyond Eggs was presented by Maloberti. AEB continues to fill the media pipeline with positive egg messages (nutrition, environmental footprint and animal care) help to support the benefits of using REAL eggs in formulations. Ongoing media monitoring helps focus AEB's response towards inaccuracies on a case-by-case basis, and media interviews and responses conducted as appropriate. AEB is funding a comparative environmental footprint study of eggs with competing animal (milk, poultry, pork and beef), plant-based food products and Beyond Eggs products. Study results are anticipated to be available in four months from beginning of study. A new brochure is planned for food manufacturers to remind them of the benefits of Real egg products while highlighting the formulation challenges when switching to egg replacer ingredients.

Maloberti led a discussion amongst committee members about Genetically Modified Organisms (GMO) as it's an often asked question related to eggs by food formulators at AEB's in-person food industry events. Scientists involved with Center For Food Integrity have the opinion that eggs are not a GMO food, and Elliot Gibber advised us to seek out existing USDA documentation on GMO foods. Committee agreed that AEB needs to investigate what messaging is allowable by USDA then produce white paper on eggs and GMO to be promoted through print and digital advertising.

Sports nutrition is another potential opportunity for egg products that was discussed by committee. Although current supply of egg whites is limited, committee decided that we should investigate the opportunity further and put together a plan and budget. The growth of egg products long term was the key driver.

Maloberti reviewed the 2014 Egg Product Marketing budget highlighting key areas of interest and explained the proposed carryover projects. **A motion was made by Blair Van Zetten, seconded by Tom**

Stoller, to approve a carryover in the Egg Product Marketing budget in the total amount of \$92,550 to complete the Egg Product Volumetric Study and nutrient analysis research that were begun in 2013. Motion carried unanimously.

State Representative Steve Olson reported on various industry meetings occurring in Minnesota and invited all to attend.

A brief Executive Session was held.

Having no further business, the Committee meeting adjourned at 4:45 PM.

Brian Joyer, Chairman

Date

From:	John Howeth
Sent:	Tuesday, December 03, 2013 9:31 AM
То:	Brian Joyer (Brian.Joyer@sparboe.com)
Cc:	Elisa Maloberti; John Howeth
Subject:	November Committee Meeting Minutes
Attachments:	MINUTES-Final 120313.docx

Good morning Brian, attached please find the committee meeting minutes for your review. If you have any changes, please let us know and we will revise accordingly. If you have no further changes, please sign and return to my attention. Thank you and we look forward to talking with you tomorrow morning at 9.

John Howeth | Vice President of Ingredient & Commercial Marketing

 American Egg Board

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MINUTES **Egg Product Marketing / Foodservice Committee** The Westin Savannah Harbor Golf Resort & Spa November 7, 2013

Committee Members Brian Joyer, Chairman Roy Patterson John Puglisi Lee Regensburger Alex Simpson Tom Stoller Lisa Timmerman Blair Van Zetten

State Representative Steve Olson

USDA Emily DeBord (part time) <u>Presenters</u> Laurel Brown, NPD Veronica Diaz, NPD Steve Solomon, FSInsights

Egg Product Advisor Elliot Gibber

<u>AEB Staff</u> Roger Deffner (part time) John Howeth Joanne Ivy (part time) Elisa Maloberti Gwen Ramirez

Chairman Brian Joyer called the meeting to order at 1:00 p.m.

A motion was made by Blair Van Zetten, seconded by Lisa Timmerman, to accept the minutes of the July 10, 2013 Committee Meeting. Motion carried unanimously.

Egg Product Marketing Program report began with a presentation by Elisa Maloberti. She reported on AEB's Marketing and Communications programs, specifically AEB's presence at the International Baking Industry Exposition as well as the Clean Label Conference. Trade events planned for 2014 include American Institute of Baking in February; IFT Wellness in March; Protein Trends & Technologies in April; and Institute of Food Technologists Annual Expo in July. AEB will conduct workshops for Batory Foods in November 2013 and Entenmann's Bakery in January 2013. John Howeth mentioned that we are looking for more opportunities to present customized educational workshops to food manufacturers and encouraged committee members to submit names of companies that would be interested. Maloberti reviewed retail liquid egg data provided by Nielsen. Both Elliot Gibber and Blair Van Zetten believe the information presented as the volume of liquid eggs sold at retail was way too low. It is suspected that the figures presented as annual figures might have been for 12 weeks. Maloberti will double-check figures and provide committee an updated set of data.

Maloberti discussed the egg product nutrient analysis project. As recommended at the July committee meeting, four bids were obtained from labs to conduct a nutrient analysis of egg products. Maloberti recommended Covance Laboratories due to their experience conducting the 2006 egg product nutrient analysis for AEB. A conference call was held in October 2013 amongst Brian Joyer, Blair Van Zetten, Howard Magwire, Dr. Glenn Froning, Elisa Maloberti and John Howeth to discuss the specifics of the

project. Gibber was invited to participate on the call; however, he had a prior commitment. It was agreed that solids content for samples submitted to the lab be as follows: whole eggs at 24.2; egg white solids at 11.0; and egg yolk solids at 43%. Joyer suggested a Sample Analysis Request Form be developed and presented to the group on another conference call prior to requesting samples from five egg product processors. A motion was made by Blair Van Zetten, seconded by Alex Simpson, to approve the proposed nutrient analysis project using Covance Laboratories. Motion carried unanimously.

Maloberti gave a progress update on the Egg Replacer Response Campaign. "The Egg and Clean Label" white paper, "Real Eggs or Egg Replacers" print ad, web updates and other electronic media was discussed. Beyond Eggs was discussed at length. In 2014, AEB plans to produce video testimonials of food manufacturers that have haven't been satisfied with the results of replacer ingredients, functionality testing of egg replacers, and a question and answer document for use by egg producers when discussing egg replacers with customers.

Committee discussed the current supply/demand of egg whites which leaves egg processors a disproportionate supply of egg yolks. Howeth mentioned that the results of the recently completed analysis by Frost & Sullivan will identify other uses for both egg yolk and egg whites (should the currently supply/demand reverse), and an executive summary will be presented to the egg processing industry via webinar during Q1 2014.

Maloberti discussed the proposed 2014 Egg Product Marketing Strategies & Objectives. A motion was made by Blair Van Zetten, seconded by Lee Regensburger, to approve the proposed 2014 Egg Product Marketing Strategies & Objectives. Motion carried unanimously.

The Foodservice Program began with Veronica Diaz of NPD reporting on 2013 breakfast trends. Diaz explained that while breakfast is outperforming other dayparts, it is smaller in sales volume than lunch and dinner. She pointed out that breakfast sandwiches account for over half of egg servings and have increased versus a year ago, specifically breakfast burritos/wraps (grab-n-go) continued to grow. Though some chains are offering egg whites, the majority of consumers are opting for eggs. Van Zetten asked how many eggs are included in a standard breakfast sandwich at these chains. Diaz responded that because their data is collected from consumers, they do not know. Lee Regensburger asked if NPD's presentation and data can be shared. Diaz responded that we must ask them which slides can be shared prior to distributing. Regensburger felt that NPD's data was generalized and did not consider regional trends i.e. smoked sausage doing well in south but not in other areas such as Minnesota.

Foodservice Marketing and Communications programs were next reviewed by Howeth. The marketing program was covered with focus on National Accounts, Schools, and Foodservice Distributors.

The success of Denny's and The Good Egg Project was discussed. Results were 100,000,000+ impressions—just TV. Same store sales were up 1% (1.5% above forecast). Traffic was even (2% above forecast). Five hundred thousand eggs were donated to five food banks and the cost to America's egg farmers was \$25,000. Howeth played the TV commercial and Instagram video. Susan Joy asked because of the overwhelming success, will the program be repeated next year? Howeth said at best every other year with Denny's. Joy asked what about another customer? Howeth mentioned that we may have some news about a new opportunity in the next few weeks.

National Accounts were reviewed as well as our approach to the school market. Breakfast Beat was evaluated. Overall, readers are very satisfied; AEB will be expanding from four to six newsletters in 2014. Steve Solomon of FSInsights gave a National Account Overview. Breakfast sandwiches continue to grow on menus. He reviewed McDonald's business and mentioned they had more of a focus on lunch this year. However, Solomon also pointed out that this year McDonald's has added several new egg items to their menu. Additionally, McDonald's is rolling out their Breakfast After Midnite program in many regional markets. There is no timeline for a national roll-out as the program is being incorporated when the regions/franchisees want it. This program will make eggs available from midnight to 4 AM. Three McDonald's regional radio spots were played featuring McDonald's After Midnite, as well as a Bloomberg news report discussing McDonald's business growth. Solomon gave an overview of Dunkin' Donuts, AEB's #2 chain. Dunkin' Donuts continues to focus on eggs and on egg limited time offers (LTOs). They are opening 3,000 new restaurants within the next two years. Solomon then gave an overview of Jack in the Box, which continues to innovate with breakfast and eggs. They serve breakfast all day and have sandwiches with double eggs. IHOP is one of the top midscale chains, but egg servings continue to decline as traffic declines. They requested AEB's support in helping them reposition their egg strategy. The re-positioning was very successful, and IHOP was most appreciative of AEB support.

Howeth discussed the proposed 2014 Foodservice Strategies & Objectives. A motion was made by Tom Stoller, seconded by Lisa Timmerman, to approve the proposed 2014 Egg Product Marketing Strategies & Objectives. Motion carried unanimously.

Steve Olson, State Representative, made some brief comments. First, he suggested that we should consider modifying our foodservice messages to appeal to a broader audience. Finally, he mentioned we should think about educating consumers to influence behavior in addition to promoting to them.

A brief Executive Session was held.

With no further business, Lee Regensburger made a motion to adjourn, seconded by Roy Patterson, and motion carried unanimously. The Committee meeting adjourned at 4:42 pm.

Brian Joyer, Chairman

Date

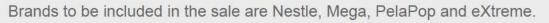
From: Sent: To: Cc: Subject: John Howeth Thursday, October 31, 2013 11:23 PM Terry Schroff John Howeth Our Conversation the Other Day

Hi Terry, just a reminder, I'll need a list of the things we might do to fight Beyond Eggs by Monday. Just a list of potential projects will be sufficient, I just want to give them an indication of what we're thinking. I'll be working at home tomorrow so if you have any questions, please give me a call on my cell. Thanks.

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From:	FBN Strategic Insights <foodbusinessnews@send-sosland.com></foodbusinessnews@send-sosland.com>
Sent:	Sunday, December 28, 2014 9:01 AM
To:	Elisa Maloberti
Subject:	Pizza Hut — It's complicated

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STRATEGIC INSIGHTS
Sunday, December 28, 2014 forward subscribe
x
Pizza Hut - It's complicated
While other brands are paring down, the pizza chain has added 25 new ingredients.
The future of food service
Food Genius forecasts 10 trends for 2015.
Wal-Mart is pushing poultry processors to improve safety
The retailer is initiating a four-part plan designed to address pathogens throughout the supply chain.
Clemens Food Group to build pork plant
Total investment estimated at \$255.7 million.
Grupo Herdez to acquire Nestle's ice cream business in Mexico



Slideshow: Ten trends that will drive retail in 2015 Nutrition guidance program provides outlook for next year's food trends. [view slideshow] Sponsored Message × Hatch More Benefits with MGP's Arise® For a partial egg white replacer that increases protein and lowers cost, add MGP's Arise wheat protein isolates. Call 866.547.2122. Keurig issues safety recall on mini brewers Affects more than 7 million machines Cargill planning 'mass layoff' in Memphis Workforce reductions are expected to occur between February and June 2015. Thai Union Frozen Foods to acquire Bumble Bee Seafoods Transaction valued at \$1,51 billion. Quote of the Week



The functional foods market has experienced fairly strong growth in certain parts of the world. For instance, more U.S. consumers appear to be turning toward functional food and drinks in order to

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suppl	Idress perceived nutritional shortfalls, away from dietary ements (which have traditionally been the preferred option). ever, future growth is likely to be dependent upon the global economic situation. -Jonathan Thomas, principal market analyst for Leatherhead Food Business News, Dec. 18, 2014
More Top New	VS
C.D.C. still seeking outbreak associate apples Unilever withdraws lawsuit	d with caramel
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From:	John Howeth
Sent:	Wednesday, October 23, 2013 9:08 AM
То:	Terry Schroff; Patrick McDonough
Cc:	Elisa Maloberti; John Howeth
Subject:	Phone Meeting

Good morning guys, we have a predicament, but it's a nice predicament. We've got some funding that we should spend this year. Our focus is still against replacers (and I'm sure the producers will press us to do more against Beyond Eggs at the Board meeting). On the foodservice side, Patrick and I have discussed Breakfast Beat (refresh so print looks like digital or vice versa).

I was wondering if we could do a quick phone meeting sometime this week to see what we can do.

Elisa and I are here all day today with exception of 9-11, all day tomorrow with exception of 11-1:30 and Friday AM. Let's chat when we can. BTW, both of us are out most of next week.

John Howeth | Vice President of Ingredient & Commercial Marketing

 American Egg Board

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From:	John Howeth
Sent:	Wednesday, February 19, 2014 12:49 PM
То:	Joanne Ivy; Kevin Burkum; Mia Roberts; Mitch Kanter
Cc:	John Howeth
Subject:	Placement in Food Navigator

Good morning, obviously you've all seen the Beyond Eggs announcement. If you click the link below, you'll see an unusual situation. The BE announcement surrounded by our banner. At first I was a little upset because this just didn't feel right, but after thinking about it for a while, it almost made us seem prescient.

Despite all that, our media team is going to go to Navigator and request a make-good based on the banner placement. I'm curious as to how you feel about it.

http://www.foodnavigator-usa.com/Suppliers2/Plant-egg-entrepreneur-raises-23m-in-latest-funding-round-led-by-Asia-srichest-man-Li-Kashing/?utm_source=newsletter_daily&utm_medium=email&utm_campaign=Newsletter%2BDaily&c=cvrWleoMqm%2F K0BX5eiw6UA%3D%3D

John Howeth | Vice President of Ingredient & Commercial Marketing
American Egg Board

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From:	Joanne Ivy
To:	John Howeth
Subject:	President"s Update on Beyond Eggs
Date:	Monday, December 16, 2013 7:02:38 PM
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png President"s Update Beyond Egg.docx

John, Basically, I pulled information from your article for the Incredible News! newsletter. It is rough, so do not hesitate to edit. Also, if you have any figures on trade publications, impressions, etc., you will see where I left blanks. Feel free to go at it!! Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



From:	John Howeth
Sent:	Tuesday, February 18, 2014 5:34 PM
To:	Patrick McDonough; Terry Schroff; Nancy Harmel
Subject:	Pretty Bad Timing
Importance:	High

In what is just a bad case of timing, check the link below. Big announcement about Beyond Eggs getting more money and our banner about trends surrounding the story. Not sure if that's good or bad, would appreciate your thoughts and if we see it as a bad thing, how do we stop in the future?

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

http://www.foodnavigator-usa.com/Suppliers2/Plant-egg-entrepreneur-raises-23m-in-latest-funding-round-led-by-Asia-srichest-man-Li-Kashing/?utm_source=newsletter_daily&utm_medium=email&utm_campaign=Newsletter%2BDaily&c=cvrWleoMqm%2F K0BX5eiw6UA%3D%3D

From:	John Howeth
Sent:	Wednesday, July 23, 2014 11:50 AM
То:	'message-28647512-7beed61bfa3320ba3556349a@basecamp.com'
Cc:	John Howeth
Subject:	RE: (AEB - EPM) In the news, again

Kitty, can you tell us where this was posted so we can send it to Edelman?

From: Kitty Kevin (Basecamp) [mailto:notifications@basecamp.com]
Sent: Wednesday, July 23, 2014 9:04 AM
To: John Howeth
Subject: (AEB - EPM) In the news, again...

Write ABOVE THIS LINE to post a reply or view this on Basecamp

×

Kitty Kevin posted this message on Basecamp.

In the news, again...

If you haven't seen this article, it's worth a read:

The <u>clean-food movement</u> has ambitions to eventually feed the next billion people on earth. Silicon Valley venture capitalists are backing <u>food-hacking startups</u> (paywall) trying to invent cheaper or healthier alternatives to traditional protein, fat, and carbohydrates. But for now, the most innovative edibles are expensive and unfamiliar niche products—<u>Soylent, anyone?</u> +

<u>Just Mayo</u>, an eggless mayonnaise made by two-year-old Hampton Creek, is a notable exception. Within six months of <u>the product's debut</u> last autumn, jars were being stocked in Costco, Safeway, and Kroger supermarkets across the US. Last month, it hit shelves of ParknShop stores in Hong Kong. And starting this week, it's being sold in Dollar Tree stores—the discount supermarkets that are at the very cheapest end of American retail.

Vegans and people on low-cholesterol diets have been buying various brands of plant-oil-based mayo for years. But Just Mayo's <u>ambition</u> is far bigger: to replace conventional eggs altogether as the default ingredient in homemade potato salads and restaurant dressings.

"This isn't just going to happen in San Francisco, in a world of vegans. This is going to happen in Birmingham, Alabama. This is going to happen in Missouri, in Philadelphia," Hampton Creek CEO Josh Tetrick told *Mother Jones* last December. He's <u>not interested</u> in catering only to an ecoconscious crowd. Plant-based egg alternatives don't just mean <u>less animal cruelty</u>; they're also believed to be healthier, <u>cheaper</u>, and more efficient to produce than eggs from chickens, with longer shelf lives and <u>fewer disease risks</u>.

+

oil, water, and lemon juice. But the key emulsifier, instead of egg yolk, is yellow pea protein. Many reviewers <u>haven't been able</u> to <u>tell the difference</u>between Just Mayo and other mayonnaises, or at least <u>prefer it over Hellman's</u>.

+

Hampton Creek also has a product called Beyond Eggs, for baking use, and Just Cookies, cookie dough that can be eaten raw or baked. Up next: Just Scrambles, which is <u>expected to</u> <u>challenge</u> ConAgra's line of Egg Beaters (liquid egg white mixtures that are popular among Americans who avoid egg yolks for health reasons). But to take on the multi-billion-dollar egg industry, Hampton Creek needs its products to be leagues better than any egg substitutes that have come before.

+

To that end, Tetrick has hired a team of chefs, food scientists, and engineers to "hack" the egg by studying thousands of plant species and experimenting with almost as many combinations of the few that seem most promising. <u>Dan Zigmond</u>, a former data scientist at Google, just joined Hampton Creek to build what the company says will be the world's largest plant database.

"We look at the chicken egg as almost a set of code," Tetrick said, in an <u>interview with New</u> <u>York magazine</u> earlier this year. "The chicken egg has 22 different functions. It aerates, gels, binds, emulsifies—that is the software. So we have to identify and utilize new lines of code. We don't want to use the chicken-egg code; we want to do something more sustainable." <u>View this on Basecamp</u>

This email was sent to: Terry Schroff, Patrick McDonough, Elisa Maloberti, John Howeth, Amanda Ferencz, and Kitty Kevin. <u>Stop receiving emails</u> when comments are posted about this message.



From:	John Howeth	
Sent:	Thursday, September 04, 2014 11:59 AM	
То:	Deb Olson Linday	
Subject:	Re: 2014 Top Trending Menu Items	

No I'm not. Wm Reed does a lot of promo of Beyond Eggs and other plant based protein. They're out of UK and we do a lot of banners with them on our egg products business. Their vehicle is Food Navigator.

John Howeth Senior VP, Foodservice & Egg Product Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org

On Sep 4, 2014, at 10:51 AM, "Deb Olson Linday" (b) (6) > wrote:

Thanks for passing this on - I hadn't seen it.

Question for you: in all the searching I do on an almost daily basis, I don't remember ever hearing of Allegra, which is the group that's being quoted on the top 2014 trends. I did some searching and it turns out it's a division of Wm. Reed Bus. Media. Are you familiar with it?

From: John Howeth [mailto:JHoweth@aeb.org] Sent: Thursday, September 04, 2014 7:53 AM To: Debra Olson Linday Subject: FW: 2014 Top Trending Menu Items

FYI

John Howeth Senior VP, Foodservice & Egg Product Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: <u>RestaurantNews.com</u> [troy@restaurantnews.com] Sent: Thursday, September 04, 2014 6:06 AM To: John Howeth Subject: 2014 Top Trending Menu Items Having trouble viewing this email? Click here

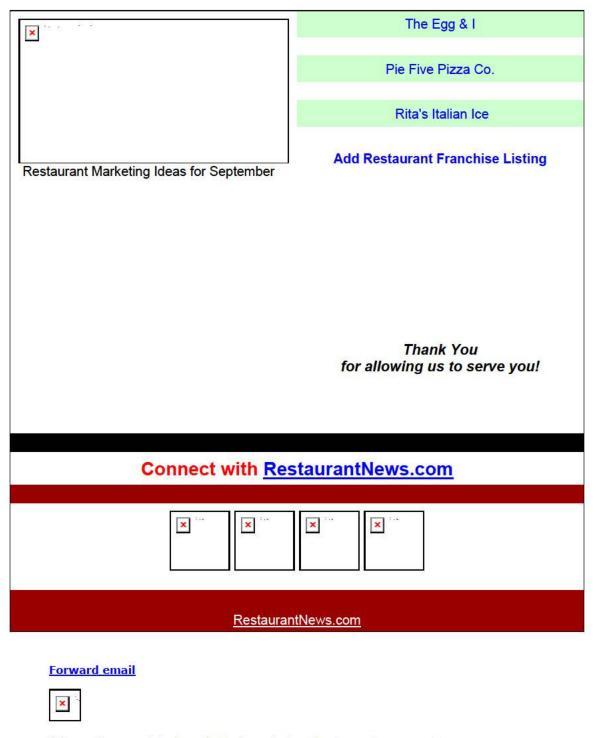
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Restaurant News Headlines September 4, 2014	
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2014 Top Trending Menu Items	James Greco Joins Rapidly Expanding Newk's Eatery
At Salsarita's Carter and Cote Are Moving Up	Yogurtland Owner a Self-Made Man

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The Big Salad Makes its Debut on Inc. 5000	Tables, Tablets, Data And Eating
List	Tables, Tablets, Data And Lating
	Logans Roadhouse Keeps Summer Alive
Del Taco Introduces Bowls Full of Freshness for Just \$4	With Exclusive Kenny Chesney Promotion
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Corner Bakery Cafe Credits Catering	Chicago Couple Moves to Atlanta Just to Introduce Their Favorite Brand of Pizza
Services As Key Component For Strong Franchise Model	2 2
×	
	Hooters Kicks off Football Season with
Fast-Growing Salata Opens First Illinois	Shareable Game Day Eats
Location	
	Restaurant Franchise Spotlight
	Hooters

×	McAlister's Deli
	Dickey's Barbecue Pit
	Dickey's Darbecue Fit
	Aurelio's Pizza
	First Watch Day time Oafa
International 5-Star Hospitality Company	First Watch Daytime Cafe
Plots a New Course for Cape Harbour's The Joint	Del Taco
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	Roy Rogers Restaurants
	East Coast Wings & Grill
	/////
	Ground Round Grill & Bar
	Brixx Wood Fired Pizza
Quaker Steak & Lube Second Louisiana Restaurant to Open in Gonzales	
	Sunny Street Cafe
	Robeks Premium Fruit Smoothies
	Cowboy Chicken
	Miami Grill
Quaker Steak & Lube Hosts Tender Tailgates on September 5	Sarpino's Pizzeria
	Hurricane Grill & Wings
×	Bennigan's
	Dennigans
	Captain D's Seafood Kitchen
Five of the World's Most Universal McDaradd's	Huddle House
Five of the World's Most Unusual McDonald's Restaurants	Corner Bakery Cafe
	Mama Fu's Asian House
	Newk's Eatery



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 From:
 John

 Sent:
 Tueso

 To:
 Kevin

 Cc:
 John

 Subject:
 RE: A8

John Howeth Tuesday, December 10, 2013 2:58 PM Kevin Burkum John Howeth RE: A&U Study

Kevin, this year we're just addressing the egg producers in the Volumetrics study. Our plan is to do the combined producers and manufacturers (including key foodservice customers) in alternating years. The cost of the total combined study is \$80,000, the producers alone study is \$35,000. So the decision was made to do producers every year, producers and manufacturers every other year. The purpose for even doing the manufacturers study is to corroborate the producers number.

Let's talk more in person.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Kevin Burkum Sent: Tuesday, December 10, 2013 1:50 PM To: John Howeth Subject: RE: A&U Study

I wonder if there's a way to tag on a few questions about Beyond Eggs into the planned volumetric study ... mostly interested in what customers, not egg producers, think of course.

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847.296.7043 | D 224.563.3702 | F 847.296.7007

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From: John Howeth Sent: Tuesday, December 10, 2013 12:32 PM To: Kevin Burkum Cc: John Howeth Subject: RE: A&U Study You're right the volumetric study is for the demand dashboard, but that just measures volume, not attitudes towards replacers. Elisa explained it correctly, in that the A&U study does ask quite a bit about replacers (not BE specific). So the recent BE entry into the market would not have been tracked. The volumetric study information is all compiled through phone interviews where the A&U is questionnaire-based. We did have nearly 400 respondents in our last survey. The survey goes to bench top R&D as well as R&D decision makers.

I was wondering what you thought would be a more beneficial approach to research. Are we interested in a broaderbased questionnaire to determine the reach of their efforts or qualitative? My concern with qualitative is finding those manufacturers willing to speak with us. Your thoughts?

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Kevin Burkum Sent: Tuesday, December 10, 2013 12:13 PM To: John Howeth Cc: Elisa Maloberti Subject: RE: A&U Study

I wonder if we would need something more recent to counteract the push from Beyond Eggs. I may be confused ... aren't we doing the volumetric research for the demand dashboard?

Kevin Burkum | Senior Vice President of Marketing

American Egg Board O 847.296.7043 | D 224.563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

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From: John Howeth Sent: Monday, December 09, 2013 1:49 PM To: Kevin Burkum Cc: Elisa Maloberti; John Howeth Subject: A&U Study

Kevin, I misspoke about the A&U study this morning. We actually commissioned a study that measured egg product usage from 1/2012 - 12/2012. The results became available in the first quarter of 2013. That being said we're not considering running a new study until the end of 2014, with results due in the first quarter of 2015.

If you think it's beneficial, we could consider running a brief study (8-10) questions re: replacers and BE, but I don't think the results would change that much. I've attached a copy of the last study, let me know how you'd like to proceed.

John Howeth | Vice President of Ingredient & Commercial Marketing American Egg Board 0 847.296.7043 | D 224.563.3705 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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From:	John Howeth
Sent:	Friday, March 28, 2014 12:32 PM
То:	Windisch, Maureen N.
Cc:	Orysen, Mary E.; Johnson, Bob E
Subject:	Re: AEB Response to MFI

Thanks Maureen, I do have a call into NPD to find out what we can share as our reports are all customized and NPD is the most strict with their sharing policies. As far as next steps, I'll continue to provide information on what we're doing, but as to next steps, I'll leave that up to you. Thanks again.

Sent from my iPad

On Mar 28, 2014, at 11:06 AM, "Windisch, Maureen N." <<u>Maureen.Windisch@MichaelFoods.com</u>> wrote:

Wow...thanks for all this great information John. Since we use the very same research partners, we are in good shape for sharing information.

Very excited to learn about this increased level of support!

Lots to leverage and look forward to!!!

Maureen

From: John Howeth [mailto:JHoweth@aeb.org]
Sent: Thursday, March 27, 2014 5:04 PM
To: Windisch, Maureen N.
Cc: Johnson, Bob E; Sparish, Diane M.
Subject: RE: AEB Response to MFI

Hi Maureen, it's been a while since we spoke, so nice to hear from you. As a little background, yes several of these have been added within the last quarter. We are in the process of completely revising our website and expect to go online with a totally new one in mid-May.

- The School Foodservice white paper went online around 2/20 as did several other items. The school section is totally new, including recipes, see this url <u>http://www.aeb.org/foodservice-professionals/school-foodservice</u>
- We're just starting to develop a marketing campaign intended to increase usage of hard boiled eggs in schools. We plan to have a brochure and digital advertising in place for the School Nutrition Show.
- The Clean Label white paper went online in mid-fourth quarter 2013. We also ran new ads and banners in an effort to combat egg replacers and in response to Beyond Eggs. You can find that information at http://www.aeb.org/food-manufacturers/real-eggs-or-egg-replacers
- EGGSolutions is a newletter sent to egg processors in the month before our board meetings which are held in March, July and November. These are not posted on the website as they are FYI for our members. If you're not receiving it, let me know and we can add you to the list.
- Incredible Breakfast Trends is a new program we just started in February. We pick a megatrend and develop three drivers to emphasize the trend. In February the megatrend was Breakfast Influencers and the drivers were food trucks, Latin and Asian. We will focus on new megatrends in the second month of each quarter. Simply Nutritious is slated to go online the first of May. We are supporting this campaign with digital advertising and PR. We got very good pick

up from industry trade journals for quarter one. We do post these online at <u>http://www.aeb.org/foodservice-professionals/incredible-breakfast-trends</u>

- Breakfast Beat is a QSR focused newsletter we've produced for five years. We recently
 underwent a facelift and have gone from 4 times a year to 6. It runs every other month starting
 in February. We do post it online and folks can subscribe there
 too. http://www.aeb.org/foodservice-professionals/breakfast-beat-newsletters
- Finally, in January we developed and posted a Sustainability study that focuses on changes in the carbon footprint covering the last fifty years. You can find that at http://www.aeb.org/food-manufacturers/real-eggs-or-egg-replacers/white-papers-studies.

Regarding a schedule, only Breakfast Beat, Incredible Breakfast Trends and EGGSolutions are scheduled events. The balance are campaigns that are developed as needed.

To close we are working on a new functionality campaign that will be introduced next month. A series of four ads are being developed focusing on key functional attributes of eggs. The first ad centers around aeration and features French macrons as the focal point.

We are continuing to work with NPD, Datassential and Technomic for our research needs.

I hope all of this helps. As you can see, we've been pretty busy. As you take a look at the new materials, I would appreciate your feedback. Thank you.

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Windisch, Maureen N. [Maureen.Windisch@MichaelFoods.com]
Sent: Thursday, March 27, 2014 11:19 AM
To: John Howeth
Cc: Johnson, Bob E
Subject: FW: AEB Response to MFI

Hi John,

Hope all is well.

Can you tell me if these items were posted to your site recently?

Do you have any kind of schedule that you can share with me so that members know when things are coming down the pike?

Thanks in advance for your help here!

Maureen

Maureen Windisch <image002.jpg>

<image002.Jpg> Insights Manager, Foodservice / P: (952) 258-4081 301 Carlson Parkway, Suite 400 Minnetonka, MN 55305

From: Sparish, Diane M.
Sent: Thursday, March 27, 2014 10:50 AM
To: Blaszczak, Kelly L.; Cappiello, Matt N.; Johnson, Bob E; Johnson, Sonia V; Orysen, Mary E.; Windisch, Maureen N.; Naismith, Deborah A.; Schuneman, Thomas J.; Trace, Thom S.; Wass, Vicky L.; Wunderl, John F.
Subject: FW: AEB Response to MFI

All,

Here's part one of a two-part e-mail from AEB. The e-mails share a variety of pdfs as well as a handful of ideas of how we <u>can</u> work together. If you have interest in working with AEB, I'm happy to assist in connecting you with the right folks at AEB or feel free to contact John Howeth directly (his contact info is included in the e-mail below).

Diane

Diane Sparish VP Corporate Communication ☎ 952-258-4045 diane.sparish@michaelfoods.com

<image003.jpg>

301 Carlson Parkway Suite 400 Minnetonka, MN 55305

From: John Howeth [mailto:JHoweth@aeb.org] Sent: Thursday, March 27, 2014 10:27 AM To: Sparish, Diane M. Cc: John Howeth Subject: AEB Response to MFI

Good morning Diane, I apologize for being tardy in my response, between the Board Meeting and Midwest Poultry Show, I've been running quite a bit lately. Just to follow up, I have included the digital version of the school foodservice white paper. Let me know if you'd like some hard copies sent to your attention.

Regarding what we can and can't do together, I'll stick to the positive.

- I'm really intrigued with how we can use our research together and would welcome a further conversation on that.
- Additionally, projects arise from time to time that I feel we can assist on. In a recent conversation with Taco Bell, they informed us that you are working with them on an egg product formula. They asked if we could provide assistance in funding the focus group research. Because of their pending breakfast introduction, we haven't had further discussion with them, but I did inform them that AEB would not do anything without consulting MFI first. They understood that. I have set aside about \$75,000 for this project.
- Regarding distributors, I appreciate the opportunity you provided AEB to meet with US Foods. We're meeting with their team on Monday to discuss how we can help support the two new products you developed for them. I'll keep you posted on that. When we meet I do want to ask them what we can do to help train/educate their salesforce on all things eggs.
- We're also working on a new school foodservice project involving hard boiled eggs. We've just had our first meeting on this project but we're looking for unique ways to market this to school

foodservice directors. If possible, I'd like to get involved with MFI on that project as we'd like to focus on it at SNA.

I believe there are many projects like the ones mentioned above that we can work with MFI on. What would be ideal would be to understand better what you're working on so we can provide assistance through our industry knowledge, research and possibly funding (like the US Foods project).

As far as most common asked questions in foodservice, since the bulk of our efforts are in the National Accounts area, the same questions you are receiving, we receive also. Primarily it's about trends, competitive analysis, culinary development and how can you support us. Each chain has their own objectives (McDonald's- breakfast after midnight or extended hours; Taco Bell – phase two of product development; Dunkin' Donuts – expansion westward), so I wouldn't say there are common questions we're asked. It's more specific to chains initiatives.

Regarding research and low hanging fruit, I think this begs a deeper discussion about what information you might be looking for from us. Just like with any of our customers, unless we know more about what MFI's objectives are, we can't clearly define how we can help. This really was our thought process and what we wanted do when we tried to set up the initial meeting with your team.

As for the future, I agree with you more frequent communication is necessary. I can tell you what we're doing and what we think we should be doing, but I also need some feedback from MFI as to how we can specifically help more. Otherwise I'm working in a vacuum.

I hope this explains my position a little better, I really do want to work closer with your team, I just need some help with how I can do so. Thank you for taking the time to help us. I have included copies of Breakfast Beat, our thrice-yearly communication to further processors, white papers on Clean Label and Sustainability in addition to the afore-mentioned School Foodservice white paper. Both Eggsolutions and Breakfast Beat are subscriber-based, let me know if you'd like any of your folks added to the distribution list for those digital editions.

The attachments will be coming to you in two emails; our limit is 4 MB.

Please let me know what I can do to help.

John Howeth VP, Foodservice & Egg Product Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Sparish, Diane M. [mailto:Diane.Sparish@MichaelFoods.com] Sent: Monday, March 10, 2014 8:11 AM To: John Howeth Subject: AEB WebEx Follow Up

John,

Thanks for your willingness to meet with our sales and marketing team via WebEx. I appreciate the time you invested. I captured a couple of follow ups for AEB:

- Forward School Foodservice white paper to everyone who participated on the call
- Provide a list of what we can do together (rather than what we can't do)
- Summarize and forward the list of most common questions/requests AEB gets from target customers
- Capitalize on "low hanging fruit" by gaining access to and leveraging AEB research

After the conference call, I received the following additional requests:

- Any white papers or additional information AEB has regarding distributors.
- Industry/segment/egg education
- It would be great to know ahead of time where they are concentrating their efforts outside of Natl Accts.
 - For example, it sounds like AEB had a conversation w/ Jim Ruhling at the K-12 show regarding the work they've recently done w/ school foodservice. With all of the regulation in that segment, we have done a lot of work recently to meet the needs of K-12. I think it would be great to hear of their upcoming work before it happens, as we likely could have reached out to them for information (or validation of our information). I'm interested to see their white paper.
- Perhaps a quarterly call to understand AEB initiatives and how they may add value to MFI initiatives.

Unfortunately, here is the feedback I received regarding setting up a 3/19 meeting, "Based on our conference call, and the challenges and hurdles associated with trying to work with them, not sure there is a reason to meet with them." John, let's discuss this. Since Jim and Mike are not available, I'm not sure how much pressure you are currently receiving to lock in a 3/19 meeting with other folks at MFI. If you aren't getting a lot of pressure, I think it's best to start strengthening our relationship through responsiveness to the requests above via e-mail and phone. If you are getting pressure, let me know.

Thanks, Diane

Diane Sparish VP Corporate Communication ☎ 952-258-4045 diane.sparish@michaelfoods.com

<image004.jpg>

301 Carlson Parkway Suite 400 Minnetonka, MN 55305

From:	Joanne Ivy
Sent:	Friday, November 21, 2014 9:43 AM
То:	Kevin Burkum
Cc:	Serena Schaffner; John Howeth
Subject:	Re: American Egg Board Follow Up

I started with letting him know that AEB could not take a position on the lawsuit. He understood. We talked about mayonnaise Standard of Identity, general information on Beyond Eggs, finding a spokesperson from the egg industry, etc. I told him that he may want to contact his egg supplier.

Interesting conversation. Joanne

Sent from my iPhone

On Nov 21, 2014, at 9:33 AM, Kevin Burkum <<u>KBurkum@aeb.org</u>> wrote:

Very interesting. Thanks for the news.

Did their counsel say how they feel about their case?

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847.296.7043 | D 224.563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org <image001.png> <image002.png> <image003.png> <image004.png> <image005.png> <image006.png >

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From: Joanne Ivy Sent: Friday, November 21, 2014 8:24 AM To: Serena Schaffner Cc: John Howeth; Kevin Burkum Subject: Re: American Egg Board Follow Up

Great. I just wanted to make sure you had what you needed. Your response is good -- and accurate! Thanks for handling.

Oh, I believe I mentioned in an email yesterday that the counsel from Unilever called. If not, I am mentioning it now. I believe I provided him some basic information that was helpful, but let him know that AEB cannot make statements that would support Unilever's position. Joanne

Sent from my iPhone

On Nov 21, 2014, at 9:18 AM, Serena Schaffner <<u>sschaffner@aeb.org</u>> wrote:

Thanks, Joanne, I think we have what we need for her. I just wanted to make sure that <u>this version</u> of Accept No Substitutes is the only version available and there isn't a longer version of it, etc. I'll send this response along and see if she continues to come back to us. Stay tuned!

Best, Serena

 Serena Schaffner
 Director of Marketing Communications

 American Egg Board
 O

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 D
 224.563.3710
 F
 847.296.7007

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From: Joanne Ivy
Sent: Thursday, November 20, 2014 8:07 PM
To: Serena Schaffner
Cc: John Howeth; Kevin Burkum
Subject: Re: American Egg Board Follow Up

Serena, I think your response sounds fine. It is accurate.

I am not sure if I understand the question ... confirm that this version is what there is? Do you mean is there an updated version of the piece or a campaign to go with it. I don't remember what campaign we ran at that time. John may remember. More recently, we never developed a specific campaign to address Beyond Eggs. We already developed or had plans to develop a campaign focusing on clean label, natural, real eggs, etc. We have never singled out Beyond Eggs. It has been positioned as one of many egg replacers.

John, can you provide additional information based on Serena's question?

Joanne

Sent from my iPhone

On Nov 20, 2014, at 4:26 PM, Serena Schaffner <<u>sschaffner@aeb.org</u>> wrote:

Hi all –

I wanted to pass along Candice's response to our answers about the Accept No Substitutes white paper. Candice clearly wants more of a connection as to whether or not we've revived the campaign to specifically address beyond eggs. I recommend that we continue to press the point that this is not novel and we've continued to work with manufacturers and food service people over the years to realize the benefits of all-natural eggs. I've drafted below, a response for your review – please let me know if there's any more historical background I should be adding. In the meantime, *Joanne*, can you shed more light and confirm that <u>this</u> <u>version</u> of the Accept No Substitutes White Paper is what there is?

Thanks for the help!

-Serena

Hi Candice –

Thanks for your follow up. The Accept No Substitutes white paper is available in its entirety <u>online</u>. As mentioned previously, synthetic plantbased substitutes have been around for a long time and therefore, we've continually worked with manufacturing and food service companies to answer their questions about all-natural eggs vs. replacers throughout the years. We're still committed to the viewpoint that allnatural eggs offer many benefits that other replacers, on their own, can't achieve.

Please let us know if you need anything else.

Best, Serena

Serena Schaffner | Director of Marketing Communications American Egg Board 0 847.296.7043 | D 224.563.3710 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org <image001.png> <image002.png> <image003.png> <image004.png> < image005.png> <image006.png>

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From: Choi, Candice [mailto:CChoi@ap.org] Sent: Thursday, November 20, 2014 8:35 AM To: Serena Schaffner Subject: RE: American Egg Board Follow Up

Thanks, Serena. Do you have a copy of the original white paper?

Also, the "Accept No Substitute" campaign was recently revived, right?

Candice Choi Associated Press (212) 621-7267 450 W. 33rd St. New York, NY 10001

From: Serena Schaffner [mailto:sschaffner@aeb.org] Sent: Wednesday, November 19, 2014 9:33 PM To: Choi, Candice Subject: American Egg Board Follow Up

Hi Candice –

Thanks for contacting the American Egg Board. We wanted to get back to you on your questions about the Accept No Substitutes white paper. The piece was actually developed more than 10 years ago in response to food manufacturer and food service questions about the differences between using all-natural eggs vs. egg replacers.

Interestingly, synthetic plant-based egg replacers are not a novel concept and have been around for years. As is the perspective in the Accept No Substitute white paper, we still believe that the all-natural egg remains the best option for food companies – and consumers for that matter. Eggs can deliver all the functional benefits (emulsification, texture, volume, etc.) that no other commonly used replacer can on its own, while continuing to retain its taste and nutritional benefits, such as high-quality protein. Additionally, using eggs can contribute to an ingredient statement in packaged or processed foods that consumers are comfortable and familiar with.

We hope this helps answer your questions.

Best, Serena

Serena Schaffner | Director of Marketing Communications American Egg Board

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and delete this email. Thank you. [IP_US_DISC]

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From:	Joanne Ivy
Sent:	Friday, November 21, 2014 9:39 AM
То:	John Howeth
Cc:	Serena Schaffner; Kevin Burkum
Subject:	Re: American Egg Board Follow Up

John: Actually, I just misread your email because I had asked Serena to remove the word synthetic. I am glad you agree. I thought you were saying otherwise. I should have read your email more carefully. Joanne

Sent from my iPhone

On Nov 21, 2014, at 9:32 AM, John Howeth <<u>JHoweth@aeb.org</u>> wrote:

Sorry I haven't responded sooner, trend tour and late night travel. You're right Accept No Substitutes was written ten years ago, we're actually working on a revision, but it won't be ready for awhile. The only thing I would like to change if it's not too late is use of the word synthetic. Our battle is against all replacers, both natural and synthetic. Many replacers are gums and starches which are natural for the most part. In fact, the ingredient label of Beyond Eggs is a natural label I believe. So if we could delete that one word, I would appreciate it.

John Howeth Senior VP, Foodservice & Egg Product Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Serena Schaffner Sent: Friday, November 21, 2014 8:18 AM To: Joanne Ivy Cc: John Howeth; Kevin Burkum Subject: RE: American Egg Board Follow Up

Thanks, Joanne, I think we have what we need for her. I just wanted to make sure that <u>this version</u> of Accept No Substitutes is the only version available and there isn't a longer version of it, etc. I'll send this response along and see if she continues to come back to us. Stay tuned!

Best, Serena

Serena Schaffner | Director of Marketing Communications

 American Egg Board

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From: Joanne Ivy
Sent: Thursday, November 20, 2014 8:07 PM
To: Serena Schaffner
Cc: John Howeth; Kevin Burkum
Subject: Re: American Egg Board Follow Up

Serena, I think your response sounds fine. It is accurate.

I am not sure if I understand the question ... confirm that this version is what there is? Do you mean is there an updated version of the piece or a campaign to go with it. I don't remember what campaign we ran at that time. John may remember. More recently, we never developed a specific campaign to address Beyond Eggs. We already developed or had plans to develop a campaign focusing on clean label, natural, real eggs, etc. We have never singled out Beyond Eggs. It has been positioned as one of many egg replacers.

John, can you provide additional information based on Serena's question?

Joanne

Sent from my iPhone

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In the meantime, *Joanne*, can you shed more light and confirm that <u>this version</u> of the Accept No Substitutes White Paper is what there is?

Thanks for the help!

-Serena

Thanks for your follow up. The Accept No Substitutes white paper is available in its entirety <u>online</u>. As mentioned previously, synthetic plant-based substitutes have been around for a long time and therefore, we've continually worked with manufacturing and food service companies to answer their questions about all-natural eggs vs. replacers throughout the years. We're still committed to the viewpoint that all-natural eggs offer many benefits that other replacers, on their own, can't achieve.

Please let us know if you need anything else.

Best,

Serena

Serena Schaffner | *Director of Marketing Communications*

American Egg Board

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From: Choi, Candice [mailto:CChoi@ap.org] Sent: Thursday, November 20, 2014 8:35 AM To: Serena Schaffner Subject: RE: American Egg Board Follow Up

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Candice Choi Associated Press (212) 621-7267 450 W. 33rd St. New York, NY 10001

From: Serena Schaffner [mailto:sschaffner@aeb.org] Sent: Wednesday, November 19, 2014 9:33 PM To: Choi, Candice Subject: American Egg Board Follow Up

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Interestingly, synthetic plant-based egg replacers are not a novel concept and have been around for years. As is the perspective in the Accept No Substitute white paper, we still believe that the all-natural egg remains the best option for food companies – and consumers for that matter. Eggs can deliver all the functional benefits (emulsification, texture, volume, etc.) that no other commonly used replacer can on its own, while continuing to retain its taste and nutritional benefits, such as high-quality protein. Additionally, using eggs can contribute to an ingredient statement in packaged or processed foods that consumers are comfortable and familiar with.

We hope this helps answer your questions.

Best, Serena Serena Schaffner | Director of Marketing Communications

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From:	Joanne Ivy
Sent:	Friday, November 21, 2014 9:37 AM
То:	John Howeth
Subject:	Re: American Egg Board Follow Up

Thanks John. Actually, I was concerned about using the word synthetic, and I had Serena remove it in one place in her email because based on my definition of synthetic, soy and whey egg replacers would not fit the definition. So, I appreciate your response.

Sent from my iPhone

On Nov 21, 2014, at 9:32 AM, John Howeth <<u>JHoweth@aeb.org</u>> wrote:

Sorry I haven't responded sooner, trend tour and late night travel. You're right Accept No Substitutes was written ten years ago, we're actually working on a revision, but it won't be ready for awhile. The only thing I would like to change if it's not too late is use of the word synthetic. Our battle is against all replacers, both natural and synthetic. Many replacers are gums and starches which are natural for the most part. In fact, the ingredient label of Beyond Eggs is a natural label I believe. So if we could delete that one word, I would appreciate it.

John Howeth Senior VP, Foodservice & Egg Product Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Serena Schaffner Sent: Friday, November 21, 2014 8:18 AM To: Joanne Ivy Cc: John Howeth; Kevin Burkum Subject: RE: American Egg Board Follow Up

Thanks, Joanne, I think we have what we need for her. I just wanted to make sure that <u>this version</u> of Accept No Substitutes is the only version available and there isn't a longer version of it, etc. I'll send this response along and see if she continues to come back to us. Stay tuned!

Best, Serena

Serena Schaffner | Director of Marketing Communications

 American Egg Board

 0 847.296.7043 | D 224.563.3710 | F 847.296.7007

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From: Joanne Ivy
Sent: Thursday, November 20, 2014 8:07 PM
To: Serena Schaffner
Cc: John Howeth; Kevin Burkum
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Serena, I think your response sounds fine. It is accurate.

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John, can you provide additional information based on Serena's question?

Joanne

Sent from my iPhone

On Nov 20, 2014, at 4:26 PM, Serena Schaffner <<u>sschaffner@aeb.org</u>> wrote:

Hi all –

I wanted to pass along Candice's response to our answers about the Accept No Substitutes white paper. Candice clearly wants more of a connection as to whether or not we've revived the campaign to specifically address beyond eggs. I recommend that we continue to press the point that this is not novel and we've continued to work with manufacturers and food service people over the years to realize the benefits of allnatural eggs. I've drafted below, a response for your review – please let me know if there's any more historical background I should be adding.

In the meantime, *Joanne*, can you shed more light and confirm that <u>this version</u> of the Accept No Substitutes White Paper is what there is?

Thanks for the help!

-Serena

Thanks for your follow up. The Accept No Substitutes white paper is available in its entirety <u>online</u>. As mentioned previously, synthetic plant-based substitutes have been around for a long time and therefore, we've continually worked with manufacturing and food service companies to answer their questions about all-natural eggs vs. replacers throughout the years. We're still committed to the viewpoint that all-natural eggs offer many benefits that other replacers, on their own, can't achieve.

Please let us know if you need anything else.

Best,

Serena

Serena Schaffner | *Director of Marketing Communications*

American Egg Board

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Also, the "Accept No Substitute" campaign was recently revived, right?

Candice Choi Associated Press (212) 621-7267 450 W. 33rd St. New York, NY 10001

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We hope this helps answer your questions.

Best, Serena Serena Schaffner | Director of Marketing Communications

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Serena Schaffner | Director of Marketing Communications

American Egg Board

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Sent from my iPhone

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Thanks for the help!

-Serena

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Please let us know if you need anything else.

Best, Serena

Serena Schaffner | Director of Marketing Communications American Egg Board 0 847.296.7043 | D 224.563.3710 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org <image001.png> <image002.png> <image003.png> <image004.png> <image005.png> <image006.png >

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Candice Choi Associated Press (212) 621-7267 450 W. 33rd St. New York, NY 10001

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We hope this helps answer your questions.

Best, Serena

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From:	Kevin Burkum
Sent:	Friday, November 21, 2014 9:34 AM
То:	Joanne Ivy; Serena Schaffner
Cc:	John Howeth
Subject:	RE: American Egg Board Follow Up

Very interesting. Thanks for the news.

Did their counsel say how they feel about their case?

Kevin Burkum | Senior Vice President of Marketing

American Egg Board

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From: Joanne Ivy Sent: Friday, November 21, 2014 8:24 AM To: Serena Schaffner Cc: John Howeth; Kevin Burkum Subject: Re: American Egg Board Follow Up

Great. I just wanted to make sure you had what you needed. Your response is good -- and accurate! Thanks for handling.

Oh, I believe I mentioned in an email yesterday that the counsel from Unilever called. If not, I am mentioning it now. I believe I provided him some basic information that was helpful, but let him know that AEB cannot make statements that would support Unilever's position. Joanne

Sent from my iPhone

On Nov 21, 2014, at 9:18 AM, Serena Schaffner <<u>sschaffner@aeb.org</u>> wrote:

Thanks, Joanne, I think we have what we need for her. I just wanted to make sure that <u>this version</u> of Accept No Substitutes is the only version available and there isn't a longer version of it, etc. I'll send this response along and see if she continues to come back to us. Stay tuned!

Best, Serena

Serena Schaffner | Director of Marketing Communications American Egg Board 0 847.296.7043 | D 224.563.3710 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org <u>AEB.org</u> <image001.png> <image002.png> <image003.png> <image004.png> <image005.png> <image006.png >

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Cc: John Howeth; Kevin Burkum
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Sent from my iPhone

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In the meantime, *Joanne*, can you shed more light and confirm that <u>this version</u> of the Accept No Substitutes White Paper is what there is?

Thanks for the help!

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Please let us know if you need anything else.

Best, Serena

Serena Schaffner | Director of Marketing Communications

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From:	Joanne Ivy
Sent:	Friday, November 21, 2014 10:01 AM
То:	Serena Schaffner
Cc:	John Howeth; Kevin Burkum
Subject:	Re: American Egg Board Follow Up

Serena, I have to say that I did not reread your response after we talked, and I said the word, synthetic, should be removed. I thought we agreed to take out the word. I was surprised that it was still there. Anyway, I guess with John's confirmation that synthetic should be removed, I guess it will. Joanne

Sent from my iPhone

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Hi John –

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Serena Schaffner | Director of Marketing Communications American Egg Board 0 847.296.7043 | D 224.563.3710 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org <image001.png> <image002.png> <image003.png> <image004.png> <image005.png> <image006.png>

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msk dccc60c6d2c3a6438f0cf467d9a4938

<u>Maher, Missy</u>
(b) (6) ; <u>Liuzzi, Andrew</u>
John Howeth; Joanne Ivy
RE: Beyond Eggs / "Artificial egg" at Whole Foods
Friday, September 13, 2013 8:44:27 AM

Sounds good.

From:

[mailto(b) (6)

Sent: Friday, September 13, 2013 7:42 AM To: Maher, Missy; Liuzzi, Andrew Cc: JHoweth@aeb.org; jivy@aeb.org Subject: Re: Beyond Eggs / 'Artificial egg' at Whole Foods

Okay, that sounds fine. We will look at that approach. John is working on information on AEB's approach to egg replacers, which I will forward as soon as it is done. You probably could add some of that information to the statement. Obviously, we will not want to be too specific and transparent about our strategy to counter egg replacers as I feel sure this statement will also be read by the Beyond Egg folks. Joanne

-----Original Message-----From: Maher, Missy <<u>Missy.Maher@edelman.com</u>> To: Joanne Ivy (b) (6) Cc: John Howeth <<u>JHoweth@aeb.org</u>> Sent: Fri, Sep 13, 2013 8:18 am Subject: RE: Beyond Eggs / 'Artificial egg' at Whole Foods

Hi – Joanne and John one more thing – Andy and I were just talking through and see this more of a statement (with details) rather than a release per se. Think this format will work well, let us know if you disagree.

From: Joanne Ivy [mailto(b) (6)] Sent: Friday, September 13, 2013 6:44 AM To: Liuzzi, Andrew Cc: Maher, Missy; John Howeth Subject: Re: Beyond Eggs / 'Artificial egg' at Whole Foods

FYI -- I have asked John to provide some information on the campaign that AEB plans to start running, I believe this month, in food manufacturing publications, that address using "real" egg products and not egg replacers. We may want to consider using some of that information in the release. Joanne

Sent from my iPad

On Sep 13, 2013, at 7:15 AM, "Liuzzi, Andrew" <<u>Andrew.Liuzzi@edelman.com</u>> wrote:

Fantastic, thank you. Our team is also developing a snapshot of the online conversation as another metric to see how the conversation is trending/consumer impact. Well be able to send that across later.

Best, Andy

Sent from my iPhone

On Sep 13, 2013, at 6:01 AM, "Joanne Ivy" (b) (6)

> wrote:

Andy and Missy, I had to go ahead and respond to Mike's email as he is a large, vocal egg producer and he copied Elliott Gibber, who is AEB's Further Processor Advisor and the 2nd largest further processor. I just wanted Mike to know we were working on it.

FYI, my response below. Joanne

Sent from my iPad

Begin forwarded message:

From: "Elliot Gibber" <<u>egibber@debelfoods.com</u>> Date: September 12, 2013, 11:24:39 PM EDT To: "Joanne Ivy" (b) (6) Subject: Re: Beyond Eggs / 'Artificial egg' at Whole Foods Reply-To: <u>egibber@debelfoods.com</u>

I knew you be all over this. see you in CapeTown. Elliot Thank you

Elliot Gibber President Deb El Food Products Office: 908- 351- 0330 Cell (b) (6) Email: <u>egibber@debelfoods.com</u>

From: Joanne Ivy (b) (6) ______>
Date: Thu, 12 Sep 2013 22:34:43 -0400
To: Mike Sencer<msencer@hiddenvilla.com>
Cc: Elliot Gibber
(egibber@debelfoods.com)<egibber@debelfoods.com>; John
Howeth<JHoweth@aeb.org>
Subject: Re: Beyond Eggs / 'Artificial egg' at Whole Foods

Mike, we have been aware of this product for some time and have had several meetings with our PR agency to discuss how to approach this situation. Beyond Egg is just another replacer, but this egg replacer/substitute is getting a lot of attention because of the relationship with Bill Gates and HSUS. At this point, consumers are not reacting favorably to the "artificial egg." Our bigger concern is with food manufacturers, and AEB has developed a campaign to address this situation.

Based on the press release that came out September 9, we are currently analyzing what statements in that release are untrue about the Beyond Egg compared to real egg product and also to address their statements about egg production. We hope to have a release to the industry press by tomorrow (Friday) afternoon.

You did make an interesting comment about the name of the product including Eggs, but the product does not include Eggs. I will check with USDA to see if there is a legal violation

by using Eggs in the title.

Just know we are on it! Joanne

Sent from my iPhone

On Sep 12, 2013, at 12:47 PM, Mike Sencer <<u>msencer@hiddenvilla.com</u>> wrote:

Interesting comments below!

Subject: Fwd: Beyond Eggs / 'Artificial egg' at Whole Foods

Interesting....no mention anywhere of cost. No mention of taking from corn and soy grown by farmers, conventional, organic and nonGMO Nationally and world wide. Mentions how chickens are kept cramped together or whatever....but in truth cage free, free range and pasture they have a great life span and freedom to do chicken behavior just fine.

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http://www.dailymail.co.uk/sciencetech/article-2416808/Artificial-egg-PLANTS-backed-Bill-Gates-set-revolutionize-cooking-goes-sale-Whole-Foods.html

http://hamptoncreekfoods.com/

From:	John Howeth
To:	<u>Maher, Missy</u>
Cc:	John Howeth
Subject:	RE: Beyond Eggs / "Artificial egg" at Whole Foods
Date:	Friday, October 25, 2013 9:15:00 AM

Hi Missy, hope all is well. As you would guess, we are preparing for the Board Meeting and we know the Beyond Eggs situation will come up. During our discussions with you, Andy prepared a POV document (referenced below). Unfortunately I wasn't copied on it. I do remember some specific information in the document and would like to reference that in my Committee and probably Board presentation. Could you please send me the document? It would be much appreciated.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Friday, September 13, 2013 7:18 AM
To: Joanne Ivy; Liuzzi, Andrew
Cc: John Howeth
Subject: RE: Beyond Eggs / 'Artificial egg' at Whole Foods

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Sent: Friday, September 13, 2013 6:44 AM
To: Liuzzi, Andrew
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From: Joanne Ivy (b) (6)

Date: Thu, 12 Sep 2013 22:34:43 -0400 To: Mike Sencer<<u>msencer@hiddenvilla.com</u>> Cc: Elliot Gibber (egibber@debelfoods.com)<egibber@debelfoods.com>; John Howeth<<u>JHoweth@aeb.org</u>> Subject: Re: Beyond Eggs / 'Artificial egg' at Whole Foods

>

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From:	John Howeth
То:	Jensen, Elizabeth (Schreiber); Maher, Missy; Joanne Ivy; Schaffner, Serena; Liuzzi, Andrew
Cc:	Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject:	RE: Beyond Eggs
Date:	Tuesday, August 20, 2013 6:13:50 PM
Attachments:	image001.png
	image002.png
	image003.png
	image004.png
	image005.png
	image006.png
	image007.png
	image008.png
	image009.png
	image010.png

I can do Thursday, but will be out of the office tomorrow afternoon.

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Jensen, Elizabeth (Schreiber) [elizabeth.jensen@edelman.com]
Sent: Tuesday, August 20, 2013 5:10 PM
To: Maher, Missy; Joanne Ivy; Schaffner, Serena; Liuzzi, Andrew
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Hi Joanne,

We are hoping to set up some time this week to chat about Beyond Eggs . Are you available between 3:30 and 5:00 (CST) tomorrow or Thursday from 1 to 2 p.m (CST)? If not, please let us know what might work best for you.

Thank you, Elizabeth

From: Maher, Missy
Sent: Tuesday, August 20, 2013 3:37 PM
To: Joanne Ivy; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Liuzzi, Andrew
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Absolutely, I have cc'd Andy Liuzzi on our crisis team. We will brief him, collect throughts as well as set up a call asap this week.

From: Joanne Ivy [mailto:JIvy@aeb.org]
Sent: Tuesday, August 20, 2013 3:33 PM
To: Maher, Missy; Jensen, Elizabeth (Schreiber); Schaffner, Serena

Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains **Subject:** RE: Beyond Eggs

Missy, I am getting a lot of emails about this product from egg producers and further processors. The further processor considers this a serious threat to their business. I have met with John, and we think it would be a good idea if Edelman looked at this product as a crisis and major threat to the future of the egg product business and provide some advice and input as to how we should address this situation. I was wondering if we should hold a conference call this week to discuss or if Edelman would like to give some thought to the situation and get back to me about how you would like to present your recommendations and move forward. I realize this is an egg product issue, but I respect Edelman's expertise in a crisis situation. I am feeling this is turning into a crisis!

Most of the emails I am getting are similar to this one, "What are we doing at AEB with regard to this competing product??" We need to have an answer! Joanne

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

 0 847 296.7043 | D 224 563.3701 | C (b) (f)

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From: Mitch Kanter
Sent: Tuesday, August 20, 2013 2:30 PM
To: Joanne Ivy; Kevin Burkum
Cc: 'Schaffner, Serena'; Maher, Missy (<u>Missy.Maher@edelman.com</u>); Jensen, Elizabeth (Schreiber); Torvik, Erika; McClamroch, Allison (<u>Allison.McClamroch@edelman.com</u>); Kristin Livermore; Tia Rains
Subject: RE: Mother Jones

On a macro level, this product still doesn't feel "natural" to me. Unless it performs absolutely better than eggs in food applications, I wonder how much pick up it will get in mainstream products. Remains to be seen, but that's my sense. Feels like a niche product.

On a micro level, has anyone ever written an article we're aware of that counters the claim about animal suffering from the following perspectives?"

1-hens these days are as productive as they've ever been. They are egg laying "machines." If they were suffering it's highly doubtful they'd be as productive as they are. Too many physiological changes occur in suffering animals to allow them to be that productive

2-what is the rate at which free range birds can be picked off by predators? I think it's very high. Ken Anderson quoted me a number in the vicinity of 50% I think.

Point is- -has there been a concerted enough effort to get these points across to counter the HSUS types?

Mitch

From: Joanne Ivy
Sent: Tuesday, August 20, 2013 2:06 PM
To: Kevin Burkum
Cc: 'Schaffner, Serena'; Maher, Missy (<u>Missy.Maher@edelman.com</u>); Jensen, Elizabeth (Schreiber); Torvik, Erika; McClamroch, Allison (<u>Allison.McClamroch@edelman.com</u>); Mitch Kanter; Kristin Livermore Subject: RE: Mother Jones

Yes, the interview and questions were too easy. I am also a little paranoid. This article game out today – a synthetic egg! (see below) I am aware of this product and their website, but this is a very scary article. I have scheduled a meeting with John Howeth today to discuss. Joanne

Below is an article where HSUS interviews Beyond Meat which produces an egg replacement product. We were the first to uncover that HSUS has invested in the concept while deceptively pretending to partner with (i.e., extort under the threat of lawsuits) the egg industry. I've highlighted some specific sections of the article that warrant your attention. Ask yourself whether these people are credible partners. -Rick

http://www.humanesociety.org/news/magazines/2013/09-10/best-laid-plans-egg-substituteto-benefit-hens.html

August 19, 2013 Best Laid Plans

Plant-based egg substitute could benefit millions of hens.

All Animals magazine, September/October 2013

Josh Tetrick, CEO of Hampton Creek, wants to change the world with a pale green powder. Called Beyond Eggs, it gets its color from a variety of pea—an ingredient the company's scientists and chefs identified after testing 287 plants. There's also sunflower and canola oil and other natural ingredients. One formulation of the powder can be used to replace eggs in baked goods like cookies. Another can be used in sauces like mayonnaise.

The food industry traditionally has used processed eggs—in liquid, frozen, or powdered form —to make these products. One third of the eggs produced in the U.S. today go for this purpose. Most of those eggs are laid on factory farms by hens crammed into battery cages stacked enclosures so small that the birds can't even spread their wings. Tetrick aims to take over much of the processed eggs market with a product he says is not only more humane, but about 20 percent less expensive, better for the environment, and healthier—it has no cholesterol and carries none of the food safety risks of eggs from factory farms.

"We want to decrease by 30 percent the number of egg-laying hens in battery cage facilities during the next five years."

This year, two major food companies will begin using Beyond Eggs. (The product will also be available to consumers through Hampton Creek's website.) In the future, Tetrick hopes to develop a liquid product that could be used to make scrambled eggs.

Based in San Francisco, Hampton Creek already has several million dollars in venture capital funds and the endorsement of Bill Gates, who has identified it as one of the top companies shaping the future of food.

Beyond Eggs could potentially spare hundreds of millions of chickens from lives in battery cages, says Josh Balk, director of corporate policy for The HSUS's Farm Animal Protection Campaign and an old friend of Tetrick's. "Hampton Creek is a great example of how the humane economy can benefit animals," says Balk, who helped the company get started. "In order to eliminate factory farming, consumers have to continue incorporating more plant-based foods into their diets." Beyond Eggs could pave the way to ending battery cage facilities so that the only eggs on the market come from higher welfare, pasture-based systems.

In this edited interview with senior writer Karen E. Lange, Tetrick talks about where his vision for Beyond Eggs came from and where he hopes it will lead.

How did your concern for animals lead you to develop an alternative egg product?

About 1.1 trillion eggs are laid every single year globally. Most come from places that we wouldn't be too proud of if we saw them, places that are awfully cruel, awfully unsustainable, and pretty bad for our health. And I just thought that **there's got to be a way to take the animal entirely out of the equation** when it comes to conventional egg production and do something that's better and less expensive.

Can you describe the typical commercial egg-laying facility?

It's an industrial warehouse. It's dimly lit, with row upon row upon row of cages stacked on top of each other, lining each wall. It smells of ammonia. And in each cage you have seven to 10 birds packed body to body. And you can see all the corn and soy that they're fed. They have a water drip. And they're left there for two years.

It's radical abuse, beyond-the-pale abuse. Whether we think a bird in one of those cages is equal to our dog or our cat, or to a Bengal tiger or an Asian elephant, really isn't the point for me. The point is, she's a living being.

What is Josh Balk's relationship to Hampton Creek?

He is the real inspiration behind everything that's happening every single day here. We've known each other since we were about 16 years old. He was a pitcher who used to strike me out on a regular basis on the baseball field, and we've been best friends ever since.

I was raised in Birmingham, Ala., in a lot of ways completely blind to the environmental and ethical issues around our food system. And Josh, even when I was 18 or 19 years old, has been educating me, encouraging me to eat in a more humane way, and opening my eyes to how we can really change the world through food.

How does Beyond Eggs compare to eggs in terms of nutrition?

I would say it's healthier. You're avoiding food safety issues, you're avoiding cholesterol, you're avoiding allergens that eggs have. It does provide the same kind of protein, but no one's eating a cookie for protein.

Can most people taste the difference between Beyond Eggs and powdered or shell eggs?

Usually, people can tell the difference, and they like ours better. The taste comes out a bit more in the product. So you taste the chocolate of the cookie more, for example. And they like the taste of the mayonnaise better. It's not scary mayo; it's not mayo made in a lab. It's just really good mayonnaise that is priced competitively and doesn't have cholesterol.

Do you foresee Hampton Creek's products replacing most of the eggs produced in battery cage facilities?

All of them. We want to decrease by 30 percent the number of egg-laying hens in battery cage facilities during the next five years. We want to end animal suffering in the egg industry.

What are the company's other long-term goals?

Our hopes for Hampton Creek are, in seven years, that when people think about food, we're one of the companies they mention that are moving our system forward, that are creating millions of pounds—thousands of products—of food that respects animals and respects the environment. We'll be outside the U.S., on the subways of Beijing, and on the streets of Lagos, Nigeria, and Birmingham, Ala., where I was raised. We want to be the world's most valuable company.

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Kevin Burkum Sent: Tuesday, August 20, 2013 1:59 PM To: Joanne Ivy Subject: RE: Mother Jones

Something still smells fishy. Hope I'm just being paranoid.

Kevin Burkum | Senior Vice President of Marketing

American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Joanne Ivy
Sent: Tuesday, August 20, 2013 1:11 PM
To: 'Schaffner, Serena'; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Matt only asked questions about the charts. It was very straight forward. He wanted to know what each column represented; definitions for words such as breaker, layer, egg product, institution (commercial and non-commercial); brief explanation for decline in shell eggs at retail, etc.; formula for USDA's per capita consumption figures; and a few basic trends in egg usage based on the charts. Very easy discussion! Joanne

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 8:13 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Sounds great! We know you'll do a great job, Joanne! We'll let the reporter know you'll be contacting him tomorrow. Look forward to hearing how it goes!

Best, Serena

------ Original message ------From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: 08/19/2013 5:23 PM (GMT-06:00) To: "Schaffner, Serena" <<u>Serena.Schaffner@edelman.com</u>>,Kevin Burkum <<u>KBurkum@aeb.org</u>> Cc: Kristin Livermore <<u>KLivermore@aeb.org</u>>,"Maher, Missy" <<u>Missy.Maher@edelman.com</u>>,"McClamroch, Allison" <<u>Allison.McClamroch@edelman.com</u>>,"Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>>,"Torvik, Erika" <<u>Erika.Torvik@edelman.com</u>> Subject: RE: Mother Jones

Serena: Thank you for the information you provided as I know it will be helpful. I have a background in egg products and also started AEB's program, so unless the questions are complicated, I feel sure I will be able to handle most questions – unless it is about synthetic eggs!

I will call tomorrow as there are a couple of stats on the charts that are not consistent. I no longer input these numbers on the website, so I am verifying a couple of figures that look a little strange to me. I will call Matt tomorrow am, and I will let you know how it goes. Joanne

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 4:31 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Hi Joanne –

As promised, we've pasted below a few talking points to address any "watch out" questions that might come up during the interview in regards to animal welfare. Should he press for more information, feel free to direct him to UEP. There may be a few questions about eggs in processed foods, so we've included talking points that also address cholesterol, in case he brings up egg nutrition and health.

Please let us know if you have any questions. We look forward to hearing how the interview goes and will be sure to keep a close eye on any resulting coverage.

Best, Serena

Animal Welfare:

- Hen health and egg quality are the top two priorities on egg farms all day, every day.
- America's egg farmers have very strict steps, safeguards and practices they follow to make

sure their hens are healthy and to protect the quality of the eggs.

- Advances in science and technology help egg farmers preserve safety and quality throughout the gathering, inspecting, packaging and handling process.
- Egg farmers follow guidelines to ensure the hens are provided with nutritious feed, clean water, proper lighting and fresh air. The guidelines place top priority on health and safety.
- For more information on this topic, please contact someone with the United Egg Producers at 770.360.9220.

Concerns about Cholesterol:

- The USDA recently reviewed the nutrient composition of standard large eggs, and results show the average amount of cholesterol in one large egg is 185 mg, down from 215 mg, 14 percent lower than previously recorded in 2002.
- Enjoying an egg a day can fall within current cholesterol guidelines, particularly if individuals opt for other low-cholesterol foods throughout the day.
 - The 2010 *Dietary Guidelines for Americans* recommend that individuals consume, on average, less than 300 mg of cholesterol per day. A large egg contains 185 mg of cholesterol.
- The 2010 *Dietary Guidelines for Americans* support the role of eggs in a healthy diet. The report, released in January 2011, states that healthy individuals can enjoy an egg daily and suggests an egg a day does not result in increased blood cholesterol levels.
 - Studies have also shown that eating one or more eggs per day does not increase the risk of coronary heart disease or stroke among healthy individuals, and that eating eggs daily does not have a significant impact on blood cholesterol.
- A large body of science supports the beneficial role that eggs play in a healthful diet, including promoting mind and body energy, reducing the risk of birth defects, promoting muscle and eye health and helping to manage weight.

From: Schaffner, Serena
Sent: Monday, August 19, 2013 4:15 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Hi Joanne –

We'll send you updated animal welfare messages, shortly. Please let us know if there is anything else you need that we can provide.

Best, Serena

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Monday, August 19, 2013 3:32 PM
To: Kevin Burkum
Cc: Schaffner, Serena; Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Kevin, I probably understand the charts better than anyone since I created them. However, I would not want to answer questions on synthetic products. Actually, John would be more on top of the latest information regarding eggs and processed foods. I am still concerned about the angle that this article may go. I guess if he asked about those areas, I could have John call him back.

I can handle reviewing the chart if you want. However, I just glanced at them and I noticed a few minor discrepancies between the two charts, for example one chart shows in 2012, 223.70 million cases produced (80,532,000,000 eggs) and the other chart shows 224.10 cases produced (80,676,000,000 eggs). It is probably a matter of USDA making adjustments through the year, but I need to review these charts as someone else is inputting the information now on the website and I have not reviewed them in a while.

I will call Matt Connolly today once I review the charts. If Edelman wants to provide some animal welfare comments in case I am asked, it may be helpful. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Kevin Burkum Sent: Monday, August 19, 2013 2:29 PM To: Joanne Ivy Subject: FW: Mother Jones

Meant to forward this to you. Please advise, thanks.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Kevin Burkum
Sent: Monday, August 19, 2013 2:29 PM
To: 'Schaffner, Serena'
Cc: Kristin Livermore; Torvik, Erika; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Subject: RE: Mother Jones

Thanks Serena. I don't know that I'm the right person. Joanne, do you have any thoughts? John perhaps?

 Kevin Burkum
 Senior Vice President of Marketing

 American Egg Board
 0

 0
 847 296.7043
 |
 D
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 |
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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 2:27 PM
To: Kevin Burkum
Cc: Kristin Livermore; Torvik, Erika; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Subject: RE: Mother Jones
Importance: High

Hi Kevin –

We've heard back from Matt Jones and confirmed that he'd like to discuss statistics on which types of processed foods are the biggest users of eggs as well as walk through the <u>Shell Egg Distribution</u> table and <u>Egg Production/Distribution</u> table. The information will be used to create a few charts that will be part of a sidebar for a larger story about synthetic egg products. Unfortunately, he is not the author of the original article, so he is unclear and vague as to what angle the larger story will take.

Have you or anyone at AEB recently fielded questions about eggs and processed foods or synthetic products? Are there any red flags that come to mind? It may help to shed some light on what angle Mother Jones is planning to take.

While we're still leery of the interview, we do recommend that you or someone at AEB with issues/animal welfare experience, walk Matt through the charts, today, so the data is reflected correctly. The discussion may also help to tip us off on the angle they're planning to take.

We'll pull together a few recommended responses to animal welfare questions, just in case the conversation heads that way. In the meantime, please let us know who will field the interview and we can have a quick call to chat through final details, before someone from AEB reaches out.

Best,

Serena

From: Torvik, Erika
Sent: Thursday, August 15, 2013 5:34 PM
To: Schaffner, Serena; Kevin Burkum; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Cc: Kristin Livermore
Subject: RE: Mother Jones

Hi Kevin –

We did a little digging on Mother Jones/Matt Connolly, and found that Matt previously reported for Washington Examiner, New York Times, Washington Post and Chicago Public Radio. He doesn't seem to have a <u>dedicated beat</u> for Mother Jones or his <u>previous work</u> – he has written about everything from immigration reform to music. There have been several recent Mother Jones articles reporting about <u>animal abuse</u> in the agriculture industry, though none are specifically about the egg industry and none of those articles are by Matt. <u>Tom Philpott</u> seems to be their more regular agriculture/animal welfare reporter.

We reached out to Matt to get more information about his request and learned that he wants someone to walk him through the AEB.org <u>Shell Egg Distribution</u> table and <u>Egg</u> <u>Production/Distribution</u> table to make sure he understands the data correctly. He's also looking for stats on which types of processed foods are the biggest users of eggs. While we followed up for his deadline and additional detail on his story angle, we have not heard back.

Given the outlet's investigative focus and the data he's looking at, we're still a little leery of the request and have not committed to anything. We'll follow up with Matt again tomorrow and will keep you updated. In the meantime, let us know if you have any questions.

Best, Frika

From: Schaffner, Serena
Sent: Thursday, August 15, 2013 8:47 AM
To: Kevin Burkum; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Cc: Kristin Livermore
Subject: RE: Mother Jones

No problem, Kevin. We'll be sure to vet him and find out what he's up to. Stay tuned!

Best,

Serena

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Thursday, August 15, 2013 8:46 AM
To: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika
Cc: Kristin Livermore
Subject: Mother Jones

I received a voice mail message from a reporter at Mother Jones, Matt Connolly, who has questions about egg statistics on our website. Knowing that Mother Jones is rarely an industry friend, I know we need to respond carefully. Do you mind vetting this guy and reaching out to him to answer his questions?

mconnolly@motherjones.com; 908.616.5079





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Lutton, Sara - AMS

From:	Maher, Missy <missy.maher@edelman.com></missy.maher@edelman.com>
Sent:	Tuesday, November 26, 2013 9:42 AM
То:	Kevin Burkum; Joanne Ivy
Cc:	John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber);
	Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia
	Roberts; Peters, Timothy; Grosshandler, Jennifer
Subject:	RE: Beyond Eggs

Ok, will do.

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 8:39 AM
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Cc: John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts; Peters, Timothy; Grosshandler, Jennifer
Subject: RE: Beyond Eggs

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Cc: Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts; Peters, Timothy; Grosshandler, Jennifer

Subject: RE: Beyond Eggs

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Subject: Re: Beyond Eggs

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Thanks Missy, I will discuss with Kevin when I get back to office on Monday. Joanne

Sent from my iPhone

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- Compile a list of Tech Editors (the technology angle is what's also taken off) who have covered the Beyond Eggs Story and reach back out to them with the Environmental Study key facts and offer up interviews with Bob Krouse/AEB.
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- Go back out to the top 25 print outlets (food, features and health editors) and re-offer up the Environmental Study information in light of increasing coverage about Beyond Eggs; offer interviews with Bob Krouse/AEB.

We will of course continue to respond in real-time to traditional media coverage/social media commentary that offer inaccurate portrayals of the natural egg industry's environmental impact by providing proof points from Environmental Study.

Let's connect soon! Joanne, any word from Forbes? If no response, let's also talk about when we reach out to his editor.

Lutton, Sara - AMS

From:	Maher, Missy <missy.maher@edelman.com></missy.maher@edelman.com>
Sent:	Tuesday, November 26, 2013 9:41 AM
То:	Joanne Ivy
Cc:	Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts
Subject:	RE: Beyond Eggs

If you don't hear from Ryan over the next few days, then let's follow up with him again first (in case he was out for the holiday). If you still doesn't receive a response, then it will make sense to escalate the communication by reaching out to Kerry and Luisa early next week on Monday. We just want to be careful that we don't get his editors on the defense right away.

We have took a closer look at Ryan's profile on his <u>Forbes page</u>. He says he is a member of *Forbes*' "wealth team" and specifically works with Kerry Dolan, technology department head (<u>kdolan@forbes.com</u>); and Luisa Kroll, senior editor, Asia (<u>lkroll@forbes.com</u>).

Missy, if I don't hear back from the Forbes writer today, I think we need to be ready to send a copy of the letter to the editor for his information. I think the writer will ignore me and definitely not make a correction. The editor should be made aware. Joanne

Sent from my iPad

On Nov 26, 2013, at 9:31 AM, "Joanne Ivy" <<u>JIvy@aeb.org</u>> wrote:

Yes, we will move forward with all your recommendations. Kevin will contact Bob about the op-ed/letter to the Huffington Post and WSJ to get out today. Thanks. Joanne

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Sent: Tuesday, November 26, 2013 8:37 AM
To: Maher, Missy
Cc: Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts
Subject: Re: Beyond Eggs</sup>

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Monday, November 25, 2013 6:31 PM
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Cc: Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts
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Thanks Missy, I will discuss with Kevin when I get back to office on Monday. Joanne

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Subject:	Re: Beyond Eggs

I think Bob would appreciate you drafting a letter. He may tweak it, but I think it would be helpful. Kevin will be coordinating with Bob. Joanne

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- Work with a handful of influential, high-reach consumer/food bloggers to proactively address the consumer preference for real eggs vs.
 egg substitutes. We can also tap current blog partners to reinforce advocacy for real eggs vs.
 egg substitutes.
 - Look at high level of influencers and consider sponsored posts
 - By enlisting blogger advocates (both consumer and HP), we reach consumers via outlets they implicitly trust and look to for information about foods they purchase for

their families and recommend to friends, etc.

• Go back out to the top 25 print outlets (food, features and health editors) and re-offer up the Environmental Study information in light of increasing coverage about Beyond Eggs; offer interviews with Bob Krouse/AEB.

We will of course continue to respond in real-time to traditional media coverage/social media commentary that offer inaccurate portrayals of the natural egg industry's environmental impact by providing proof points from Environmental Study.

Let's connect soon! Joanne, any word from Forbes? If no response, let's also talk about when we reach out to his editor.

Lutton, Sara - AMS

From:	Maher, Missy <missy.maher@edelman.com></missy.maher@edelman.com>
Sent:	Tuesday, November 26, 2013 9:33 AM
То:	Joanne Ivy
Cc:	Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts; Peters, Timothy; Grosshandler, Jennifer
Subject:	RE: Beyond Eggs

We were planning to draft the op ed piece, unless you would like Bob to and we can review? Either way, just let us know. We'll pull together a budget and work on the rest.

From: Joanne Ivy [mailto:JIvy@aeb.org]
Sent: Tuesday, November 26, 2013 8:32 AM
To: Maher, Missy
Cc: Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts
Subject: Re: Beyond Eggs

Yes, we will move forward with all your recommendations. Kevin will contact Bob about the op-ed/letter to the Huffington Post and WSJ to get out today. Thanks. Joanne

Sent from my iPad

On Nov 25, 2013, at 7:36 PM, "Maher, Missy" <<u>Missy.Maher@edelman.com</u>> wrote:

Sounds good, the only bullet we'd want to pull the trigger on sooner rather than later is the oped piece.

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Monday, November 25, 2013 6:31 PM
To: Maher, Missy
Cc: Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts
Subject: Re: Beyond Eggs

Thanks Missy, I will discuss with Kevin when I get back to office on Monday. Joanne

Sent from my iPhone

On Nov 25, 2013, at 5:31 PM, "Maher, Missy" <<u>Missy.Maher@edelman.com</u>> wrote:

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While it may not be top of mind for consumers at this point, we understand the concern about industry image. Following are a few recommendations we can talk though, or of course send us any immediate thoughts. Once we align on action, we can detail next steps and scope.

- IMMEDIATE ACTION: Submit an op-ed/letter to the editor to both the Huffington Post and Wall Street Journal from egg farmer Bob Krouse, that addresses the misconceptions about the egg industry, using key points from the environmental study and his experience with retailers.
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Lutton, Sara - AMS

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Cc: Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts
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Lutton, Sara - AMS

From:	Joanne Ivy
Sent:	Monday, November 25, 2013 7:38 PM
То:	Maher, Missy
Cc:	Kevin Burkum; John Howeth; Kristin Livermore; Schaffner, Serena; Jensen, Elizabeth (Schreiber); Grosshandler, Jennifer; Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Anderson, Sarah; Mia Roberts
Subject:	Re: Beyond Eggs

I just want you to know that I have not received an acknowledgement of my email to Ryan. I realize it is holiday week and he may not be working, but I would think he checks his emails. If I don't hear from him by Monday, maybe I should follow up or contact the editor. Talk on Monday. Joanne

Sent from my iPhone

On Nov 25, 2013, at 5:31 PM, "Maher, Missy" <<u>Missy.Maher@edelman.com</u>> wrote:

Hi there, we've regrouped internally to provide thought starters on how we can address the growing coverage of Beyond Eggs and associated industry views. We expect this story will continue to be picked up by journalists as it's backed by Bill Gates and other high profile investors (Kholsa Investors), and also features the CEO of Twitter who is talking about the latest/newest advances in <u>Food</u> <u>Technology</u>.

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From:	John Howeth
To:	Joanne Ivy
Cc:	John Howeth
Subject:	RE: Beyond Eggs
Date:	Monday, October 14, 2013 12:54:44 PM
Attachments:	image002.png
	image003.png
	image004.png
	image005.png
	image006.png
	image007.png
	image008.jpg

This must be the one for the cookie dough product as I know the Just Mayo contains yellow pea protein and sorghum (per their PR release). This reinforces what I said in that every application has a different formulation. To be a player, they would need to produce large quantities of each applications' formula to be able to supply the market.

Thanks for the statement.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 <u>www.AEB.org</u>

From: Joanne Ivy Sent: Monday, October 14, 2013 11:41 AM To: John Howeth Subject: FW: Beyond Eggs

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Sparish, Diane M. [mailto:Diane.Sparish@MichaelFoods.com] Sent: Monday, October 14, 2013 11:32 AM To: Joanne Ivy Subject: FW: Beyond Eggs

FYI. See Beyond Eggs ingredients below.

Diane Sparish VP Corporate Communication 952-258-4045 diane.sparish@michaelfoods.com

?

301 Carlson Parkway Suite 400 Minnetonka, MN 55305

From: Merkle, Jonathan A. Sent: Monday, October 14, 2013 11:29 AM To: Sparish, Diane M. Subject: RE: Beyond Eggs

Hampton Creek

Ingredients: Whole Sorghum Flour, Oat Fiber, Oat Bran, Xanthan Gum, Algin

From: Sparish, Diane M. Sent: Monday, October 14, 2013 11:25 AM To: Merkle, Jonathan A. Subject: Beyond Eggs

Do you have the ingredient deck for the Beyond Eggs product(s)? If so, please forward it to me.

Thanks, Diane

Diane Sparish VP Corporate Communication 952-258-4045 diane.sparish@michaelfoods.com



301 Carlson Parkway Suite 400 Minnetonka, MN 55305

Lutton, Sara - AMS

From: Sent: To: Cc: Subject: John Howeth Monday, February 24, 2014 11:34 AM Jacinta LeDonne John Howeth **RE: Beyond Eggs**

January Update for UEA.ppt

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Jacinta LeDonne Sent: Monday, February 24, 2014 10:33 AM To: John Howeth Subject: RE: Beyond Eggs

What did you drop it under? There is so much there – I want to be sure I grab the right one.

Jacinta Le Donne | Director of State Programs

American Egg Board

O 847.296.7043 | **D** 224.563.3709 | **F** 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

incredible



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From: John Howeth Sent: Monday, February 24, 2014 10:23 AM To: Jacinta LeDonne Cc: John Howeth Subject: RE: Beyond Eggs

It's there.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705

From: Jacinta LeDonne
Sent: Monday, February 24, 2014 10:22 AM
To: John Howeth
Cc: Elisa Maloberti; Amanda Ferencz
Subject: RE: Beyond Eggs

If you could drop it in oasis, that would be great...I cannot see your files.

Jacinta Le Donne | Director of State Programs

 American Egg Board

 0 847.296.7043 | D 224.563.3709 | F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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From: John Howeth
Sent: Monday, February 24, 2014 10:22 AM
To: Jacinta LeDonne
Cc: Elisa Maloberti; Amanda Ferencz; John Howeth
Subject: RE: Beyond Eggs

Take a look at this deck. There are slides that mention what we're doing and Joanne prepared some slides at the end of the deck. This should give you what you need. If you can't get access to it, let me know and I'll drop it in Oasis.

file:///\\aebdata\shared\Egg%20Product%20Marketing\U%20E%20A\2014\January%20Update%20for%20UEA.ppt

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Jacinta LeDonne Sent: Monday, February 24, 2014 10:07 AM To: John Howeth Cc: Elisa Maloberti; Amanda Ferencz Subject: Beyond Eggs

Good Morning John,

I will be presenting at the NERO conference next week and would like to include several slides on what we are doing around the Beyond Eggs front – do you have anything already prepared that you could share with me?

Thanks much,

Jacinta Le Donne | Director of State Programs

American Egg Board

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 847.296.7043
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 224.563.3709
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 847.296.7007

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From:	John Howeth
To:	Joanne Ivy
Cc:	John Howeth
Subject:	RE: Beyond Eggs
Date:	Friday, January 10, 2014 1:22:44 PM
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png

That would be terrific.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Joanne Ivy Sent: Friday, January 10, 2014 11:21 AM To: Mitch Kanter; John Howeth Cc: Karyn Kreher; John Howeth Subject: RE: Beyond Eggs

I will also sign up to keep up with what he is saying. Thanks Karyn for the alert. Second thought, John, how about if I watch in your office? If Josh gets the list of those signed up, I would not want him to see my name. He knows my name as he has reached out to me a couple of times to start a dialogue on his blogs. Joanne

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

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 847 296.7043 | D
 224 563.3701 | C
 (b) (6)

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From: Mitch Kanter Sent: Friday, January 10, 2014 11:16 AM To: John Howeth Cc: Karyn Kreher; Joanne Ivy; John Howeth Subject: Re: Beyond Eggs

Oh I see now. Next Wednesday at 9 AM. I will sign up Mitch

Sent from my iPhone

On Jan 10, 2014, at 10:52 AM, "John Howeth" <<u>JHoweth@aeb.org</u>> wrote:

Thanks Karyn, we appreciate the alert. I'm already registered, it should be interesting to see how Josh shares the floor with others.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Karyn Kreher [mailto:karyn@krehereggs.net] Sent: Friday, January 10, 2014 10:40 AM To: Joanne Ivy Cc: John Howeth; Mitch Kanter Subject: FW: Beyond Eggs

Joanne,

We noticed that Josh Tetrick is speaking on this webinar. We may have someone listen in but I thought you'd want to be aware of this if you haven't yet seen it.

Karyn Kreher Director of Food Safety and Quality Assurance Kreher's Farm Fresh Eggs Wayne County Eggs 716-759-6802 office (b) (6) cell

My email address has changed. Please update my contact information to my new email address:

Karyn@krehereggs.net

From: Mike Kreher
Sent: Friday, January 10, 2014 11:30 AM
To: Kurt Kreher; Karyn Kreher; Scott Kreher; Natalie K Held; Jeannette Kreher; Hal Kreher
Subject: Beyond Eggs

Should somebody listen so we understand the competition?

http://vts.inxpo.com/scripts/Server.nxp? LASCmd=AI:4;F:QS!10100&ShowKey=17705 Thank you, Mike Kreher Kreher's Farm Fresh Eggs, LLC 5411 Davison Road P.O. Box 410 Clarence, NY 14031-0410 Office: (716) 759-6802

From:	John Howeth
To:	<u>Maher, Missy</u>
Cc:	John Howeth
Subject:	RE: Beyond Eggs
Date:	Friday, October 25, 2013 11:47:00 AM
Attachments:	image001.png
	image002.png
	image003.png
	image004.png
	image005.png
	image006.png
	image007.png
	image008.png
	image009.png
	image010.png

Thank you, that's exactly what I was looking.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Friday, October 25, 2013 10:45 AM
To: John Howeth
Cc: Jensen, Elizabeth (Schreiber)
Subject: FW: Beyond Eggs

Hi John, I think this is what you were referring to? I just double checked with Andy too. Let me know!

From: Liuzzi, Andrew
Sent: Wednesday, August 21, 2013 2:57 PM
To: Maher, Missy; Joanne Ivy; Jensen, Elizabeth (Schreiber); Schaffner, Serena
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Afternoon all—

We just wanted to follow up here from the Edelman perspective and absolutely agree that the industry needs to put together a strategy to be prepared here. Thus, in advance of our regroup tomorrow afternoon, we thought that it'd be helpful to send across a few initial thought starters for consideration. I've touched base with the team here and we've also done a topline media audit of the coverage Beyond Eggs is receiving, which we can discuss tomorrow as well. We look forward to regrouping.

Initial Considerations

- As we develop our strategy, it will be critical that we have distinct elements that focus on the primary stakeholder groups involved, which we see as the following:
 - Customers (especially with Food Service/Food Manufacturing partners who rely on eggs for the production process and might be open to a switch IF Beyond Eggs can deliver on its stated promise)
 - We will want to establish an ongoing direct-to-customer campaign that speaks to the areas that they care most about: safety of eggs, humane treatment of hens and cost-efficiency
 - o Consumers (Agree w/ Mitch that this does not present a huge market opportunity but rather, like seitan or tempeh, will cater to a niche market)
 - o Health professionals
 - o Egg Farmers
- In order to calibrate our strategy, it will be important to gain any additional information on the product itself, namely:
 - o Nutrition claims?
 - o Cost/how scalable is this from a production standpoint?
 - Do they have any mainstream retail backers? We know they have a relationship with Whole Foods but, given the nature of the BE product and WF's audience, that is to be expected (could also see Trader Joes as potential partner)
- Overall, in viewing these stakeholder groups, we believe that there are varying degrees of risk:
 - o Consumers:
 - Low-Moderate (our focus/messaging narrative on consumer would want to be focused around consumer choice and then pivot to many positive attributes of the egg)
 - o Customers:
 - Moderate-High if they can deliver on their promise that it is healthier, more cost efficient, tastes better and will ensure no mistreatment of animals
 - o HPs
 - o Egg Farmers
- With all outreach, we will not want to engage in any sort of public/private offensive that is specifically targeted at BE—but rather we will want to develop/communicate our position that, organically, diffuses the BE argument
 - o Especially important given the role HSUS has played w/UEP as well as the role of the Gates Foundation which carries incredible weight
 - The BE position is interesting given that this product is placing two camps that are traditionally aligned in potential opposition to each other: those who are supportive

v/r, Andy of cage-free housing/animals rights activists vs. those who are opposed to "frankenfood"/synthetic food production

From: Maher, Missy
Sent: Tuesday, August 20, 2013 3:37 PM
To: Joanne Ivy; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Liuzzi, Andrew
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Absolutely, I have cc'd Andy Liuzzi on our crisis team. We will brief him, collect throughts as well as set up a call asap this week.

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, August 20, 2013 3:33 PM
To: Maher, Missy; Jensen, Elizabeth (Schreiber); Schaffner, Serena
Cc: John Howeth; Elisa Maloberti; Mitch Kanter; Kevin Burkum; Kristin Livermore; Tia Rains
Subject: RE: Beyond Eggs

Missy, I am getting a lot of emails about this product from egg producers and further processors. The further processor considers this a serious threat to their business. I have met with John, and we think it would be a good idea if Edelman looked at this product as a crisis and major threat to the future of the egg product business and provide some advice and input as to how we should address this situation. I was wondering if we should hold a conference call this week to discuss or if Edelman would like to give some thought to the situation and get back to me about how you would like to present your recommendations and move forward. I realize this is an egg product issue, but I respect Edelman's expertise in a crisis situation. I am feeling this is turning into a crisis!

Most of the emails I am getting are similar to this one, "What are we doing at AEB with regard to this competing product??" We need to have an answer! Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Mitch Kanter
Sent: Tuesday, August 20, 2013 2:30 PM
To: Joanne Ivy; Kevin Burkum
Cc: 'Schaffner, Serena'; Maher, Missy (<u>Missy.Maher@edelman.com</u>); Jensen, Elizabeth (Schreiber); Torvik, Erika; McClamroch, Allison (<u>Allison.McClamroch@edelman.com</u>); Kristin Livermore; Tia Rains
Subject: RE: Mother Jones

On a macro level, this product still doesn't feel "natural" to me. Unless it performs absolutely better than eggs in food applications, I wonder how much pick up it will get in mainstream products. Remains to be seen, but that's my sense. Feels like a niche product.

On a micro level, has anyone ever written an article we're aware of that counters the claim about animal suffering from the following perspectives?"

1-hens these days are as productive as they've ever been. They are egg laying "machines." If they were suffering it's highly doubtful they'd be as productive as they are. Too many physiological changes occur in suffering animals to allow them to be that productive

2-what is the rate at which free range birds can be picked off by predators? I think it's very high. Ken Anderson quoted me a number in the vicinity of 50% I think.

Point is- -has there been a concerted enough effort to get these points across to counter the HSUS types? Mitch

From: Joanne Ivy
Sent: Tuesday, August 20, 2013 2:06 PM
To: Kevin Burkum
Cc: 'Schaffner, Serena'; Maher, Missy (<u>Missy.Maher@edelman.com</u>); Jensen, Elizabeth (Schreiber); Torvik, Erika; McClamroch, Allison (<u>Allison.McClamroch@edelman.com</u>); Mitch Kanter; Kristin Livermore Subject: RE: Mother Jones

Yes, the interview and questions were too easy. I am also a little paranoid. This article game out today – a synthetic egg! (see below) I am aware of this product and their website, but this is a very scary article. I have scheduled a meeting with John Howeth today to discuss. Joanne

Below is an article where HSUS interviews Beyond Meat which produces an egg replacement product. We were the first to uncover that HSUS has invested in the concept while deceptively pretending to partner with (i.e., extort under the threat of lawsuits) the egg industry. I've highlighted some specific sections of the article that warrant your attention. Ask yourself whether these people are credible partners. -Rick

http://www.humanesociety.org/news/magazines/2013/09-10/best-laid-plans-egg-substituteto-benefit-hens.html

August 19, 2013 Best Laid Plans

Plant-based egg substitute could benefit millions of hens.

All Animals magazine, September/October 2013

Josh Tetrick, CEO of Hampton Creek, wants to change the world with a pale green powder. Called Beyond Eggs, it gets its color from a variety of pea—an ingredient the company's scientists and chefs identified after testing 287 plants. There's also sunflower and canola oil and other natural ingredients. One formulation of the powder can be used to replace eggs in baked goods like cookies. Another can be used in sauces like mayonnaise.

The food industry traditionally has used processed eggs—in liquid, frozen, or powdered form —to make these products. One third of the eggs produced in the U.S. today go for this purpose. Most of those eggs are laid on factory farms by hens crammed into battery cages stacked enclosures so small that the birds can't even spread their wings. Tetrick aims to take over much of the processed eggs market with a product he says is not only more humane, but about 20 percent less expensive, better for the environment, and healthier—it has no cholesterol and carries none of the food safety risks of eggs from factory farms.

"We want to decrease by 30 percent the number of egg-laying hens in battery cage facilities during the next five years."

This year, two major food companies will begin using Beyond Eggs. (The product will also be available to consumers through Hampton Creek's website.) In the future, Tetrick hopes to develop a liquid product that could be used to make scrambled eggs.

Based in San Francisco, Hampton Creek already has several million dollars in venture capital funds and the endorsement of Bill Gates, who has identified it as one of the top companies shaping the future of food.

Beyond Eggs could potentially spare hundreds of millions of chickens from lives in battery cages, says Josh Balk, director of corporate policy for The HSUS's Farm Animal Protection Campaign and an old friend of Tetrick's. "Hampton Creek is a great example of how the humane economy can benefit animals," says Balk, who helped the company get started. "In order to eliminate factory farming, consumers have to continue incorporating more plant-based foods into their diets." Beyond Eggs could pave the way to ending battery cage facilities so that the only eggs on the market come from higher welfare, pasture-based systems.

In this edited interview with senior writer Karen E. Lange, Tetrick talks about where his vision for Beyond Eggs came from and where he hopes it will lead.

How did your concern for animals lead you to develop an alternative egg product?

About 1.1 trillion eggs are laid every single year globally. Most come from places that we wouldn't be too proud of if we saw them, places that are awfully cruel, awfully unsustainable, and pretty bad for our health. And I just thought that **there's got to be a way to take the animal entirely out of the equation** when it comes to conventional egg production and do something that's better and less expensive.

Can you describe the typical commercial egg-laying facility?

It's an industrial warehouse. It's dimly lit, with row upon row upon row of cages stacked on top of each other, lining each wall. It smells of ammonia. And in each cage you have seven to 10 birds packed body to body. And you can see all the corn and soy that they're fed. They have a water drip. And they're left there for two years.

It's radical abuse, beyond-the-pale abuse. Whether we think a bird in one of those cages is equal to our dog or our cat, or to a Bengal tiger or an Asian elephant, really isn't the point

for me. The point is, she's a living being.

What is Josh Balk's relationship to Hampton Creek?

He is the real inspiration behind everything that's happening every single day here. We've known each other since we were about 16 years old. He was a pitcher who used to strike me out on a regular basis on the baseball field, and we've been best friends ever since.

I was raised in Birmingham, Ala., in a lot of ways completely blind to the environmental and ethical issues around our food system. And Josh, even when I was 18 or 19 years old, has been educating me, encouraging me to eat in a more humane way, and opening my eyes to how we can really change the world through food.

How does Beyond Eggs compare to eggs in terms of nutrition?

I would say it's healthier. You're avoiding food safety issues, you're avoiding cholesterol, you're avoiding allergens that eggs have. It does provide the same kind of protein, but no one's eating a cookie for protein.

Can most people taste the difference between Beyond Eggs and powdered or shell eggs?

Usually, people can tell the difference, and they like ours better. The taste comes out a bit more in the product. So you taste the chocolate of the cookie more, for example. And they like the taste of the mayonnaise better. It's not scary mayo; it's not mayo made in a lab. It's just really good mayonnaise that is priced competitively and doesn't have cholesterol.

Do you foresee Hampton Creek's products replacing most of the eggs produced in battery cage facilities?

All of them. We want to decrease by 30 percent the number of egg-laying hens in battery cage facilities during the next five years. We want to end animal suffering in the egg industry.

What are the company's other long-term goals?

Our hopes for Hampton Creek are, in seven years, that when people think about food, we're one of the companies they mention that are moving our system forward, that are creating millions of pounds—thousands of products—of food that respects animals and respects the environment. We'll be outside the U.S., on the subways of Beijing, and on the streets of Lagos, Nigeria, and Birmingham, Ala., where I was raised. We want to be the world's most valuable company.

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068



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From: Kevin Burkum Sent: Tuesday, August 20, 2013 1:59 PM To: Joanne Ivy Subject: RE: Mother Jones

Something still smells fishy. Hope I'm just being paranoid.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Joanne Ivy
Sent: Tuesday, August 20, 2013 1:11 PM
To: 'Schaffner, Serena'; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Matt only asked questions about the charts. It was very straight forward. He wanted to know what each column represented; definitions for words such as breaker, layer, egg product, institution (commercial and non-commercial); brief explanation for decline in shell eggs at retail, etc.; formula for USDA's per capita consumption figures; and a few basic trends in egg usage based on the charts. Very easy discussion! Joanne

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 8:13 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Sounds great! We know you'll do a great job, Joanne! We'll let the reporter know you'll be contacting him tomorrow. Look forward to hearing how it goes!

Best, Serena

------ Original message ------From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: 08/19/2013 5:23 PM (GMT-06:00) To: "Schaffner, Serena" <<u>Serena.Schaffner@edelman.com</u>>,Kevin Burkum <<u>KBurkum@aeb.org</u>> Cc: Kristin Livermore <<u>KLivermore@aeb.org</u>>,"Maher, Missy" <<u>Missy.Maher@edelman.com</u>>,"McClamroch, Allison" <<u>Allison.McClamroch@edelman.com</u>>,"Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>>,"Torvik, Erika" <<u>Erika.Torvik@edelman.com</u>> Subject: RE: Mother Jones

Serena: Thank you for the information you provided as I know it will be helpful. I have a background in egg products and also started AEB's program, so unless the questions are complicated, I feel sure I will be able to handle most questions – unless it is about synthetic eggs! ③

I will call tomorrow as there are a couple of stats on the charts that are not consistent. I no longer input these numbers on the website, so I am verifying a couple of figures that look a little strange to me. I will call Matt tomorrow am, and I will let you know how it goes. Joanne

 Joanne C. Ivy, CAE
 President & CEO

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 4:31 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Hi Joanne –

As promised, we've pasted below a few talking points to address any "watch out" questions that might come up during the interview in regards to animal welfare. Should he press for more information, feel free to direct him to UEP. There may be a few questions about eggs in processed foods, so we've included talking points that also address cholesterol, in case he brings up egg nutrition and health. Please let us know if you have any questions. We look forward to hearing how the interview goes and will be sure to keep a close eye on any resulting coverage.

Best, Serena

Animal Welfare:

- Hen health and egg quality are the top two priorities on egg farms all day, every day.
- America's egg farmers have very strict steps, safeguards and practices they follow to make sure their hens are healthy and to protect the quality of the eggs.
- Advances in science and technology help egg farmers preserve safety and quality throughout the gathering, inspecting, packaging and handling process.
- Egg farmers follow guidelines to ensure the hens are provided with nutritious feed, clean water, proper lighting and fresh air. The guidelines place top priority on health and safety.
- For more information on this topic, please contact someone with the United Egg Producers at 770.360.9220.

Concerns about Cholesterol:

- The USDA recently reviewed the nutrient composition of standard large eggs, and results show the average amount of cholesterol in one large egg is 185 mg, down from 215 mg, 14 percent lower than previously recorded in 2002.
- Enjoying an egg a day can fall within current cholesterol guidelines, particularly if individuals opt for other low-cholesterol foods throughout the day.
 - The 2010 *Dietary Guidelines for Americans* recommend that individuals consume, on average, less than 300 mg of cholesterol per day. A large egg contains 185 mg of cholesterol.
- The 2010 *Dietary Guidelines for Americans* support the role of eggs in a healthy diet. The report, released in January 2011, states that healthy individuals can enjoy an egg daily and suggests an egg a day does not result in increased blood cholesterol levels.
 - Studies have also shown that eating one or more eggs per day does not increase the risk of coronary heart disease or stroke among healthy individuals, and that eating eggs daily does not have a significant impact on blood cholesterol.
- A large body of science supports the beneficial role that eggs play in a healthful diet, including promoting mind and body energy, reducing the risk of birth defects, promoting muscle and eye health and helping to manage weight.

From: Schaffner, Serena
Sent: Monday, August 19, 2013 4:15 PM
To: Joanne Ivy; Kevin Burkum
Cc: Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Hi Joanne –

We'll send you updated animal welfare messages, shortly. Please let us know if there is anything else you need that we can provide.

Best,

Serena

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Monday, August 19, 2013 3:32 PM
To: Kevin Burkum
Cc: Schaffner, Serena; Kristin Livermore; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Torvik, Erika
Subject: RE: Mother Jones

Kevin, I probably understand the charts better than anyone since I created them. However, I would not want to answer questions on synthetic products. Actually, John would be more on top of the latest information regarding eggs and processed foods. I am still concerned about the angle that this article may go. I guess if he asked about those areas, I could have John call him back.

I can handle reviewing the chart if you want. However, I just glanced at them and I noticed a few minor discrepancies between the two charts, for example one chart shows in 2012, 223.70 million cases produced (80,532,000,000 eggs) and the other chart shows 224.10 cases produced (80,676,000,000 eggs). It is probably a matter of USDA making adjustments through the year, but I need to review these charts as someone else is inputting the information now on the website and I have not reviewed them in a while.

I will call Matt Connolly today once I review the charts. If Edelman wants to provide some animal welfare comments in case I am asked, it may be helpful. Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Sent: Monday, August 19, 2013 2:29 PM To: Joanne Ivy Subject: FW: Mother Jones

Meant to forward this to you. Please advise, thanks.

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847 296.7043 | D 224 563.3702 | F 847.296.7007

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From: Kevin Burkum
Sent: Monday, August 19, 2013 2:29 PM
To: 'Schaffner, Serena'
Cc: Kristin Livermore; Torvik, Erika; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Subject: RE: Mother Jones

Thanks Serena. I don't know that I'm the right person. Joanne, do you have any thoughts? John perhaps?

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Monday, August 19, 2013 2:27 PM
To: Kevin Burkum
Cc: Kristin Livermore; Torvik, Erika; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Subject: RE: Mother Jones
Importance: High

Hi Kevin –

We've heard back from Matt Jones and confirmed that he'd like to discuss statistics on which types of processed foods are the biggest users of eggs as well as walk through the <u>Shell Egg Distribution</u> table and <u>Egg Production/Distribution</u> table. The information will be used to create a few charts that will be part of a sidebar for a larger story about synthetic egg products. Unfortunately, he is not the author of the original article, so he is unclear and vague as to what angle the larger story will take.

Have you or anyone at AEB recently fielded questions about eggs and processed foods or synthetic

products? Are there any red flags that come to mind? It may help to shed some light on what angle Mother Jones is planning to take.

While we're still leery of the interview, we do recommend that you or someone at AEB with issues/animal welfare experience, walk Matt through the charts, today, so the data is reflected correctly. The discussion may also help to tip us off on the angle they're planning to take.

We'll pull together a few recommended responses to animal welfare questions, just in case the conversation heads that way. In the meantime, please let us know who will field the interview and we can have a quick call to chat through final details, before someone from AEB reaches out.

Best,

Serena

From: Torvik, Erika
Sent: Thursday, August 15, 2013 5:34 PM
To: Schaffner, Serena; Kevin Burkum; Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber)
Cc: Kristin Livermore
Subject: RE: Mother Jones

Hi Kevin –

We did a little digging on Mother Jones/Matt Connolly, and found that Matt previously reported for Washington Examiner, New York Times, Washington Post and Chicago Public Radio. He doesn't seem to have a <u>dedicated beat</u> for Mother Jones or his <u>previous work</u> – he has written about everything from immigration reform to music. There have been several recent Mother Jones articles reporting about <u>animal abuse</u> in the agriculture industry, though none are specifically about the egg industry and none of those articles are by Matt. <u>Tom Philpott</u> seems to be their more regular agriculture/animal welfare reporter.

We reached out to Matt to get more information about his request and learned that he wants someone to walk him through the AEB.org <u>Shell Egg Distribution</u> table and <u>Egg</u> <u>Production/Distribution</u> table to make sure he understands the data correctly. He's also looking for stats on which types of processed foods are the biggest users of eggs. While we followed up for his deadline and additional detail on his story angle, we have not heard back.

Given the outlet's investigative focus and the data he's looking at, we're still a little leery of the request and have not committed to anything. We'll follow up with Matt again tomorrow and will keep you updated. In the meantime, let us know if you have any questions.

Best, Erika

Subject: RE: Mother Jones

No problem, Kevin. We'll be sure to vet him and find out what he's up to. Stay tuned!

Best,

Serena

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Thursday, August 15, 2013 8:46 AM
To: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika
Cc: Kristin Livermore
Subject: Mother Jones

I received a voice mail message from a reporter at Mother Jones, Matt Connolly, who has questions about egg statistics on our website. Knowing that Mother Jones is rarely an industry friend, I know we need to respond carefully. Do you mind vetting this guy and reaching out to him to answer his questions?

mconnolly@motherjones.com; 908.616.5079

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From:	John Howeth
To:	Joanne Ivy
Cc:	John Howeth
Subject:	RE: Beyond Eggs
Date:	Monday, October 14, 2013 12:54:00 PM
Attachments:	image002.png
	image003.png
	image004.png
	image005.png
	image006.png
	image007.png
	image008.jpg

This must be the one for the cookie dough product as I know the Just Mayo contains yellow pea protein and sorghum (per their PR release). This reinforces what I said in that every application has a different formulation. To be a player, they would need to produce large quantities of each applications' formula to be able to supply the market.

Thanks for the statement.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 <u>www.AEB.org</u>

From: Joanne Ivy Sent: Monday, October 14, 2013 11:41 AM To: John Howeth Subject: FW: Beyond Eggs

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Sparish, Diane M. [mailto:Diane.Sparish@MichaelFoods.com] Sent: Monday, October 14, 2013 11:32 AM To: Joanne Ivy Subject: FW: Beyond Eggs

FYI. See Beyond Eggs ingredients below.

Diane Sparish VP Corporate Communication 952-258-4045 diane.sparish@michaelfoods.com

?

301 Carlson Parkway Suite 400 Minnetonka, MN 55305

From: Merkle, Jonathan A. Sent: Monday, October 14, 2013 11:29 AM To: Sparish, Diane M. Subject: RE: Beyond Eggs

Hampton Creek

Ingredients: Whole Sorghum Flour, Oat Fiber, Oat Bran, Xanthan Gum, Algin

From: Sparish, Diane M. Sent: Monday, October 14, 2013 11:25 AM To: Merkle, Jonathan A. Subject: Beyond Eggs

Do you have the ingredient deck for the Beyond Eggs product(s)? If so, please forward it to me.

Thanks, Diane

Diane Sparish VP Corporate Communication 952-258-4045 diane.sparish@michaelfoods.com



301 Carlson Parkway Suite 400 Minnetonka, MN 55305

Lutton, Sara - AMS

From: Sent: To: Cc: Subject: John Howeth Thursday, October 10, 2013 6:44 PM Joanne Ivy Elisa Maloberti Re: Beyond Eggs

Tuesday is fine with me.

John Howeth VP Ingredients & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org

On Oct 10, 2013, at 4:34 PM, "Joanne Ivy" <<u>JIvy@aeb.org</u>> wrote:

Tuesday morning will work. Joanne

Sent from my iPhone

On Oct 10, 2013, at 5:34 PM, "Elisa Maloberti" <<u>EMaloberti@aeb.org</u>> wrote:

Joanne,

I have requested a vacation day on Monday. Will it be possible to have the meeting on Tuesday?

Elisa

----- Original Message -----From: Joanne Ivy Sent: Thursday, October 10, 2013 02:59 PM To: John Howeth Cc: Elisa Maloberti Subject: Beyond Eggs

John and Elisa: We need to get together to discuss additional steps to address Beyond Eggs. Will you be in the office on Monday at 11:00 am.? We could meet in the conference room if not in use. Otherwise, my office. Are both of you available? Joanne

Sent from my iPhone

Lutton, Sara - AMS

From:	John Howeth
Sent:	Thursday, September 12, 2013 8:28 PM
То:	Elisa Maloberti
Subject:	Re: Beyond Eggs

Thanks, u can call and we can discuss if u want. I'll be up early. Delays big time today, leaving here around 9.

John Howeth VP Ingredients & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org

On Sep 12, 2013, at 7:44 PM, "Elisa Maloberti" <<u>EMaloberti@aeb.org</u>> wrote:

Sure

From: John Howeth Sent: Thursday, September 12, 2013 05:10 PM To: Elisa Maloberti Subject: Fwd: Beyond Eggs

Can you start this first thing.

John Howeth VP Ingredients & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> <u>www.AEB.org</u>

Begin forwarded message:

From: Joanne Ivy <<u>JIvy@aeb.org</u>> Date: September 12, 2013, 5:24:31 PM EDT To: John Howeth <<u>JHoweth@aeb.org</u>> Subject: Beyond Eggs

I am going to say something to the industry press about Beyond Eggs. I have ask Edelman to assist me with a release.

I may want to add something about AEB's approach. Would you provide information on our strategy and campaign to address egg replacers, including the Beyond Egg product. I hope to get out the release mtomorrow afternoon, so could you write something at your earliest convenience by 11:00 am tomorrow. Thanks. Joanne

Sent from my iPhone

Lutton, Sara - AMS

From:	Joanne Ivy
Sent:	Wednesday, December 04, 2013 7:25 PM
То:	Jensen, Elizabeth (Schreiber)
Cc:	Kevin Burkum; John Howeth; Mia Roberts; Kristin Livermore; Maher, Missy;
	Grosshandler, Jennifer; Schaffner, Serena; Torvik, Erika; Englert, Jenny; Jaffe, Brad; Liuzzi,
	Andrew; Singer, Jamie
Subject:	Re: Beyond Eggs

Elizabeth, thank you for providing the plan of action. This topic came up today with Roger, so it will be good to be able to provide the EC with a proactive plan. Obviously, all the negative publicity lately is concerning. Joanne

Sent from my iPad

On Dec 4, 2013, at 6:14 PM, "Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>> wrote:

Hi everyone,

We are moving full steam ahead on the Beyond Eggs outreach. Please see below for the plan of action:

- Starting tomorrow, we'll send over coverage monitoring reports twice daily one in the morning and one towards the end of the day.
- We'll evaluate coverage and determine if a response or any next steps, etc. are needed.
- We'll ramp up our pitching efforts tomorrow and will keep you posted on progress.
- We have compiled an initial list of potential blog partners. We're taking a closer look at the blogs and will provide partner recommendations by Friday at the latest.
- In the meantime, we will start to reach out to bloggers to gauge interest along with fees/rates. Once we have AEB feedback, we can negotiate final fees with the bloggers.
- The goal is to have the sponsored posts go live as soon as possible next week.

Please let us know if you have any questions. Of course, we are available to hop on the phone to discuss as well!

Best, Elizabeth

Lutton, Sara - AMS

From: Sent: To: Cc: Subject: John Howeth Tuesday, November 19, 2013 7:49 AM Mia Roberts John Howeth RE: Beyond Eggs and Denny's

Hi Mia, here are the codes:

Beyond Eggs – 38.581.80 Special Projects Denny's -12.681.40 National Accounts Carryover

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Mia Roberts Sent: Monday, November 18, 2013 2:01 PM To: John Howeth Subject: Re: Beyond Eggs and Denny's

Yes please :)

On Nov 18, 2013, at 1:54 PM, "John Howeth" <<u>JHoweth@aeb.org</u>> wrote:

Do you need billing codes for each?

John Howeth VP Ingredients & Commercial Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> www.AEB.org

On Nov 18, 2013, at 1:22 PM, "Mia Roberts" <<u>MRoberts@aeb.org</u>> wrote:

Hi John, I need to bring this to your attention. We can chat today at Method Engine... thanks!

Sent from my iPhone

Begin forwarded message:

From: "Jensen, Elizabeth (Schreiber)"
<<u>elizabeth.jensen@edelman.com</u>>
Date: November 18, 2013 at 1:10:26 PM CST
To: Mia Roberts <<u>MRoberts@aeb.org</u>>
Cc: "Schaffner, Serena" <<u>Serena.Schaffner@edelman.com</u>>
Subject: Beyond Eggs and Denny's

Hi Mia,

I hope you had a great weekend! As promised, we went back through our September fees and separated out any work done on Beyond Eggs and Denny's (highlighted in the attached).

Following are the breakdowns.

- Beyond Eggs: 13 hours (VP, SAS); \$2,628 in fee
- Denny's Promotion: 20.25 hours (AAE, AE, SAS); \$2,788.88

Please note, those working on the Beyond Eggs response were at a higher level of expertise than those working on the Denny's promotion, which is why both fees are comparable. Please let us know if you have any questions or need anything else.

Best, Elizabeth

<September Ag Ed Activity Report - Beyond Eggs 11.18.13.doc>

John,

We haven't found anything specific yet, but I have my crack researcher, Veronica, on it.

She does have two articles with some insight so far. We'll forward soon.

Regards,

Jerry Smiley Partner Strategic Growth Partners, Inc. 760 Rosedale Avenue Roselle, Illinois 60172 630-893-8399 🖀

630-899-9488 🖬



If you have received this electronic transmission in error or are not interested in receiving emails of this nature, please notify us by telephone (630-893-8399) or simply reply to this email and we will resolve immediately. Thank You.

From: John Howeth [mailto:JHoweth@aeb.org]Sent: Friday, July 25, 2014 12:47 PMTo: Jerry SmileySubject: Re: Beyond Eggs Article 7.25

Yes that's the one I'm looking for. Even if we can't get a sample if we can get an ingredient statement and nutritional panel that would be super. Thank you.

John Howeth VP Foodservice & Egg Product Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> <u>www.AEB.org</u>

> wrote:

I assume that you mean "Just Scramble" product. True?

I don't think it's on the market yet, but I can check. I think I can get the mayo and cookie mix products.

Regards,

Jerry Smiley Partner Strategic Growth Partners, Inc. 760 Rosedale Avenue Roselle, Illinois 60172 630-893-8399 ☎ 630-899-9488 ■

Please consider the environment before printing this e-mail.

If you have received this electronic transmission in error or are not interested in receiving emails of this nature, please notify us by telephone (630-893-8399) or simply reply to this email and we will resolve immediately. Thank You.

From: John Howeth [mailto:JHoweth@aeb.org]
Sent: Friday, July 25, 2014 11:26 AM
To: Jerry Smiley
Subject: Fwd: Beyond Eggs Article 7.25

Hey is there anyway that you can get this product? I'm sure the Joanne would really appreciate it.

John Howeth VP Foodservice & Egg Product Marketing American Egg Board <u>1460 Renaissance Drive</u> <u>Park Ridge, IL 60068</u> Office: <u>847.296.7043</u> <u>www.AEB.org</u>

Begin forwarded message:

From: Joanne lvy <<u>Jlvy@aeb.org</u>>
Date: July 25, 2014 at 11:22:55 AM CDT
To: Mitch Kanter <<u>MKanter@eggnutritioncenter.org</u>>
Cc: "Englert, Jenny" <<u>Jenny.Englert@edelman.com</u>>, Kevin Burkum
<<u>KBurkum@aeb.org</u>>, Serena Schaffner <<u>sschaffner@aeb.org</u>>, Mia
Roberts <<u>MRoberts@aeb.org</u>>, Jacinta LeDonne <<u>JLeDonne@aeb.org</u>>,

Ashley Richardson <<u>ARichardson@aeb.org</u>>, Sheryl Slagle <<u>SSlagle@aeb.org</u>>, John Howeth <<u>JHoweth@aeb.org</u>>, "Maher, Missy" <<u>Missy.Maher@edelman.com</u>>, "McClamroch, Allison" <<u>Allison.McClamroch@edelman.com</u>>, "Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>>, "Waltz, Allison" <<u>Allison.Waltz@edelman.com</u>>, "Burch, Kellie" <<u>Kellie.Burch@edelman.com</u>> Subject: Re: Beyond Eggs Article 7.25

We can try to get it, but as far as I know we don't have it. John, can you get it? Joanne

Sent from my iPhone

On Jul 25, 2014, at 12:09 PM, "Mitch Kanter" <<u>MKanter@eggnutritioncenter.org</u>> wrote:

Does anyone know the nutritional composition of his scrambled egg product?

From: Englert, Jenny [Jenny.Englert@edelman.com]
Sent: Friday, July 25, 2014 10:50 AM
To: Joanne Ivy; Kevin Burkum; Serena Schaffner; Mia Roberts; Jacinta LeDonne; Ashley Richardson; Sheryl Slagle; Mitch Kanter; John Howeth
Cc: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Waltz, Allison; Burch, Kellie
Subject: Beyond Eggs Article 7.25

Hi all –

We want to flag a new <u>article</u> featuring Hampton Creek Foods in Business Insider entitled, "A San Francisco Startup Has Plans To Blow Up The Egg Industry." The article gives an overview of the company as well as quotes Tetrick saying, "The cost of an egg comes from feed. Unless egg makers are willing to lose money, they don't have a structure to compete with us."

Additionally, we want to flag that Hampton Creek has also released an infographic (featured in the article) explaining how to make scrambled eggs with Just Scramble, their plant based egg substitute.

Please let us know if you have any questions, and we will continue to monitor for any updates.

Best,

Jenny

Jenny Englert 200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com <image001.png>

From:	Joanne Ivy
То:	Jensen, Elizabeth (Schreiber)
Cc:	Vaswani, Priya; Mia Roberts; Jacinta LeDonne; Kevin Burkum; Kristin Livermore; Ashley Richardson; Sheryl
	Slagle; Mitch Kanter; Anna Shlachter; Tia Rains; Maher, Missy; McClamroch, Allison; Schaffner, Serena; Torvik,
	Erika; Englert, Jenny; John Howeth
Subject:	Re: Beyond Eggs Coverage, 9.12
Date:	Wednesday, September 25, 2013 4:16:26 PM

Thanks Elizabeth. Thanks for continuing to keep us posted on Beyond Egg coverage.

I am forwarding this article to John Howeth who has developed a campaign to address this situation targeting food manufacturers. Joanne

Sent from my iPhone

On Sep 25, 2013, at 6:04 PM, "Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>> wrote:

Hi everyone,

We wanted to flag a Beyond Eggs article on <u>Huffington Post</u> this week. The author compared Beyond Eggs to real eggs by making cookies with both. Overall, the author and her fellow editor test subjects couldn't tell the difference between the two. She also noted that Beyond Eggs have a longer shelf life, are less expensive and have added health benefits to eggs, in addition to being animal-cruelty-free.

Joanne, please let us know if there's anything else that can provide for you in additional to the letter we previously drafted for producers (i.e., slides for board meeting etc.). We'll be sure to keep our eyes out for additional coverage. In the meantime, let us know if you have questions!

Thank you, Elizabeth

From: Joanne Ivy [mailto:JIvy@aeb.org]

Sent: Thursday, September 12, 2013 11:39 AM
To: Vaswani, Priya; Mia Roberts; Jacinta LeDonne; Kevin Burkum; Kristin Livermore; Ashley Richardson; Sheryl Slagle; Mitch Kanter; Anna Shlachter; Tia Rains
Cc: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Englert, Jenny
Subject: RE: Beyond Eggs Coverage, 9.12

Thank you for this update. I have been inundated with emails from egg farmers, further processors, and others in the egg industry with copies of the release and asking what AEB is doing. I have felt comfortable with my response to them, but it shows that it is very concerning and upsetting to the egg industry. Joanne

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

 0 847 296.7043 | D 224 563.3701 | C (b) (6)

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

 IncredibleEgg.org
 AEB.org

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<image006.png>

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From: Vaswani, Priya [mailto:Priya.Vaswani@edelman.com] Sent: Thursday, September 12, 2013 11:23 AM To: Joanne Ivy; Mia Roberts; Jacinta LeDonne; Kevin Burkum; Kristin Livermore; Ashley Richardson; Sheryl Slagle; Mitch Kanter; Anna Shlachter; Tia Rains Cc: Maher, Missy; McClamroch, Allison; Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Englert, Jenny

Subject: Beyond Eggs Coverage, 9.12

Hi All –

We wanted to share additional top-tier coverage we've seen come through about Beyond Eggs on <u>Fox News</u>, <u>MSN Now</u> and <u>Gawker</u>. The articles highlight that the egg substitute is available for sale at Whole Foods stores in California. Interestingly, the MSN Now headline notes that Beyond Eggs "Sort of Freaks Us Out" – a view we're sure many consumers will share.

We'll continue to keep our eyes out for additional coverage. In the meantime, holler with questions.

Best, Priya

PRIYA VASWANI | EDELMAN consumer marketing 200 east randolph street | 65th floor | chicago, il 60601 work: 312.565.1251 | cell: (b) (6)

From:	Jensen, Elizabeth (Schreiber)
To:	Englert, Jenny; Joanne Ivy; Kevin Burkum; John Howeth; Mia Roberts; Kristin Livermore; Mitch Kanter
Cc:	Torvik, Erika; Maher, Missy; Grosshandler, Jennifer; Liuzzi, Andrew; Singer, Jamie; Byers, Kate
Subject:	RE: Beyond Eggs Coverage Update 12.19 - PM
Date:	Thursday, December 19, 2013 10:25:52 PM
Attachments:	image001.png

Hi everyone,

Just wanted to send a note that the <u>EverydayHealth</u> story that Mitch was interviewed for has been posted. Unfortunately, the reporter did not include any information/quotes from Mitch's interview. The story quotes Tetrick who again states that his reasons for creating the products were due to current egg production and hen conditions. The story features a side by side comparison of the nutritionals of real eggs v. fake eggs (included below). We know John has been working to get his hands on Just Mayo, and we found the nutritionals for that, but as far as we can recall, this is the first time we've seen the nutritional comparison for the actual "fake egg" itself. The story concludes with information on taste, which notes that HC Foods is still working to perfect the scrambled egg product and that Just Mayo, according to Tetrick, is winning in blind taste tests. The article has not received any comments yet, and we'll continue to keep an eye on this for shares. We did see that HC Foods retweeted the article.

From the article...

Here are the nutrition stats:

- Real Egg: 70 calories, 185 mg cholesterol, 5 g of fat, 1.5 g of saturated fat, 6 g of protein
- Fake egg: 40 calories, 0 mg cholesterol, .5 g of fat, 0 g of saturated fat, 8 g of protein

From: Englert, Jenny
Sent: Thursday, December 19, 2013 5:25 PM
To: Joanne Ivy; Kevin Burkum; John Howeth; Mia Roberts; Kristin Livermore; Mitch Kanter
Cc: Jensen, Elizabeth (Schreiber); Torvik, Erika; Maher, Missy; Grosshandler, Jennifer; Liuzzi, Andrew; Singer, Jamie
Subject: Beyond Eggs Coverage Update 12.19 - PM

Hi all,

We have seen a slight uptick in conversation since our last Beyond Eggs update this morning. <u>Bloomberg</u> published an article similar to Buzzfeed, noting that AEB is running online ads with Google search terms linked to Hampton Creek's eggless products. The article closes nothing that "the vegetarian egg seems more of a quirky technology stunt than a solution to a pressing global problem." Food and beverage industry newsletter, <u>Food Dive</u>, also jumped on the bandwagon, republishing the story Buzzfeed yesterday. Hampton Creek amplified the Food Dive article on their Facebook page, saying "You know you're a food industry disruptor when the egg industry puts a marketing campaign together to fight you."

Social sharing of the original article has also continued throughout the day. To date, the article has 984 social shares, with the majority still coming from Facebook (849 Facebook, 127 Twitter, 7 LinkedIn). One new Buzzfeed reporter also shared the article on their personal Twitter. Additionally,

Hampton Creek foods <u>tweeted</u> that the egg industry has now waged a war on their company and Beyond Eggs, and they have also started using #eggwar. The company is looking to pick a public fight and gain inferred credibility through our engagement. We will continue to monitor for any additional response from the company.

Please let us know if you have any questions, and we'll send another coverage update tomorrow morning.

Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com



From:	John Howeth
To:	Joanne Ivy; Elisa Maloberti
Cc:	elizabeth.jensen@edelman.com; Kristin Livermore; Kevin Burkum; Jenny.Englert@edelman.com; Mia Roberts; Mitch Kanter; Erika.Torvik@edelman.com; Missy.Maher@edelman.com; Jennifer.Grosshandler@edelman.com; Andrew.Liuzzi@edelman.com; Jamie.Singer@edelman.com
Subject:	RE: Beyond Eggs Coverage Update 12.20 - AM
Date:	Friday, December 20, 2013 7:30:58 PM

I went through my records and we started the campaign in August 2007.

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Joanne Ivy
Sent: Friday, December 20, 2013 5:46 PM
To: Elisa Maloberti
Cc: elizabeth.jensen@edelman.com; Kristin Livermore; Kevin Burkum; Jenny.Englert@edelman.com; John Howeth; Mia Roberts; Mitch Kanter; Erika.Torvik@edelman.com; Missy.Maher@edelman.com; Jennifer.Grosshandler@edelman.com; Andrew.Liuzzi@edelman.com; Jamie.Singer@edelman.com
Subject: Re: Beyond Eggs Coverage Update 12.20 - AM

Yes, it was done when I was still director of egg product program. So, the way it was worded in the statement is correct. Thanks Elisa for confirming. Actually, I was thinking it was older.

Sent from my iPhone

On Dec 20, 2013, at 6:32 PM, "Elisa Maloberti" <<u>EMaloberti@aeb.org</u>> wrote:

Hi All,

Accept No Substitutes was a white paper we published several years ago (at least 7 years ago) based on the fact that the old AEB hand & egg logo appears in the piece. Elisa

From: Joanne Ivy

Sent: Friday, December 20, 2013 05:22 PM

- To: Jensen, Elizabeth (Schreiber) < elizabeth.jensen@edelman.com >
- Cc: Kristin Livermore; Kevin Burkum; Englert, Jenny < Jenny.Englert@edelman.com >;
- John Howeth; Mia Roberts; Mitch Kanter; Torvik, Erika <<u>Erika.Torvik@edelman.com</u>>; Maher, Missy <<u>Missy.Maher@edelman.com</u>>; Grosshandler, Jennifer
- Singer, Jamie < <u>Jamie.Singer@edelman.com</u>>; Elisa Maloberti

That is correct!

Sent from my iPhone

Subject: Re: Beyond Eggs Coverage Update 12.20 - AM

On Dec 20, 2013, at 6:14 PM, "Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>> wrote:

Thank you everyone. We connected with Kevin and switched up the statement so as not to address when the campaign was started but just noted that it was a few years back and that it is not new. We shared the statement (final is below for your reference) and the b-roll link with CNN. We'll keep an eye out for the story and keep you posted.

Statement

Synthetic plant-based egg replacers are not a novel concept; they have been around for years. And while we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers and food service companies alike. However, we recognize that consumers might have questions and, in response, developed the 'Accept No Substitutes' campaign a number of years back to spotlight the unique nutritional properties of eggs. This is not a new campaign.

Natural eggs are a simple yet important food that cannot be replicated by any product artificially engineered in a laboratory. All-natural eggs produce as high a quality protein as exists. There is no higher quality protein source. Eggs are also a nutrient-dense food for only 70 kcals and \$0.15 per serving.

A new study of egg production over the past 50 years reveals a vast reduction in environmental impact. Egg farmers have made great strides toward making egg production practices more efficient, producing less waste and requiring fewer resources. With the growing population and egg demand on the rise, today's hens are not only as productive as they've ever been, but they are also living longer. For more information on the recent study, visit <u>http://bit.ly/HvhyP7</u>. – Mitch Kanter, PhD. Executive Director of Egg Nutrition Center

From: Kristin Livermore [mailto:KLivermore@aeb.org]
Sent: Friday, December 20, 2013 4:49 PM
To: Jensen, Elizabeth (Schreiber)
Cc: Kevin Burkum; Joanne Ivy; Englert, Jenny; John Howeth; Mia Roberts; Mitch Kanter; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer; Liuzzi, Andrew; Singer, Jamie; Elisa Maloberti
Subject: Re: Beyond Eggs Coverage Update 12.20 - AM

I've copied Elisa on this too, just to help move things along, as I'm sure she would know too.

Sent from my iPhone

On Dec 20, 2013, at 4:37 PM, "Jensen, Elizabeth (Schreiber)" <<u>elizabeth.jensen@edelman.com</u>> wrote:

Thank you Kevin! Joanne/John – if you can let us know about the length of the "accept no substitutes" campaign, we'll get this over to CNN. They are hoping to air the story at 7 ET tonight so we'd love to provide them with information as soon as possible.

Thank you, Elizabeth

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Friday, December 20, 2013 4:12 PM
To: Jensen, Elizabeth (Schreiber); Joanne Ivy; Englert, Jenny
Cc: John Howeth; Mia Roberts; Kristin Livermore; Mitch
Kanter; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer;
Liuzzi, Andrew; Singer, Jamie
Subject: RE: Beyond Eggs Coverage Update 12.20 - AM

I'll let Joanne and John weigh in on the timing of Accept No Substitutes. I would make the point more strongly that this effort is not new and AEB routinely promotes the benefits of eggs vs. other options in the marketplace.

Kevin Burkum Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org <image001.png>

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<image006.png>

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From: Jensen, Elizabeth (Schreiber)
[mailto:elizabeth.jensen@edelman.com]
Sent: Friday, December 20, 2013 4:07 PM
To: Kevin Burkum; Joanne Ivy; Englert, Jenny
Cc: John Howeth; Mia Roberts; Kristin Livermore; Mitch
Kanter; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer;
Liuzzi, Andrew; Singer, Jamie
Subject: RE: Beyond Eggs Coverage Update 12.20 - AM

Hi there,

We spoke with Jeff King and learned more about the CNN story, which is not yet scheduled but will likely be included in a 7pm ET slot that usually includes sponsored segments with a technology slant. The story is essentially a feature on Hampton Creek Foods which will briefly mention that the egg industry (among other groups, potentially), disagree with the premise of egg replacers/plant-based eggs. He would like our b-roll footage, which we noted is accessible on IncredibleEgg.org and we can share.

Please note, CNN identified the <u>Accept No Substitutes</u> "campaign" on <u>AEB.org</u>, which hosts an AEB <u>white paper</u> on the topic. It sounds like Josh is pulling his "ammo" directly from our resources and using it to suit his needs. Jeff mentioned that if there are any inaccuracies in this regard, or any statements we would like to provide, he is happy to accept them and put us directly in touch with anchor/reporter Dan Simon, who is leading the segment.

We recommend sharing the following statement which notes that Accept No Substitutes has been around for some time. AEB – please confirm the exact timing. We do not feel it is appropriate at this time to comment on Hampton Creek's strategy. Please let us know if you have any questions.

Statement

Synthetic plant-based egg replacers are not a novel concept; they have been around for years. And while we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, allnatural egg remains the best option for consumers and food service companies alike. However, we recognize that consumers might have questions and, in response, developed the 'Accept No Substitute' campaign XX years ago to spotlight the unique nutritional properties of eggs.

Natural eggs are a simple yet important food that cannot be replicated by any product artificially engineered in a laboratory. All-natural eggs produce as high a quality protein as exists. There is no higher quality protein source. Eggs are also a nutrient-dense food for only 70 kcals and \$0.15 per serving.

A new study of egg production over the past 50 years

reveals a vast reduction in environmental impact. Egg farmers have made great strides toward making egg production practices more efficient, producing less waste and requiring fewer resources. With the growing population and egg demand on the rise, today's hens are not only as productive as they've ever been, but they are also living longer. For more information on the recent study, visit <u>http://bit.ly/HvhyP7</u>.

Best,

Elizabeth

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Friday, December 20, 2013 2:33 PM
To: Joanne Ivy; Englert, Jenny
Cc: John Howeth; Mia Roberts; Kristin Livermore; Mitch
Kanter; Jensen, Elizabeth (Schreiber); Torvik, Erika; Maher,
Missy; Grosshandler, Jennifer; Liuzzi, Andrew; Singer, Jamie
Subject: RE: Beyond Eggs Coverage Update 12.20 - AM

Just received a message from Jeff King, a CNN reporter in the San Francisco Bureau, and it sounds like he's doing a story on Hampton Creek as well as our "Accept No Substitutes" campaign. Looks like Josh is successfully getting media interested in this #eggwar. Anyway, he wants to use our B-roll, because all he has is footage that the animal rights activists have given him that isn't very flattering for the egg industry. Can someone give him a call asap and get him some legitimate egg production footage, as well as perhaps provide him with some perspective that all this company is trying to do is get some attention? Thanks. 323.993.5279, jeff.king@cnn.com.

Thanks.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEqq.org AEB.org <image001.png> <image002.png> <image003.png> <image004.png> <image005.png> <image006.png>

The information provided in this email is confidential and proprietary to the American Egg Board. The unauthorized use or disclosure is prohibited. If you have received this email in error, please advise the sender, and delete it from your computer. From: Joanne Ivy
Sent: Friday, December 20, 2013 2:24 PM
To: Englert, Jenny
Cc: Kevin Burkum; John Howeth; Mia Roberts; Kristin
Livermore; Mitch Kanter; Jensen, Elizabeth (Schreiber); Torvik,
Erika; Maher, Missy; Grosshandler, Jennifer; Liuzzi, Andrew;
Singer, Jamie
Subject: Re: Beyond Eggs Coverage Update 12.20 - AM

Thanks for update.

Sent from my iPad

On Dec 20, 2013, at 2:24 PM, "Englert, Jenny" <<u>Jenny.Englert@edelman.com</u>> wrote:

Hi all,

We have continued to see some response to this morning's Hampton Creek bake off challenge on Twitter, one of which came from Andrew Zimmern, the host of the Travel Channel's "Bizzare Foods." Zimmern responded to Hampton Creek's tweet saying he would host the bake off. We anticipate seeing a slight uptick in social conversation due to Zimmern's tweet as he has a fairly large social media presence (644,475 followers). As a reminder, last week we shared his 2013 food trends from *People* magazine which included both real eggs and Beyond Eggs. We will continue to watch for additional amplification throughout the day.

Best, Jenny

From: Kevin Burkum [mailto:KBurkum@aeb.org]

Sent: Friday, December 20, 2013 10:51 AM To: Englert, Jenny; Joanne Ivy; John Howeth; Mia Roberts; Kristin Livermore; Mitch Kanter Cc: Jensen, Elizabeth (Schreiber); Torvik, Erika; Maher, Missy; Grosshandler, Jennifer; Liuzzi, Andrew; Singer, Jamie Subject: RE: Beyond Eggs Coverage Update 12.20 - AM

I saw this. I agree with the reco not to respond.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org <image001.png>

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<image006.png>

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and delete it from your computer.

From: Englert, Jenny [mailto:Jenny.Englert@edelman.com] Sent: Friday, December 20, 2013 10:49 AM To: Joanne Ivy; Kevin Burkum; John Howeth; Mia Roberts; Kristin Livermore; Mitch Kanter Cc: Jensen, Elizabeth (Schreiber); Torvik, Erika; Maher, Missy; Grosshandler, Jennifer; Liuzzi, Andrew; Singer, Jamie Subject: RE: Beyond Eggs Coverage Update 12.20 - AM

Hi all,

We have been keeping a close eye on Hampton Creek's social media and wanted to share that they just engaged with us directly on <u>Twitter</u>, saying "We should have a bake off @IncredibleEggs and donate the proceeds to charity." A couple of their followers have already retweeted the post or responded saying they would support the bake off. At this time we recommend not responding and instead keeping a close eye on response to the post. They are pulling out the stops as the challenger brand, but we don't want to give them free publicity or get engaged in a public discussion.

Please let us know if you have any questions. We will continue to keep a close eye on Hampton Creek's social media properties and flag anything hot throughout the day.

Best, Jenny From: Englert, Jenny Sent: Friday, December 20, 2013 9:32 AM To: 'Joanne Ivy'; 'Kevin Burkum'; 'John Howeth'; 'Mia Roberts'; 'Kristin Livermore'; 'Mitch Kanter' Cc: Jensen, Elizabeth (Schreiber); Torvik, Erika; Maher, Missy; Grosshandler, Jennifer; Liuzzi, Andrew; Singer, Jamie Subject: Beyond Eggs Coverage Update 12.20 -AM

Hi all,

We have not seen any new coverage since our last update on Beyond Eggs last night. We have, however seen a small amount of social media amplification of yesterday's coverage. The Everyday Health article has gotten minimal traction to date, with a total of two social shares, both of which came from Twitter. Bloomberg's article about the egg industry declaring war on Beyond Eggs has gotten slightly more traction on social, with a total of 317 social shares to date (58 Twitter, 257 Facebook, 1 LinkedIn, 1 Google+). Five journalists have also shared a link to the Bloomberg story on their personal social media.

We have started to receive a few posts and tweets on our Incredible Egg social properties in regard to Beyond Eggs, but at this time we do not feel they require a response. We will continue to closely monitor all of our properties and keep you posted in the event we feel we need to engage. We will continue to keep a close eye on new coverage and social amplification of old coverage throughout the day. Please let us know if you have any questions in the meantime!

Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com <image007.png>

From:	Jensen, Elizabeth (Schreiber)	
To:	Kevin Burkum; Englert, Jenny; Joanne Ivy; Kristin Livermore; Mia Roberts; Jacinta LeDonne; John Howeth	
Cc:	<u>Schaffner, Serena: Torvik, Erika; Maher, Missy; Grosshandler, Jennifer</u>	
Subject:	RE: Beyond Eggs HuffPo Interview	
Date:	Tuesday, November 19, 2013 6:17:31 PM	
Attachments:	image001.png	
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	image005.png	
	image006.png image007.png	
	inageour.phg	

Hi Kevin,

Beyond Eggs is like a shiny new toy with some big celebrity investors and a celebrity founder, so this type of coverage is expected. We will reach out to the Huffington Post and Tech Crunch, to see if they'd be interested in the "other side" and let you know if we get any bites.

The Huffington Post is a very egg-friendly outlet when it comes to eggs as we normally see egg stories and recipes at least once a month, if not more, in this outlet – as evidenced by John Hodgman's <u>video</u> and the 41-page slideshow of egg recipes that followed the video. We don't anticipate that coverage of Beyond Eggs will have an effect on their love of eggs.

Elizabeth

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 19, 2013 3:00 PM
To: Englert, Jenny; Joanne Ivy; Kristin Livermore; Mia Roberts; Jacinta LeDonne; John Howeth
Cc: Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer
Subject: RE: Beyond Eggs HuffPo Interview

Thanks Jenny. How is Hampton Creek getting all this terrific press and how can we get some? Can we go back at Huffington Post and ask for equal time? Beyond Eggs is killing us on the PR front right now.

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847 296.7043 |
 D 224 563.3702 |
 F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068
 IncredibleEgg.org
 AEB.org



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From: Englert, Jenny [mailto:Jenny.Englert@edelman.com]
Sent: Tuesday, November 19, 2013 2:38 PM
To: Joanne Ivy; Kevin Burkum; Kristin Livermore; Mia Roberts; Jacinta LeDonne; John Howeth
Cc: Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer
Subject: Beyond Eggs HuffPo Interview

Hi all,

We wanted to quickly flag a new <u>video interview</u> with Hampton Creek's Josh Tetrick that takes Huffington Post viewers behind the scenes of the Beyond Eggs production process. Josh walks a Huffington Post reporter through the plant where Beyond Eggs are made and demonstrates the multiple tests that the fake egg product has gone through to ensure its consistency and taste is similar to that of real eggs. We are continuing to keep our eyes out for additional top tier coverage including the Forbes story that Joanne provided and interview for yesterday. Please let us know if you have any questions in the meantime!

Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com



From:	John Howeth
To:	Joanne Ivy
Cc:	John Howeth
Subject:	RE: Beyond Eggs HuffPo Interview
Date:	Tuesday, November 19, 2013 4:41:01 PM
Attachments:	image001.png
	image002.png
	image003.png
	image004.png
	image005.png
	image006.png
	image007.png

Joanne, it is an open door to look at their operation. The telling sign for me was when Josh said the product would be available in February and only available on their website (it's at the very end). Obviously he doesn't have distribution. I've asked Frank to download the video so we have a copy.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Joanne Ivy
Sent: Tuesday, November 19, 2013 3:39 PM
To: 'Englert, Jenny'; Kevin Burkum; Kristin Livermore; Mia Roberts; Jacinta LeDonne; John Howeth
Cc: Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer
Subject: RE: Beyond Eggs HuffPo Interview

Thank Jenny.

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

??????

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From: Englert, Jenny [mailto:Jenny.Englert@edelman.com]
Sent: Tuesday, November 19, 2013 2:38 PM
To: Joanne Ivy; Kevin Burkum; Kristin Livermore; Mia Roberts; Jacinta LeDonne; John Howeth
Cc: Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer
Subject: Beyond Eggs HuffPo Interview

Hi all,

We wanted to quickly flag a new <u>video interview</u> with Hampton Creek's Josh Tetrick that takes Huffington Post viewers behind the scenes of the Beyond Eggs production process. Josh walks a Huffington Post reporter through the plant where Beyond Eggs are made and demonstrates the multiple tests that the fake egg product has gone through to ensure its consistency and taste is similar to that of real eggs. We are continuing to keep our eyes out for additional top tier coverage including the Forbes story that Joanne provided and interview for yesterday. Please let us know if you have any questions in the meantime!

Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com



From:	John Howeth
To:	Frank Gray
Cc:	John Howeth
Subject:	RE: Beyond Eggs HuffPo Interview
Date:	Tuesday, December 03, 2013 2:16:00 PM
Attachments:	image001.jpg
	image002.png
	image003.png
	image004.png
	image005.png
	image006.png
	image007.png

Thanks Frank.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Frank Gray Sent: Tuesday, December 03, 2013 11:47 AM To: John Howeth Subject: RE: Beyond Eggs HuffPo Interview

John,

The video's in Oasis. I pulled it in after finding it on YouTube instead of Huffington..

Frank

Frank Gray | Director, IT American Egg Board 0 847 296.7043 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEqg.org AEB.org



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From: John Howeth Sent: Tuesday, November 19, 2013 2:59 PM To: Frank Gray Cc: John Howeth Subject: FW: Beyond Eggs HuffPo Interview

Frank, could you please download this video. It's about Beyond Eggs, pretty important stuff. Thank

you.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Englert, Jenny [mailto:Jenny.Englert@edelman.com]
Sent: Tuesday, November 19, 2013 2:38 PM
To: Joanne Ivy; Kevin Burkum; Kristin Livermore; Mia Roberts; Jacinta LeDonne; John Howeth
Cc: Jensen, Elizabeth (Schreiber); Schaffner, Serena; Torvik, Erika; Maher, Missy; Grosshandler, Jennifer
Subject: Beyond Eggs HuffPo Interview

Hi all,

We wanted to quickly flag a new <u>video interview</u> with Hampton Creek's Josh Tetrick that takes Huffington Post viewers behind the scenes of the Beyond Eggs production process. Josh walks a Huffington Post reporter through the plant where Beyond Eggs are made and demonstrates the multiple tests that the fake egg product has gone through to ensure its consistency and taste is similar to that of real eggs. We are continuing to keep our eyes out for additional top tier coverage including the Forbes story that Joanne provided and interview for yesterday. Please let us know if you have any questions in the meantime!

Best, Jenny

Jenny Englert

200 East Randolph Drive | Chicago, IL 60601 Tel: 312.240.3385 | Cell: (b) (6) jenny.englert@edelman.com | www.edelman.com



Lutton, Sara - AMS

From:	Maher, Missy <missy.maher@edelman.com></missy.maher@edelman.com>
Sent:	Tuesday, November 26, 2013 7:02 PM
То:	Kevin Burkum; Joanne Ivy
Cc:	Singer, Jamie; Grosshandler, Jennifer; Jaffe, Brad; Jensen, Elizabeth (Schreiber); John
	Howeth; Mia Roberts; Liuzzi, Andrew; Schaffner, Serena
Subject:	RE: Beyond Eggs LTE's for Bob to Submit

I'm back but was periodically checking. I know we are not responding to Josh and of course I agree, but if I could mute anyone it may be him!

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 5:48 PM
To: Joanne Ivy
Cc: Singer, Jamie; Maher, Missy; Grosshandler, Jennifer; Jaffe, Brad; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Liuzzi, Andrew; Schaffner, Serena
Subject: Re: Beyond Eggs LTE's for Bob to Submit

Sounds good. Thanks for the great effort and quick turnaround today. Nice job, let's hope it does some good.

Sent from my iPhone

On Nov 26, 2013, at 5:26 PM, "Joanne Ivy" <<u>JIvy@aeb.org</u>> wrote:

I totally agree. We made our point. I have no desire to have an open conversation with Josh. I was expecting a response as he has responded to all posts. Thanks for letting me know that he responded. Joanne

Sent from my iPad

On Nov 26, 2013, at 6:17 PM, "Singer, Jamie" <<u>Jamie.Singer@edelman.com</u>> wrote:

Kevin,

That would be great if Bob could send ASAP. Additionally, we wanted to flag that **Mr**. **Tetrick did post a response to Joanne's comment** a few minutes ago in the *Forbes* article comment section (see below). It was expected Mr. Tetrick would respond given his activity in the conversation over the past few days. However, we recommend **not** responding or engaging Mr. Tetrick in this comment section; doing so may further entangle AEB in an online debate. Additionally, the *Forbes* article does not provide a level playing field for AEB, and engaging in this context may position AEB as on the defense. Finally, given the types of large issues at play, the comment section does not seem to provide an appropriate forum for debate.

Happy to discuss further. In the meantime, we will continue to monitor for additional comments.

Thank you, Jamie Josh Tetrick 7 minutes ago

Hey Joanne – Thanks for taking the time to read. Here's the problem: Well over 99% of all the chicken eggs around the world come from places that are the antithesis of our shared values (read: compassion, integrity, even love). For example, the purpose and operational details of the hatcheries epitomize all the reasons why this system isn't living up to what you'd have us believe. Happy to have an open conversation. – Josh

Jamie Singer | o. (312) 240-2657 | m. (b) (6)

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 4:45 PM
To: Schaffner, Serena; Joanne Ivy
Cc: Maher, Missy; Grosshandler, Jennifer; Singer, Jamie; Jaffe, Brad; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts
Subject: RE: Beyond Eggs LTE's for Bob to Submit

Thanks Serena. Do you recommend Bob does this ASAP, as in today if possible?

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847.296.7043 | D 224.563.3702 | F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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 AEB.org

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 <image006.png>

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Tuesday, November 26, 2013 4:39 PM
To: Joanne Ivy; Kevin Burkum
Cc: Maher, Missy; Grosshandler, Jennifer; Singer, Jamie; Jaffe, Brad; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts
Subject: Beyond Eggs LTE's for Bob to Submit

Hi Kevin –

Attached are both letters to the editors that Bob can send, which include the "incredible" reference. Because the Huffington Post article is similar in nature to the WSJ article, we've only switched up the lead.

Below, we've outlined submission steps for the Wall Street Journal and Huffington Post. Please note, the Huffington Post is not as straightforward as they don't take formal Letters to the Editor, however we recommend responding to a recent Beyond Eggs article written by their journalist that allows folks to follow up with their views on the story. Unfortunately, the Tech Crunch video was just pulled from the Tech Crunch site and does not allow for comments or follow-ups, but it is referenced in the attached.

Lastly, there has been no response to Joanne's comment on <u>Forbes</u>, however we'll continue to monitor and flag any issues, should they arise. Please let us know if you have any questions in the meantime.

Best, Serena

Wall Street Journal Submission:

• Please send Letter via email to <u>wsj.ltrs@wsj.com</u>. Make sure to include the date, headline, link to article and Writer's location (included in the attached).

Huffington Post Submission:

- Access recent article on Beyond Eggs Here
- Scroll down to end of article (past photos) and locate the "Contribute to This Story" box. Click on "Submit at Tip"
- Fill out Name, Email, Subject and Cut and Paste attached Huffington Post Letter to the Editor
- Click submit

Serena Schaffner

Edelman 200 East Randolph 65th Floor Chicago, IL 60601 (312) 297-7023 <u>serena.schaffner@edelman.com</u> Edelman kindly reminds you to consider the environment before printing this email or attachments.

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Lutton, Sara - AMS

From:	John Howeth
Sent:	Thursday, October 31, 2013 9:33 AM
То:	Elisa Maloberti
Cc:	John Howeth
Subject:	RE: Beyond Eggs Mayo - copy of label

I think to compare apples to apples, we still need the jar version of Just Mayo. This gives us their refrigerated product which would require less preservatives. As it stands now, this is a pretty clean label.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Elisa Maloberti Sent: Thursday, October 31, 2013 8:00 AM To: John Howeth Subject: Beyond Eggs Mayo - copy of label Importance: High

The attached is what I got from Debbie Murdock.

Here's the ingredient statement from Kraft Chipotle Mayo for comparison.

Water, Soybean Oil, Vinegar, Modified Food Starch*, Sugar, Maltodextrin*, Salt, Contains Less Than 2% Of Eggs, Chipotle Chile Pepper Puree, Enzyme Modified Egg Yolk*, Mustard Flour, Dried Garlic, Lactic Acid*, Spice, Potassium Sorbate* And Calcium Disodium EDTA As Preservatives, Phosphoric Acid*, Dried Onions, Natural Flavor, Beta Carotene* (Color). *Ingredients Not Normally Found In Mayonnaise.



Not sure if the Beyond Mayo product is in compliance with labeling laws. Notice that the Kraft ingredient statement contains asterisks indicating Ingredients Not Normally Found in Mayonnaise, we would have to consult a labeling expert if Pea Protein needs to be labeled in a similar fashion.

Elisa

From: Debbie Murdock [mailto:debbie@agamsi.com] Sent: Monday, October 28, 2013 10:30 AM To: Elisa Maloberti Subject: copy of label Importance: High

Hola....Elisa:

Soooo...I had to ask the deli manager ... as the product was not on the shelf in the refrigerated section. He had to go to the back and pack it for me...They use the spread on all of their sandwich orders. Debbie

Lutton, Sara - AMS

From:	John Howeth
Sent:	Thursday, October 31, 2013 11:08 AM
То:	Hayes, Katie
Cc:	John Howeth
Subject:	RE: Beyond Eggs Slides

Hi Katie, I probably won't have anything for you until the weekend. I'm off for the next couple of days for a family event.

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Hayes, Katie [Katie.Hayes@edelman.com] Sent: Thursday, October 31, 2013 10:05 AM To: John Howeth Cc: McClamroch, Allison Subject: Beyond Eggs Slides

Hi John,

I hope you're well. It was nice talking with you last week and I look forward to meeting you in person at Board Meeting. I wanted to follow up and see if you could share your Beyond Eggs slides with me when you have a minute. I'm pulling together the Beyond Egg slide for the Nutrition Committee presentation and would love to cross reference it with your slides to ensure everything I've included is accurate. Thanks so much for your help.

Best regards, Katie

Katie Hayes, RD Edelman 200 East Randolph 65th Floor Chicago, IL 60601 Work: (312) 233-1295 Cell: (b) (6) <u>katie.hayes@edelman.com</u>

From:	John Howeth
To:	Hayes, Katie
Cc:	John Howeth
Subject:	RE: Beyond Eggs Slides
Date:	Thursday, October 31, 2013 11:07:52 AM

Hi Katie, I probably won't have anything for you until the weekend. I'm off for the next couple of days for a family event.

John Howeth VP Ingredients & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 www.AEB.org

From: Hayes, Katie [Katie.Hayes@edelman.com] Sent: Thursday, October 31, 2013 10:05 AM To: John Howeth Cc: McClamroch, Allison Subject: Beyond Eggs Slides

Hi John,

I hope you're well. It was nice talking with you last week and I look forward to meeting you in person at Board Meeting. I wanted to follow up and see if you could share your Beyond Eggs slides with me when you have a minute. I'm pulling together the Beyond Egg slide for the Nutrition Committee presentation and would love to cross reference it with your slides to ensure everything I've included is accurate. Thanks so much for your help.

Best regards, Katie

Katie Hayes, RD Edelman 200 East Randolph 65th Floor Chicago, IL 60601 Work: (312) 233-1295 Cell: (b) (6) <u>katie.hayes@edelman.com</u>



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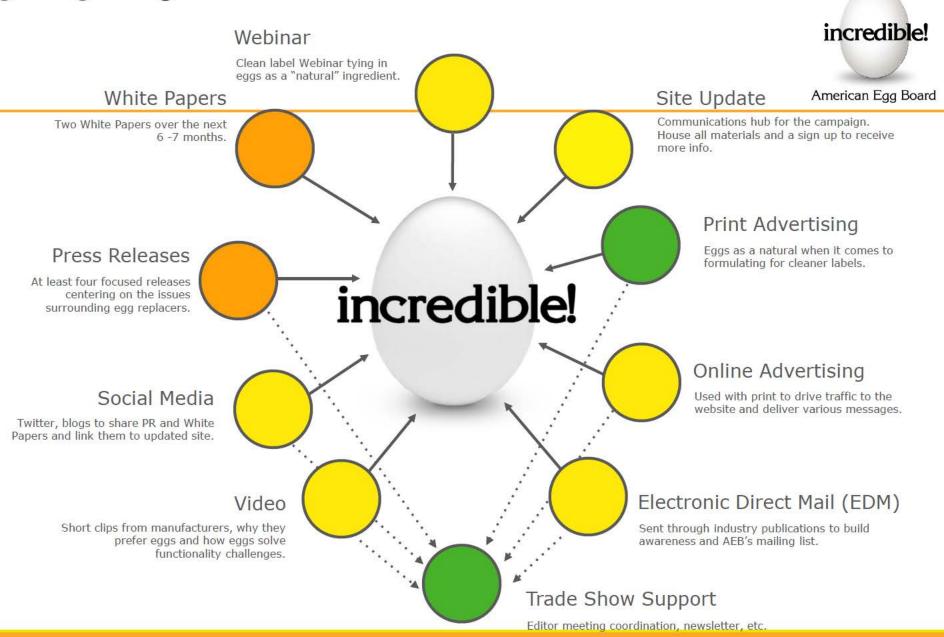
Egg Replacers



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Key Components

- Clean Label White Paper
- Website Update
- Print & Online Advertising
- Social Media
- Video Testimonials
- Infographic Video
- Webinar

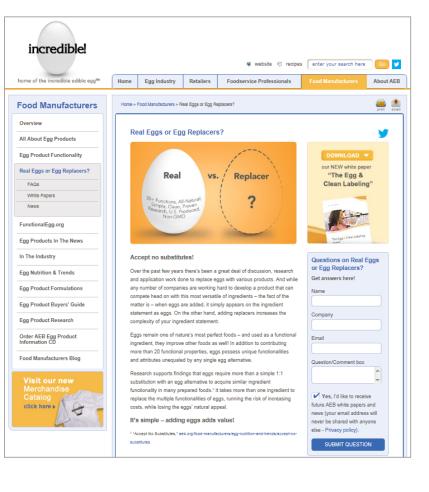


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Website Update

- AEB.org/RealEggs
- New landing page
- FAQs
- Access to Clean Label white paper



Print Advertising

- 2013 scheduled ad insertions shifted from functionality messages to clean label campaign
- New insertions added
- Introduced October 2013



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On-Line Advertising



incredible! Egg Replacer Response Campaign

FOOD PRODUCT

AKES KNOWLEDGE TO MAKE FOOD FU

positive impact

100 100 100

rd

On-Line Advertising

ADVERTISEMENT

DO YOU USE REAL EGGS IN YOUR APPLICATIONS?

Then you're already familiar with the impact this functional ingredient can have in your product and on your label. If you're using an egg replacer then you'll want to download the FREE white paper from the American Egg Board — "The Egg & Clean Labeling." This briefing reveals what many product developers have learned - real eggs make a real difference...MORE

ADVERTISEMENT

CLEAN LABELS OFTEN MAKE THE DIFFERENCE IN CONSUMER CHOICES

...according to a new white paper from the American Egg Board -- "The Egg & Clean Labeling." In fact, for consumers who look more and more for clean labeled products with recognizable ingredients, eggs can make an important difference in their buying decisions...MORE

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American Egg Board

Electronic Direct Mail

- Emailed to 4,300 subscribers Baking & Snack Milling & Baking News
- Eblast sent to over 15K registered attendees of IBIE Expo



Eggs – Nature's Perfect Baking Ingredient

Few other ingredients offer today's baker 20+ functionalities, as does American egg products. Eggs provide natural structure and stability to ensure premium quality and mouthfeel from production to consumption – all while contributing to a clean ingredient label that consumers are craving.



The Egg & Clean Labeling

An American Egg Board briefing (white paper) on the relevance and importance of eggs in today's clean label marketplace...

DOWNLOAD WHITE PAPER 🔻





Stop by the American Egg Board IBIE booth #11737 and let us help you discover (and taste!) the multiple benefits of eggs.

SUNDAY Flourless Chocolate Torte
MONDAY Tiramisu Cupcake
TUESDAY Biscotti with Crème Anglaise Dipping Sauce





American Egg Board

EGGSaminer Newsletter

- Mailed to over 28K food formulating professionals
- Lead article Clean Label



To the average consumer, a clean label means one with short,

their buying decisions."

can make an important difference in

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amino acids in a ratio similar to the

human body's requirement, making them high-quality proteins and a smart

choice for enrichment

(Continued inside)

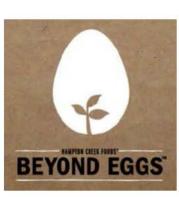


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Ruguss 10, 2015



nade from PLANTS backed It to revolutionize cooking Whole Foods

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Delicious potato salad. Orsany, rich mayo for any satubaich, anytime Welcome to Just Mayo, where taste and sustainubility live on the same plate.

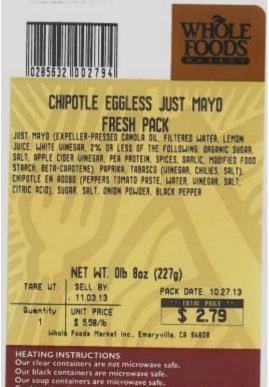
BEYOND EGGS

Con't just beke cookles. Bake better cookles.

Chacolate chip. Peanul bottler. And even oatneal rasin. Beyond Eggs for Cackies is the ingredient that represents what your almody value.



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Our soup containers are microwave safe. Our soup containers are microwave safe. Cooking time is approximate and varies with oven. An internal temperature of at least 165° should be attained. Just Mayo (expeller-pressed canola oil, filtered water, lemon juice, white vinegar, 2% or less of the following: organic sugar, salt, apple cider vinegar, pea protein, spices, garlic, modified food starch, betacarotene), paprika, tabasco (vinegar, chilies, salt) chipotle en adobo (peppers, tomato paste, water, vinegar, salt citric acid) sugar, salt, onion powder, black pepper





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Overview

- While the company is getting significant press, it remains a small start-up -2,400 ft. laboratory is relatively small to develop products across multiple categories.
- The Venture Capital firms that started the company are "feel good" investors that invest in eco-friendly start-ups.

Technology

- HCF does not appear to be using any new technology but refinements of existing egg replacer technology (e.g., vegetable proteins, amino acids, etc.).
- Due to the many functionalities of eggs, it is using different ingredients and formulations by application; this will complicate a "made with" brand strategy.
- The ingredient statements we've seen don't use a "cupboard-friendliness" to consumers strategy.



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Management

- Joshua Tetrick, CEO, has no experience with commercializing food products or even scaling a start-up to an ongoing venture.
- Mr. Tetrick's partner is a college buddy and was formerly a principal officer in HSUS.
- Johann Boot, chief technical officer and COO, is essentially running the show, but he is based in Holland and is onsite 1 week per month.
- Jackie Fera, VP Sales & Marketing, is ex-Unilever, but her career is in foodservice, not retail or food ingredients – the two areas that are critical for the success of the venture.
- The former advisor referred to the venture management as "amateur hour".



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Production

- Management was originally going to build a blending facility, but chose instead to have ingredients co-packed.
- The egg-free mayo, Just Mayo, is likely being co-packed by Ventura Foods (California).

Potential

- While the investors have deep pockets, it is unknown how long they will continue to invest without significant payout.
- We believe that the sales and marketing budgets are quite small and focused almost exclusively on PR.
- Unless they can create branded food products or branded ingredients, we suspect the endgame will involve the selling of the technology to another food company (finished goods or food ingredients).



Animal vs. Vegetable Protein



Protein source crucial to quality of gluten -free sweet baked goods: Study



By Kacey Culliney+ Second 29-Oct-2013

Post a comment

The proteins in a formulation can drastically impact the quality and texture of gluten-free baked goods and therefore must be selected wisely, suggest researchers.



Animal vs. Vegetable Protein



Protein source crucial to quality of gluten -free sweet baked goods: Study

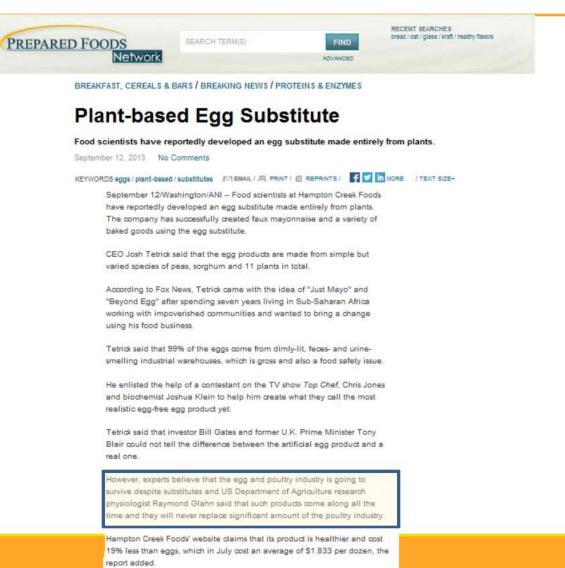
Soy protein isolate, pea protein isolate, egg white protein and casein were tested in gluten-free muffin formulations.

Results show:

- Animal proteins increased emulsifying activity, where vegetable proteins had little impact.
- Vegetable proteins had a hardening effect on batters, whereas animal proteins led to batters with a less solid-like character.
- Muffins made from animal proteins were springier, more cohesive and chewy than those made with vegetable proteins.



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PREPARED FOODS	SEARCH TERM(S)	FIND	RECENT SEARCHES bread / oat / glass / kraft / healthy flavors
BREAKFAST, CEREAL	S & BARS / BREAKING NEWS / P	ROTEINS & ENZYMES	
Plant-ba	sed Egg Sub	stitute	
Food scientists hav	e reportedly developed an egg	substitute made entirely	y from plants.
September 12, 2013	No Comments		
KEYWORDS eggs / plant-l	ased / substitutes 🛛 🖓 EMAIL / 🔍 PRI	NT / 🗐 REPRINTS / 🧗 🔽 🕯	MORE / TEXT SIZE+

However, experts believe that the egg and poultry industry is going to survive despite substitutes and US Department of Agriculture research physiologist Raymond Glahn said that such products come along all the time and they will never replace significant amount of the poultry industry.



American Egg Board

Our Plans

- Video Testimonials
- 12 Questions You Should Ask Before Switching to an Egg Replacer
 - White paper/ Processor Sales Bulletin
 - Panel discussion true costs involved in reformulating
- Functionality Testing
 - American Institute of Baking and/or Underwriters Laboratories
 - Functionality throw-down
- Sustainability study vs. Beyond Eggs
- Crisis communications plan

Lutton, Sara - AMS

From:	Liuzzi, Andrew <andrew.liuzzi@edelman.com></andrew.liuzzi@edelman.com>
Sent:	Tuesday, April 01, 2014 5:44 AM
То:	Mitch Kanter
Cc:	Joanne Ivy; Mia Roberts; Kevin Burkum; John Howeth; Singer, Jamie; Jensen, Elizabeth
	(Schreiber); Englert, Jenny; Maher, Missy
Subject:	Re: Beyond Eggs Update

Very helpful, Mitch-thank you and agree that the protein argument would probably become a foundational element of our narrative if /when they produce a pure play substitute vs the mayo or cookie dough. As we've always said, we view this as a political campaign so it's always helpful to not only know the strengths of your position but the weaknesses of your opponent. Safe travels.

-Andy

Sent from my iPhone

> On Apr 1, 2014, at 12:44 AM, "Mitch Kanter" <<u>MKanter@eggnutritioncenter.org</u>> wrote:

>

> Andrew

> Am on the road, so I read your message quickly and will offer a quick response. Regarding the plant aspect, an easy retort is the protein quality aspect of real eggs vs the BE product. There's no doubt that whatever plant source they use, the protein quality will be inferior to that of eggs. For folks like seniors, children and others for whom eggs are a key source of their daily protein intake, switching to an inferior quality protein could be the difference between adequate protein intake and inadequate intake.

>

> Though, at this point this is a bit of a moot point because the amount of the BE product contained in applications like mayo is almost negligible anyway. If BE ever creates a stand alone egg substitute my argument above becomes more germane.

> Mitch

>

> Sent from my iPhone

>

>> On Mar 31, 2014, at 7:10 PM, "Liuzzi, Andrew" <<u>Andrew.Liuzzi@edelman.com</u>> wrote:

>>

>> Afternoon all—We wanted to quickly flag two Beyond Eggs articles that recently hit online on Business Insider<<u>http://www.businessinsider.com/hampton-creek-pitch-deck-2014-3</u>> and

Entrepreneur<<u>http://www.entrepreneur.com/slideshow/232530</u>>, which provide an inside look into Josh Tetrick's strategy for recruiting potential investors. Beyond the actual coverage, the interesting aspect is that Hampton Creek's full pitch deck was included within the articles, providing us with valuable insight into Hampton Creek's overall media and communications strategy.

>>

>>

>>

>> We've attached the deck for you and have pulled out some key insights along with some next steps:

>>

>>

>>

>> * Key Takeaways

>> * Tetrick is focused on targeting and appealing to the mainstream, economically-conscious consumer as opposed to the fringe, animal-loving activist. While this may not be a sustainable approach for him, it clearly represents the larger market opportunity

* As previously mentioned, Tetrick has positioned his company as a science- and research-based technology company amongst the likes of Amazon to enhance credibility. However, as evidenced by our BE research, this focus on science/technology could backfire a bit with mainstream consumers and represents a competitive advantage for eggs.
* Looking at the company and team of advisors, they have clear ties into industry (former Del Monte CEO),

progressive media (HuffPo) and NGO community (HSUS) so we should not be surprised by past, present or future activist campaigns, progressive media coverage or questions from industry establishment

>>

>> o As expected, food manufacturers are a key target and should be ours as well

>>

>> * Tetrick's argument against egg industry

>> * Within the slides, Tetrick lays out the argument against the Egg Industry, citing: food safety concern, animal mistreatment, cost volatility and genetically-modified feed. While cost and animal well-being are well-known, food safety and GM feed are two areas Tetrick hasn't put much focus on.

* Regarding food safety, Tetrick specifically calls out Salmonella (via egg recall), FDA regulations and Avian flu.
 * For consideration

>> * Given how much his platform is based on the plants, have we ever given any thought to how we can attack the plant aspect? Meaning-we spend our time defending the benefits of the egg, but I wonder if any scientists/academics could offer a substantive report on why plants are a bad choice?

>>

>> · Next Steps

>>

>> o Based on this information and in order to be prepared, we feel it is important to develop messaging in response to the key areas within Tetrick's argument against the industry.

>>

>> o If aligned, we can draft up messages regarding GM feed and food safety.

>>

>> We are happy to talk through next steps and how to leverage this information in more detail. In the meantime, please let us know if you have any questions!

>>

- >>
- >>

>> Best,

>>

>> Andy

>>

>>

>> <HamptonCreekPitchDeck.pdf>

From:	John Howeth
To:	Jerry Smiley
Cc:	John Howeth
Subject:	RE: Beyond Eggs Write Up
Date:	Monday, September 30, 2013 12:45:00 PM
Attachments:	image001.png
	image002.png
	image003.png
	image004.png
	image005.png
	image006.png

Thank you, that's perfect.

John Howeth VP, Ingredient & Commercial Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: Jerry Smiley [mailto(b) (6) Sent: Monday, September 30, 2013 11:05 AM To: John Howeth Subject: RE: Beyond Eggs Write Up

Regards,

Jerry Smiley

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From: John Howeth [mailto:JHoweth@aeb.org] Sent: Monday, September 30, 2013 8:54 AM To: Jerry Smiley (b) (6) Cc: John Howeth Subject: Beyond Eggs Write Up

Any chance I can get that by end of day or first thing in the AM? Joanne is back today and I need to give her an update. Thanks.

John Howeth | Vice President of Ingredient & Commercial Marketing American Egg Board 0 847 296.7043 | D 224 563.3705 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Lutton, Sara - AMS

From:	John Howeth
Sent:	Monday, March 24, 2014 9:21 AM
То:	Mitch Kanter; Joanne Ivy
Cc:	John Howeth
Subject:	RE: Beyond Eggs
Attachments:	Thoughts on Beyond Eggs.docx

Hi Mitch, per our earlier email, I put together this brief with the hopes of giving you something concise to work with. I may have missed a few points, please feel free to add to this document. Since you will probably be speaking to this at IEC, it may help us all to see your final document post-IEC so we're all preaching the same message.

Joanne, please add anything you think I've missed. Thanks.

John Howeth VP, Foodservice & Egg Product Marketing American Egg Board 1460 Renaissance Drive Park Ridge, IL 60068 Office: 847.296.7043 Direct: 224.563.3705 www.AEB.org

From: John Howeth Sent: Thursday, March 20, 2014 9:21 AM To: Mitch Kanter Subject: Beyond Eggs

Hi Mitch, I know you're real busy. I talked to Joanne and I'm putting together a write up on BE, I should have something for you tomorrow. It won't be everything you need but it should be pretty close. Let me know if you have any questions.

Sorry I missed you up here but Joanne said you had lot on your plate. Talk to you soon.

John Howeth VP Foodservice & Egg Product Marketing American Egg Board <u>1460 Renaissance Drive</u> Park Ridge, IL 60068 Office: <u>847.296.7043</u> <u>www.AEB.org</u>

Thoughts on Beyond Eggs

Situation

Food manufacturers still consider eggs a staple ingredient in their product formulations because of their many functional properties; however, there are a range of egg replacer ingredients that are positioning themselves as alternatives for eggs because of price fluctuation, supply issues, allergy, and animal rights concerns. Beyond Eggs is just one of those replacers.

Objectives

AEB recognizes this threat and have implemented a strategic response campaign targeting food manufacturers, focusing on the benefits of using real eggs versus egg replacer ingredients. Our objectives are to:

- Convince food manufacturers to continue to use eggs within their formulations and be inspired to develop new products with egg ingredients.
- Drive them away from considering egg replacers, or at the very least, question the viability of that option.
- Want them to understand the breadth and versatility of eggs' functional aspects.

Strategy

Our basic strategy is to reiterate the positive qualities about eggs and to selectively utilize interviews and other media opportunities to maintain an incumbent position in the marketplace. Additionally, egg product marketing will continue to promote the Clean Label campaign.

Expert Opinions

Gil Leveille

- Focus on nutritional quality and on the emerging science, much of which ENC has sponsored.
- Their safety argument is moot from the perspective that most of the product applications would involve cooked products which would destroy any potential pathogen.

Tong Wang

- Using plant and legume proteins and protein concentrates as egg replacer formulation is not new. The use of **pea protein** products as egg replacer has been promoted by USA Dry Pea and Lentil Council (2013).
- Because of the versatile functional and nutritional properties of egg, it will be extremely difficult to fully replace egg in a food formulation without the accompanying product defect.
- By replacing egg with substitutes, only certain functionality of food may be met and the products may only be acceptable by a particular population of the consumers.

Dr. Shelly McKee

- Beyond Eggs' nutrient claims against eggs that eggs are high in sat fat, cholesterol and have a link to CVD shows lack of their knowledge in the areas they're trying to compete in.
- The nutritional profile of BE doesn't meet egg nutrition.
- Their formulation is fortified with vitamins and lecithin, and doesn't match protein quality of eggs.

Plans

Consumer Media

- Engage influential bloggers providing third-party recommendations to showcase the many benefits of eggs from nutrition, to environmental footprint, to animal care. By enlisting blogger advocates, we are able to reach consumers via outlets they implicitly trust and look to for information about foods they purchase for their families and recommend to friends, etc.
- Leveraging paid search on Google, Bing and Yahoo. When consumers search for terms related to Beyond Eggs, they will also see a link to <u>IncredibleEgg.org's section on the 50-Year</u> Environmental Study.
- Using behavioral and content targeting, AEB will position links to positive egg industry information that users viewing content about Beyond Eggs will see.

Trade Media and Communications

AEB's strategic response campaign targets food manufacturers and highlights the benefits of using REAL eggs versus egg replacer ingredients. AEB's objectives are to:

- Educate this market about the breadth and versatility of eggs' functional aspects. Food manufacturers don't always realize that eggs are multi-functional performing several roles in food formulations. Without eggs, a more complex and lengthy ingredient statement occurs.
- Remind food manufacturers that today's consumers demand transparency and simplicity in their food products. The number of consumers interested in the contents of ingredient labels continues to climb. Ninety three percent of consumers prefer to see familiar ingredients, such as eggs, on food labels.

Specific tactics include:

- Developed a print and digital ad campaign that will continue throughout 2014 in the ingredient trade press promoting eggs as a familiar, trustworthy ingredient that can make a difference in the quality of packaged goods and consumer buying decisions.
- This campaign contains links to access the digital version of "<u>The Egg & Clean Labeling</u>" white paper that outlines the relevance and importance of eggs in today's marketplace and their power to build trust with consumers.
- Leverage video testimonials from food manufacturers who tried replacers but were disappointed with the results.
- Create a communication vehicle that discusses the many things to consider when thinking about changing from Real eggs to replacers (such as packaging and labeling expenses, sustainability and up to 20 additional features).

From:	Singer, Jamie
To:	<u>Maher, Missy; Joanne Ivy; Kevin Burkum</u>
Cc:	Schaffner, Serena: Jaffe, Brad; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject:	RE: Bill Gates" Food Fetish article
Date:	Tuesday, November 26, 2013 5:12:48 PM

Hi, all.

While we recognize "incredible egg" is a bit "markety," the phrase may also resonate well with readers because it is such a recognized campaign slogan.

Thank you, Jamie

Jamie Singer | o. (312) 240-2657 | m. (b) (6)

From: Maher, Missy
Sent: Tuesday, November 26, 2013 3:42 PM
To: Joanne Ivy; Kevin Burkum
Cc: Schaffner, Serena; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: RE: Bill Gates' Food Fetish article

Hi I am in between conferences, Brad can you weigh in on incredible add. I worry it may sound too "markety" if that's a word. But I'll go with majority!

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, November 26, 2013 3:40 PM
To: Kevin Burkum
Cc: Schaffner, Serena; Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: Re: Bill Gates' Food Fetish article

I think it looks good. I like adding "incredible" to the last sentence. Joanne

Sent from my iPhone

On Nov 26, 2013, at 4:02 PM, "Kevin Burkum" <<u>KBurkum@aeb.org</u>> wrote:

I think this looks great. For the last sentence, let's work in incredible, such as, "But the real question is, why settle for anything less than the original, timeless, incredible egg?"

Joanne and others, let us know what you think. Serena, please send over the directions for submission and I'll forward that and the final letter to Bob.

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org <image001.png> <image014.png> <image015.png> <image016.png> <image017.png> <image018.png>

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Tuesday, November 26, 2013 2:53 PM
To: Kevin Burkum; Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: RE: Bill Gates' Food Fetish article

Hi All –

Attached for your final approval is the revised WSJ letter to the editor (LTE), which incorporates Bob's feedback as well as an additional point about water conservation. Please let us know if you have any last questions or adds.

Once we receive approval, we'll provide the steps that Bob can take to submit this to the WSJ for consideration to publish. Additionally, we'll use this as a basis for the HuffPo LTE that we'll also be sending over today for review.

Best,

Serena

From: Schaffner, Serena
Sent: Tuesday, November 26, 2013 2:09 PM
To: Kevin Burkum; Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: RE: Bill Gates' Food Fetish article

Hi Kevin –

Thanks for sharing this with Bob. Let us play with this and add in another Env. Study fact and we'll get this back to you. Stay tuned!

Best, Serena

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 1:38 PM
To: Schaffner, Serena; Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: RE: Bill Gates' Food Fetish article

Bob has approved the op-ed, and asked how we feel about adding the highlighted

section in yellow. Thoughts?

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847 296.7043 | D 224 563.3702 | F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Tuesday, November 26, 2013 1:06 PM
To: Joanne Ivy; Kevin Burkum
Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: RE: Bill Gates' Food Fetish article

Hi Joanne and Kevin –

Thanks for posting the comment! We'll keep a close eye on it once it goes live, to see if Josh decides to jump into the conversation.

In the meantime, we've pulled together our suggested Letter to the Editor (LTE) for the Wall Street Journal, which we can then use as a foundation for the Huffington Post. We'd appreciate your thoughts on the attached as soon as possible so Bob can weigh in, as timing is critical. Please note, that Wall Street Journal's LTE have a 300-word limit, so if any additions need to be made, we'll need to take another look at adjusting word count.

Please don't hesitate to call with any questions. Look forward to hearing from you.

Best, Serena

From: Schaffner, Serena
Sent: Tuesday, November 26, 2013 12:36 PM
To: Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Kevin Burkum; Singer, Jamie
Subject: RE: Bill Gates' Food Fetish article

Hi Joanne –

Here is the final copy. I'll call you in one second to chat about posting.

Best,

Serena

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the timetested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information about eggs' environmental footprint, visit <u>http://bit.lv/HvhyP7</u>

From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Tuesday, November 26, 2013 12:20 PM
To: Joanne Ivy; Kevin Burkum; Jaffe, Brad; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Sorry our emails crossed, here is the comment with the link:

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the timetested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information, visit the American Egg Board website at <u>http://bit.ly/HvhyP7</u>."

From: Joanne Ivy [mailto:JIvy@aeb.org]
Sent: Tuesday, November 26, 2013 12:19 PM
To: Maher, Missy; Kevin Burkum; Jaffe, Brad; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

I just sent an email that I would post the short comment.

Brad, what do you think about the link to the environmental study? It's research, so it seems appropriate.

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

 0 847 296.7043 | D 224 563.3701 | C (b) (6)

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From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Tuesday, November 26, 2013 12:15 PM
To: Kevin Burkum; Jaffe, Brad; Joanne Ivy; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Ok, and you definitely want to move forward and send based on Brads note below, correct? I just want to make sure. If so we'll send back with the link.

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 12:06 PM
To: Jaffe, Brad; Maher, Missy; Joanne Ivy; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks Brad. I think this is looking good. Can we provide a link to information about the environmental footprint study within the comment?

Kevin Burkum Senior Vice President of Marketing American Egg Board 0 0 847 296.7043 D 224 563.3702 F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org <image001.png> <image019.png>

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From: Jaffe, Brad [mailto:Brad.Jaffe@edelman.com]
Sent: Tuesday, November 26, 2013 12:02 PM
To: Maher, Missy; Joanne Ivy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks all,

We've written a post (below) for consideration. It's simply a compilation of existing positive content AEB has used in the past. Still, while we understand the frustration, we're not sold on posting to this article as it risks taking on Josh Tetrick directly. He's heavily involved in this conversation and is responding to virtually every post. It means that it won't likely be a one-time deal. You're likely to get engaged further into a dialogue we might not want to have. Our objective is to make Beyond Eggs *dull*. We do the opposite by engaging in this forum.

The best way to ensure limited impact of Beyond Eggs is to find opportunities to push

back on attacks indirectly through other channels - promoting environmental improvements and nutritional benefits. AEB is the statesman. It's the established voice of the best thing out there. We should care less about headlines and more about trend-lines. We won't win them all, so let's focus on the big picture. How are egg sales? What are projections for future sales? What progress is the industry making on key areas of concern, etc.? Let's tell those stories over time in channels where we'll have greater success and control.

Happy to discuss further. Again, we understand if you feel you have to post a comment. So, we've recommended relatively benign language below.

Best, Brad

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the timetested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information, visit the American Egg Board website."

Brad Jaffe Senior Vice President | Crisis & Issues Management Edelman 200 E. Randolph, Suite 6400 Chicago, IL 60601 office: +1-312-240-2714 mobile:: (b) (6) asst: +1-312-233-1312 (Glee Mangiamele) www.edelman.com | http://edelmancrisis.com | Read our latest White Paper: Building a Reputation Risk Management Capability

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Sent: Tuesday, November 26, 2013 11:21 AM
To: Joanne Ivy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Hi we are writing a comment for you to post.

From: Joanne Ivy [mailto:JIvy@aeb.org]
Sent: Tuesday, November 26, 2013 11:11 AM
To: Maher, Missy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: FW: Bill Gates' Food Fetish article

Missy, I received a response and the editor stands behind Ryan's copy. I decided to address his opinions. It is just frustrating to read their justification.

Since they are not going to make any corrections, I think we need to use the comments section on the story to voice our opinion as he suggested. The article is mainly about the "horrible" egg industry, so we may want to post the contents of our letter to Ryan starting with the production section followed by the inaccuracies. What do you think Kevin?

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

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From: Joanne Ivy Sent: Tuesday, November 26, 2013 10:47 AM To: 'Mac, Ryan' Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Ryan, Thanks for relating your opinion, but my comments were definitely mischaracterized in the article.

1) AEB is conducting a campaign targeted to food manufacturers **not consumers** as stated in the article. Beyond Eggs is an egg replacer, which is used as an ingredient in food formulations, such as mayo. AEB campaign's features the benefits of REAL eggs compared to egg replacers for food formulations. Plus, the campaign reminds food

manufacturers that 93% of consumers want food products that have a clean label with familiar ingredients -- REAL eggs not a list of synthetic ingredients.

2) Beyond Eggs, is just another plant-based replacer that has been available to food manufacturers for years. It is nothing new. **Our campaign is not addressing egg substitutes, such as Egg Beaters.** I never mentioned egg substitutes or Egg Beaters, which are still "eggs," and it is another form of egg available to consumers. I realize that was your added commentary, but it is presented as part of my statement so it appears that AEB is targeting egg substitutes such as Egg Beaters. Totally false and misleading.

3) It was disappointing that the article was filled with negative, incorrect information about the egg industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

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-----Original Message-----From: Mac, Ryan [mailto:RMac@forbes.com] Sent: Tuesday, November 26, 2013 9:37 AM To: Joanne Ivy Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Hi Joanne,

My editors do not feel we mischaracterized your statements in the story and we stand by our piece. You contend that I mischaracterized your quote about egg replacers and attributed the line on Egg Beaters to you. The exact line reads as follows:

"President Joanne Ivy maintains that the campaign was not directed at Hampton Creek, and indeed, egg substitutes such as ConAgra's Egg Beaters have been around for years."

The second part can be read as commentary from Forbes.

We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac Reporter Forbes, San Francisco Office: 1-415-544-4911 Cell (b) (6) Site: <u>http://www.forbes.com/sites/ryanmac/</u> Twitter: <u>http://twitter.com/rmac18</u>

From: Joanne Ivy [JIvy@aeb.org] Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent Forbes article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for food manufacturers. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a

mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs, have been around for years.

While we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Therefore, we are disappointed by the undeserved attacks on the natural egg industry in this article.

Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

Protein comparison

In my interview, I also compared the nutrition of plant-based protein to the protein in real eggs – a point we believe is important to share with your readers but did not surface in the article. Natural eggs provide one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. The notion that you can replace an egg, which is the gold standard of high-quality protein, with a combination of low quality plant protein sources, is misguided.

Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

• Decreased pollution. Egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.

• Reduction in natural resource use. Hens now use 32 percent less water per dozen eggs produced.

• Improved hen feed. Today's hens use a little more than half the amount of feed to produce a dozen eggs.

• Better disease control and advancements in hen housing systems. Today's hens are living longer as a result of improved building ventilation, temperature control, better lighting and a more secure housing environment.

Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org<http://www.incredibleegg.org/> AEB.org<http://www.aeb.org/>

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From:	Schaffner, Serena
To:	Kevin Burkum; Joanne Ivy
Cc:	Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts;
	Grosshandler, Jennifer
Subject:	RE: Bill Gates" Food Fetish article
Date:	Tuesday, November 26, 2013 3:54:03 PM
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Hi All –

Attached for your final approval is the revised WSJ letter to the editor (LTE), which incorporates Bob's feedback as well as an additional point about water conservation. Please let us know if you have any last questions or adds.

Once we receive approval, we'll provide the steps that Bob can take to submit this to the WSJ for consideration to publish. Additionally, we'll use this as a basis for the HuffPo LTE that we'll also be sending over today for review.

Best, Serena

From: Schaffner, Serena
Sent: Tuesday, November 26, 2013 2:09 PM
To: Kevin Burkum; Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: RE: Bill Gates' Food Fetish article

Hi Kevin –

Thanks for sharing this with Bob. Let us play with this and add in another Env. Study fact and we'll get this back to you. Stay tuned!

Best,

Serena

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 1:38 PM
To: Schaffner, Serena; Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer

Subject: RE: Bill Gates' Food Fetish article

Bob has approved the op-ed, and asked how we feel about adding the highlighted section in yellow. Thoughts?



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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Tuesday, November 26, 2013 1:06 PM
To: Joanne Ivy; Kevin Burkum
Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: RE: Bill Gates' Food Fetish article

Hi Joanne and Kevin –

Thanks for posting the comment! We'll keep a close eye on it once it goes live, to see if Josh decides to jump into the conversation.

In the meantime, we've pulled together our suggested Letter to the Editor (LTE) for the Wall Street Journal, which we can then use as a foundation for the Huffington Post. We'd appreciate your thoughts on the attached as soon as possible so Bob can weigh in, as timing is critical. Please note, that Wall Street Journal's LTE have a 300-word limit, so if any additions need to be made, we'll need to take another look at adjusting word count.

Please don't hesitate to call with any questions. Look forward to hearing from you.

Best, Serena

From: Schaffner, Serena
Sent: Tuesday, November 26, 2013 12:36 PM
To: Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Kevin Burkum; Singer, Jamie
Subject: RE: Bill Gates' Food Fetish article

Hi Joanne –

Here is the final copy. I'll call you in one second to chat about posting.

Best, Serena

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information about eggs' environmental footprint, visit <u>http://bit.ly/HvhyP7</u>

From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Tuesday, November 26, 2013 12:20 PM
To: Joanne Ivy; Kevin Burkum; Jaffe, Brad; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Sorry our emails crossed, here is the comment with the link:

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information, visit the American Egg Board website at http://bit.ly/HvhyP7."

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, November 26, 2013 12:19 PM
To: Maher, Missy; Kevin Burkum; Jaffe, Brad; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

I just sent an email that I would post the short comment.

Brad, what do you think about the link to the environmental study? It's research, so it seems appropriate.

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

 0 847 296.7043 | D 224 563.3701 | C (b) (6)

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Ok, and you definitely want to move forward and send based on Brads note below, correct? I just want to make sure. If so we'll send back with the link.

From: Kevin Burkum [mailto:KBurkum@aeb.org]
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Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks Brad. I think this is looking good. Can we provide a link to information about the environmental footprint study within the comment?

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Sent: Tuesday, November 26, 2013 12:02 PM
To: Maher, Missy; Joanne Ivy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks all,

We've written a post (below) for consideration. It's simply a compilation of existing positive content AEB has used in the past. Still, while we understand the frustration, we're not sold on posting to this article as it risks taking on Josh Tetrick directly. He's heavily involved in this conversation and is responding to virtually every post. It means that it won't likely be a one-time deal. You're likely to get engaged further into a dialogue we might not want to have. Our objective is to make Beyond Eggs *dull*. We do the opposite by engaging in this forum.

The best way to ensure limited impact of Beyond Eggs is to find opportunities to push back on attacks indirectly through other channels - promoting environmental improvements and nutritional benefits. AEB is the statesman. It's the established voice of the best thing out there. We should

care less about headlines and more about trend-lines. We won't win them all, so let's focus on the big picture. How are egg sales? What are projections for future sales? What progress is the industry making on key areas of concern, etc.? Let's tell those stories over time in channels where we'll have greater success and control.

Happy to discuss further. Again, we understand if you feel you have to post a comment. So, we've recommended relatively benign language below.

Best, Brad

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information, visit the American Egg Board website."

Brad Jaffe Senior Vice President | Crisis & Issues Management Edelman 200 E. Randolph, Suite 6400 Chicago, IL 60601 office: +1-312-240-2714 mobile:: (b) (6) asst: +1-312-233-1312 (Glee Mangiamele) www.edelman.com | http://edelmancrisis.com | Read our latest White Paper: <u>Building a</u> Reputation Risk Management Capability

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Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Hi we are writing a comment for you to post.

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To: Maher, Missy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: FW: Bill Gates' Food Fetish article

Missy, I received a response and the editor stands behind Ryan's copy. I decided to address his opinions. It is just frustrating to read their justification.

Since they are not going to make any corrections, I think we need to use the comments section on the story to voice our opinion as he suggested. The article is mainly about the "horrible" egg industry, so we may want to post the contents of our letter to Ryan starting with the production section followed by the inaccuracies. What do you think Kevin?

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Joanne Ivy Sent: Tuesday, November 26, 2013 10:47 AM To: 'Mac, Ryan' Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Ryan, Thanks for relating your opinion, but my comments were definitely mischaracterized in the article.

1) AEB is conducting a campaign targeted to food manufacturers **not consumers** as stated in the article. Beyond Eggs is an egg replacer, which is used as an ingredient in food formulations, such as mayo. AEB campaign's features the benefits of REAL eggs compared to egg replacers for food formulations. Plus, the campaign reminds food manufacturers that 93% of consumers want food products that have a clean label with familiar ingredients -- REAL eggs not a list of synthetic ingredients.

2) Beyond Eggs, is just another plant-based replacer that has been available to food manufacturers for years. It is nothing new. **Our campaign is not addressing egg substitutes, such as Egg Beaters.** I

never mentioned egg substitutes or Egg Beaters, which are still "eggs," and it is another form of egg available to consumers. I realize that was your added commentary, but it is presented as part of my statement so it appears that AEB is targeting egg substitutes such as Egg Beaters. Totally false and misleading.

3) It was disappointing that the article was filled with negative, incorrect information about the egg industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C(b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

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-----Original Message-----From: Mac, Ryan [<u>mailto:RMac@forbes.com</u>] Sent: Tuesday, November 26, 2013 9:37 AM To: Joanne Ivy Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Hi Joanne,

My editors do not feel we mischaracterized your statements in the story and we stand by our piece. You contend that I mischaracterized your quote about egg replacers and attributed the line on Egg Beaters to you. The exact line reads as follows:

"President Joanne Ivy maintains that the campaign was not directed at Hampton Creek, and indeed, egg substitutes such as ConAgra's Egg Beaters have been around for years."

The second part can be read as commentary from Forbes.

We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac Reporter Forbes, San Francisco Office: 1-415-544-4911 Cell: (b) (6) Site: http://www.forbes.com/sites/ryanmac/ Twitter: http://twitter.com/rmac18

From: Joanne Ivy [JIvy@aeb.org] Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent Forbes article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for food manufacturers. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs, have been around for years.

While we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Therefore, we are disappointed by the undeserved attacks on the natural egg industry in this article.

Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

Protein comparison

In my interview, I also compared the nutrition of plant-based protein to the protein in real eggs – a point we believe is important to share with your readers but did not surface in the article. Natural eggs provide one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. The notion that you can replace an egg, which is the gold standard of high-quality protein, with a combination of low quality plant protein sources, is misguided.

Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

• Decreased pollution. Egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.

 \cdot $\,$ Reduction in natural resource use. Hens now use 32 percent less water per dozen eggs produced.

 \cdot Improved hen feed. Today's hens use a little more than half the amount of feed to produce a dozen eggs.

• Better disease control and advancements in hen housing systems. Today's hens are living longer as a result of improved building ventilation, temperature control, better lighting and a more secure housing environment.

Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org<<u>http://www.incredibleegg.org/</u>> AEB.org<<u>http://www.aeb.org/</u>>

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Letter-to-the-Editor: Wall Street Journal

Date: November 24, 2013 Headline: "Startup Scrambles to Replace Egg" Page number: XX Writer's location: Indiana

As an egg farmer in northern Indiana for more than 30 years, I take issue with the Nov. 24 article, "Startup Scrambles to Replace Egg." The truth is, the time-tested, all-natural, gold-standard-of-highquality protein egg cannot be replaced.

Over the past few decades, a variety of innovations have taken place across the egg industry that we – as egg farmers – take pride in. With the growing population and egg demand on the rise, egg farmers like myself are working really hard to provide safe, nutritious food while maintaining the highest quality care for our hens. Today's hens are producing more eggs and living longer due to better health and nutrition and ventilation, temperature and lighting advancements in their living environment.

At the same time, we've made egg production more efficient by using fewer resources and producing less waste. A new study by the Egg Industry Center proves the egg industry has significantly reduced its environmental impact over the past 50 years. Since 1960, we've decreased greenhouse gas emissions by more than 70 percent and use 32 percent less water – that's real progress.

Though replacer eggs like the ones produced by Hampton Creek Foods have made some noise, our customers have said they're not interested in egg substitutes or ones created by a "company's battalion of biochemists, food scientists, and software engineers" who "are modeling their efforts on processes first used in drug companies and the tech industry." They want real eggs – they can take comfort in the familiar ingredients and nutritional, taste and quality benefits of natural eggs. We may never know the answer to the age-old question, "Which came first: the chicken or the egg?" But the real question is, why settle for anything less than the original, timeless, nutritious egg?

Bob Krouse Egg farmer Midwest Poultry Services in Indiana

From:	Kevin Burkum
To:	<u>"Schaffner, Serena"; Joanne Ivy</u>
Cc:	Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject:	RE: Bill Gates" Food Fetish article
Date:	Tuesday, November 26, 2013 2:37:42 PM
Attachments:	Bob Krouse LTE 11 26 13 12pm.docx
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Bob has approved the op-ed, and asked how we feel about adding the highlighted section in yellow. Thoughts?

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEqg.org AEB.org

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Hi Joanne and Kevin –

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Brad, what do you think about the link to the environmental study? It's research, so it seems appropriate.

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Kevin Burkum | Senior Vice President of Marketing

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Brad Jaffe Senior Vice President | Crisis & Issues Management Edelman 200 E. Randolph, Suite 6400 Chicago, IL 60601 office: +1-312-240-2714 mobile:: (b) (6) asst: +1-312-233-1312 (Glee Mangiamele) <u>www.edelman.com</u> | <u>http://edelmancrisis.com</u> | Read our latest White Paper: <u>Building a</u> <u>Reputation Risk Management Capability</u>

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Missy, I received a response and the editor stands behind Ryan's copy. I decided to address his opinions. It is just frustrating to read their justification.

Since they are not going to make any corrections, I think we need to use the comments section on the story to voice our opinion as he suggested. The article is mainly about the "horrible" egg industry, so we may want to post the contents of our letter to Ryan starting with the production section followed by the inaccuracies. What do you think Kevin?

Joanne C. Ivy, CAE | President & CEO

American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Joanne Ivy Sent: Tuesday, November 26, 2013 10:47 AM To: 'Mac, Ryan'

Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Ryan, Thanks for relating your opinion, but my comments were definitely mischaracterized in the article.

1) AEB is conducting a campaign targeted to food manufacturers **not consumers** as stated in the article. Beyond Eggs is an egg replacer, which is used as an ingredient in food formulations, such as mayo. AEB campaign's features the benefits of REAL eggs compared to egg replacers for food formulations. Plus, the campaign reminds food manufacturers that 93% of consumers want food products that have a clean label with familiar ingredients -- REAL eggs not a list of synthetic ingredients.

2) Beyond Eggs, is just another plant-based replacer that has been available to food manufacturers for years. It is nothing new. **Our campaign is not addressing egg substitutes, such as Egg Beaters.** I never mentioned egg substitutes or Egg Beaters, which are still "eggs," and it is another form of egg available to consumers. I realize that was your added commentary, but it is presented as part of my statement so it appears that AEB is targeting egg substitutes such as Egg Beaters. Totally false and misleading.

3) It was disappointing that the article was filled with negative, incorrect information about the egg industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

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-----Original Message-----From: Mac, Ryan [mailto:RMac@forbes.com] Sent: Tuesday, November 26, 2013 9:37 AM To: Joanne Ivy Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Hi Joanne,

My editors do not feel we mischaracterized your statements in the story and we stand by our piece. You contend that I mischaracterized your quote about egg replacers and attributed the line on Egg Beaters to you. The exact line reads as follows:

"President Joanne Ivy maintains that the campaign was not directed at Hampton Creek, and indeed, egg substitutes such as ConAgra's Egg Beaters have been around for years."

The second part can be read as commentary from Forbes.

We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac Reporter Forbes, San Francisco Office: 1-415-544-4911 Cell: (b) (6) Site: http://www.forbes.com/sites/ryanmac/ Twitter: http://twitter.com/rmac18

From: Joanne Ivy [JIvy@aeb.org] Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent Forbes article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for food manufacturers. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs, have been around for years.

While we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Therefore, we are disappointed by the undeserved attacks on the natural egg industry in this article.

Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

Protein comparison

In my interview, I also compared the nutrition of plant-based protein to the protein in real eggs – a point we believe is important to share with your readers but did not surface in the article. Natural eggs provide one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. The notion that you can replace an egg, which is the gold standard of high-quality protein, with a combination of low quality plant protein sources, is misguided.

Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

• Decreased pollution. Egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.

• Reduction in natural resource use. Hens now use 32 percent less water per dozen eggs

produced.

 \cdot Improved hen feed. Today's hens use a little more than half the amount of feed to produce a dozen eggs.

• Better disease control and advancements in hen housing systems. Today's hens are living longer as a result of improved building ventilation, temperature control, better lighting and a more secure housing environment.

Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org<<u>http://www.incredibleegg.org/</u>> AEB.org<<u>http://www.aeb.org/</u>>

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Letter-to-the-Editor: Wall Street Journal

Date: November 24, 2013 Headline: "Startup Scrambles to Replace Egg" Page number: XX Writer's location: Indiana

As an egg farmer in northern Indiana for more than 30 years, I take issue with the Nov. 24 article, "Startup Scrambles to Replace Egg." The truth is, the time-tested, all-natural, gold-standard-of-highquality protein egg cannot be replaced.

Over the past few decades, a variety of innovations have taken place across the egg industry that we – as egg farmers – take pride in. With the growing population and egg demand on the rise, egg farmers like myself are working really hard to provide safe, nutritious food while maintaining the highest quality care for our hens. Today's hens are producing more eggs and living longer due to better health and nutrition and ventilation, temperature and lighting advancements in their living environment.

At the same time, we have made egg production more efficient by using fewer resources and producing less waste. A new study by the Egg Industry Center proves the egg production industry has significantly reduced its environmental impact over the past 50 years. Since 1960, we've decreased greenhouse gas emissions by more than 70 percent – that's real progress.

Though replacer eggs like the ones produced by Hampton Creek Foods have made some noise, our customers have said they really are not interested in substitutes where "To create its eggless products, the company's battalion of biochemists, food scientists, and software engineers are modeling their efforts on processes first used in drug companies and the tech industry." They want real eggs – they can take comfort in the familiar ingredients and nutritional, taste and quality benefits of natural eggs. We may never know the answer to the age-old question, "Which came first: the chicken or the egg?" But the real question is, why settle for anything less than the original, timeless, nutritious egg?

Bob Krouse Egg farmer Midwest Poultry Services in Indiana

From:	Kevin Burkum
To:	<u>"Schaffner, Serena"; Joanne Ivy</u>
Cc:	<u>Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts;</u> <u>Grosshandler, Jennifer</u>
Subject:	RE: Bill Gates" Food Fetish article
Date:	Tuesday, November 26, 2013 2:12:08 PM
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Thanks Serena. I'll get this over to Bob now for his review. In the interim, it might be good to include another fact or two from the study, such as how we're using less water.

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847 296.7043 | D 224 563.3702 | F 847.296.7007

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From: Schaffner, Serena [mailto:Serena.Schaffner@edelman.com]
Sent: Tuesday, November 26, 2013 1:06 PM
To: Joanne Ivy; Kevin Burkum
Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer
Subject: RE: Bill Gates' Food Fetish article

Hi Joanne and Kevin –

Thanks for posting the comment! We'll keep a close eye on it once it goes live, to see if Josh decides to jump into the conversation.

In the meantime, we've pulled together our suggested Letter to the Editor (LTE) for the Wall Street Journal, which we can then use as a foundation for the Huffington Post. We'd appreciate your thoughts on the attached as soon as possible so Bob can weigh in, as timing is critical. Please note, that Wall Street Journal's LTE have a 300-word limit, so if any additions need to be made, we'll need to take another look at adjusting word count.

Please don't hesitate to call with any questions. Look forward to hearing from you.

Best,

Serena

From: Schaffner, Serena
Sent: Tuesday, November 26, 2013 12:36 PM
To: Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Kevin Burkum; Singer, Jamie
Subject: RE: Bill Gates' Food Fetish article

Hi Joanne –

Here is the final copy. I'll call you in one second to chat about posting.

Best,

Serena

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information about eggs' environmental footprint, visit <u>http://bit.ly/HvhyP7</u>

From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Tuesday, November 26, 2013 12:20 PM
To: Joanne Ivy; Kevin Burkum; Jaffe, Brad; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Sorry our emails crossed, here is the comment with the link:

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information, visit the American Egg Board website at http://bit.ly/HvhyP7."

Subject: RE: Bill Gates' Food Fetish article

I just sent an email that I would post the short comment.

Brad, what do you think about the link to the environmental study? It's research, so it seems appropriate.

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

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From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Tuesday, November 26, 2013 12:15 PM
To: Kevin Burkum; Jaffe, Brad; Joanne Ivy; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Ok, and you definitely want to move forward and send based on Brads note below, correct? I just want to make sure. If so we'll send back with the link.

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 12:06 PM
To: Jaffe, Brad; Maher, Missy; Joanne Ivy; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks Brad. I think this is looking good. Can we provide a link to information about the environmental footprint study within the comment?

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847 296.7043 | D 224 563.3702 | F 847.296.7007

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From: Jaffe, Brad [mailto:Brad.Jaffe@edelman.com]
Sent: Tuesday, November 26, 2013 12:02 PM
To: Maher, Missy; Joanne Ivy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks all,

We've written a post (below) for consideration. It's simply a compilation of existing positive content AEB has used in the past. Still, while we understand the frustration, we're not sold on posting to this article as it risks taking on Josh Tetrick directly. He's heavily involved in this conversation and is responding to virtually every post. It means that it won't likely be a one-time deal. You're likely to get engaged further into a dialogue we might not want to have. Our objective is to make Beyond Eggs *dull*. We do the opposite by engaging in this forum.

The best way to ensure limited impact of Beyond Eggs is to find opportunities to push back on attacks indirectly through other channels - promoting environmental improvements and nutritional benefits. AEB is the statesman. It's the established voice of the best thing out there. We should care less about headlines and more about trend-lines. We won't win them all, so let's focus on the big picture. How are egg sales? What are projections for future sales? What progress is the industry making on key areas of concern, etc.? Let's tell those stories over time in channels where we'll have greater success and control.

Happy to discuss further. Again, we understand if you feel you have to post a comment. So, we've recommended relatively benign language below.

Best, Brad

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information, visit the American Egg Board website."

Brad Jaffe Senior Vice President | Crisis & Issues Management Edelman 200 E. Randolph, Suite 6400 Chicago, IL 60601 office: +1-312-240-2714 mobile:: (b) (6) asst: +1-312-233-1312 (Glee Mangiamele) www.edelman.com | http://edelmancrisis.com | Read our latest White Paper: <u>Building a</u> <u>Reputation Risk Management Capability</u> Edelman kindly reminds you to consider the environment before printing this email or attachments.

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From: Maher, Missy
Sent: Tuesday, November 26, 2013 11:21 AM
To: Joanne Ivy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Hi we are writing a comment for you to post.

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, November 26, 2013 11:11 AM
To: Maher, Missy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: FW: Bill Gates' Food Fetish article

Missy, I received a response and the editor stands behind Ryan's copy. I decided to address his opinions. It is just frustrating to read their justification.

Since they are not going to make any corrections, I think we need to use the comments section on the story to voice our opinion as he suggested. The article is mainly about the "horrible" egg industry, so we may want to post the contents of our letter to Ryan starting with the production section followed by the inaccuracies. What do you think Kevin?

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Joanne Ivy Sent: Tuesday, November 26, 2013 10:47 AM To: 'Mac, Ryan' Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article Ryan, Thanks for relating your opinion, but my comments were definitely mischaracterized in the article.

1) AEB is conducting a campaign targeted to food manufacturers **not consumers** as stated in the article. Beyond Eggs is an egg replacer, which is used as an ingredient in food formulations, such as mayo. AEB campaign's features the benefits of REAL eggs compared to egg replacers for food formulations. Plus, the campaign reminds food manufacturers that 93% of consumers want food products that have a clean label with familiar ingredients -- REAL eggs not a list of synthetic ingredients.

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3) It was disappointing that the article was filled with negative, incorrect information about the egg industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

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-----Original Message-----From: Mac, Ryan [<u>mailto:RMac@forbes.com</u>] Sent: Tuesday, November 26, 2013 9:37 AM To: Joanne Ivy Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article Hi Joanne,

My editors do not feel we mischaracterized your statements in the story and we stand by our piece. You contend that I mischaracterized your quote about egg replacers and attributed the line on Egg Beaters to you. The exact line reads as follows:

"President Joanne Ivy maintains that the campaign was not directed at Hampton Creek, and indeed, egg substitutes such as ConAgra's Egg Beaters have been around for years."

The second part can be read as commentary from Forbes.

We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac Reporter Forbes, San Francisco Office: 1-415-544-4911 Cell: (b) (6) Site: http://www.forbes.com/sites/ryanmac/ Twitter: http://twitter.com/rmac18

From: Joanne Ivy [JIvy@aeb.org] Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent Forbes article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for food manufacturers. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs, have been around for years.

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Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

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Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

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Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org<<u>http://www.incredibleegg.org/</u>> AEB.org<<u>http://www.aeb.org/</u>>

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To: Joanne Ivy; Kevin Burkum Cc: Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts; Grosshandler, Jennifer Subject: RE: Bill Gates" Food Fetish article Date: Tuesday, November 26, 2013 2:06:36 PM	From:	Schaffner, Serena
Grosshandler, Jennifer Subject: RE: Bill Gates" Food Fetish article	To:	Joanne Ivy; Kevin Burkum
Subject: RE: Bill Gates" Food Fetish article	Cc:	Maher, Missy; Jaffe, Brad; Singer, Jamie; Jensen, Elizabeth (Schreiber); John Howeth; Mia Roberts;
·····		Grosshandler, Jennifer
Date: Tuesday, November 26, 2013 2:06:36 PM	Subject:	RE: Bill Gates" Food Fetish article
	Date:	Tuesday, November 26, 2013 2:06:36 PM
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Please don't hesitate to call with any questions. Look forward to hearing from you.

Best,

Serena

From: Schaffner, Serena
Sent: Tuesday, November 26, 2013 12:36 PM
To: Joanne Ivy
Cc: Maher, Missy; Jaffe, Brad; Kevin Burkum; Singer, Jamie
Subject: RE: Bill Gates' Food Fetish article

Hi Joanne –

Here is the final copy. I'll call you in one second to chat about posting.

Best, Serena

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information about eggs' environmental footprint, visit <u>http://bit.ly/HvhyP7</u>

From: Maher, Missy [mailto:Missy.Maher@edelman.com]
Sent: Tuesday, November 26, 2013 12:20 PM
To: Joanne Ivy; Kevin Burkum; Jaffe, Brad; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Sorry our emails crossed, here is the comment with the link:

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information, visit the American Egg Board website at http://bit.ly/HvhyP7."

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, November 26, 2013 12:19 PM
To: Maher, Missy; Kevin Burkum; Jaffe, Brad; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

I just sent an email that I would post the short comment.

Brad, what do you think about the link to the environmental study? It's research, so it seems appropriate.

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

 0 847 296.7043 | D 224 563.3701 | C (b) (6)

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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 AEB.org



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Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts

Subject: RE: Bill Gates' Food Fetish article

Ok, and you definitely want to move forward and send based on Brads note below, correct? I just want to make sure. If so we'll send back with the link.

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 12:06 PM
To: Jaffe, Brad; Maher, Missy; Joanne Ivy; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks Brad. I think this is looking good. Can we provide a link to information about the environmental footprint study within the comment?

Kevin Burkum | Senior Vice President of Marketing American Egg Board 0 847 296.7043 | D 224 563.3702 | F 847.296.7007 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEqg.org AEB.org



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Thanks all,

We've written a post (below) for consideration. It's simply a compilation of existing positive content AEB has used in the past. Still, while we understand the frustration, we're not sold on posting to this article as it risks taking on Josh Tetrick directly. He's heavily involved in this conversation and is responding to virtually every post. It means that it won't likely be a one-time deal. You're likely to get engaged further into a dialogue we might not want to have. Our objective is to make Beyond Eggs *dull*. We do the opposite by engaging in this forum.

The best way to ensure limited impact of Beyond Eggs is to find opportunities to push back on attacks indirectly through other channels - promoting environmental improvements and nutritional benefits. AEB is the statesman. It's the established voice of the best thing out there. We should care less about headlines and more about trend-lines. We won't win them all, so let's focus on the big picture. How are egg sales? What are projections for future sales? What progress is the industry making on key areas of concern, etc.? Let's tell those stories over time in channels where we'll have greater success and control.

Happy to discuss further. Again, we understand if you feel you have to post a comment. So, we've

recommended relatively benign language below.

Best, Brad

"Eggs remain one of nature's most perfect foods. For a variety of reasons, the time-tested, allnatural egg remains the best option for consumers, food manufacturers and food service companies alike. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. For more information, visit the American Egg Board website."

Brad Jaffe Senior Vice President | Crisis & Issues Management Edelman 200 E. Randolph, Suite 6400 Chicago, IL 60601 office: +1-312-240-2714 mobile:: (b) (6) asst: +1-312-233-1312 (Glee Mangiamele) www.edelman.com | http://edelmancrisis.com | Read our latest White Paper: <u>Building a</u> <u>Reputation Risk Management Capability</u>

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Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

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Grosshandler, Jennifer; Mia Roberts Subject: FW: Bill Gates' Food Fetish article

Missy, I received a response and the editor stands behind Ryan's copy. I decided to address his opinions. It is just frustrating to read their justification.

Since they are not going to make any corrections, I think we need to use the comments section on the story to voice our opinion as he suggested. The article is mainly about the "horrible" egg industry, so we may want to post the contents of our letter to Ryan starting with the production section followed by the inaccuracies. What do you think Kevin?

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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From: Joanne Ivy Sent: Tuesday, November 26, 2013 10:47 AM To: 'Mac, Ryan' Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Ryan, Thanks for relating your opinion, but my comments were definitely mischaracterized in the article.

1) AEB is conducting a campaign targeted to food manufacturers **not consumers** as stated in the article. Beyond Eggs is an egg replacer, which is used as an ingredient in food formulations, such as mayo. AEB campaign's features the benefits of REAL eggs compared to egg replacers for food formulations. Plus, the campaign reminds food manufacturers that 93% of consumers want food products that have a clean label with familiar ingredients -- REAL eggs not a list of synthetic ingredients.

2) Beyond Eggs, is just another plant-based replacer that has been available to food manufacturers for years. It is nothing new. **Our campaign is not addressing egg substitutes, such as Egg Beaters.** I never mentioned egg substitutes or Egg Beaters, which are still "eggs," and it is another form of egg available to consumers. I realize that was your added commentary, but it is presented as part of my statement so it appears that AEB is targeting egg substitutes such as Egg Beaters. Totally false and misleading.

3) It was disappointing that the article was filled with negative, incorrect information about the egg

industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

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-----Original Message-----From: Mac, Ryan [mailto:RMac@forbes.com] Sent: Tuesday, November 26, 2013 9:37 AM To: Joanne Ivy Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Hi Joanne,

My editors do not feel we mischaracterized your statements in the story and we stand by our piece. You contend that I mischaracterized your quote about egg replacers and attributed the line on Egg Beaters to you. The exact line reads as follows:

"President Joanne Ivy maintains that the campaign was not directed at Hampton Creek, and indeed, egg substitutes such as ConAgra's Egg Beaters have been around for years."

The second part can be read as commentary from Forbes.

We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac

Reporter Forbes, San Francisco Office: 1-415-544-4911 Cell: (b) (6) Site: <u>http://www.forbes.com/sites/ryanmac/</u> Twitter: <u>http://twitter.com/rmac18</u>

From: Joanne Ivy [JIvy@aeb.org] Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent Forbes article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for food manufacturers. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs, have been around for years.

While we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Therefore, we are disappointed by the undeserved attacks on the natural egg industry in this article.

Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

Protein comparison

In my interview, I also compared the nutrition of plant-based protein to the protein in real eggs – a point we believe is important to share with your readers but did not surface in the article. Natural eggs provide one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. The notion that you can replace an egg, which is the gold standard of high-quality protein, with a combination of low quality plant protein sources, is misguided.

Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

• Decreased pollution. Egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.

 \cdot Reduction in natural resource use. Hens now use 32 percent less water per dozen eggs produced.

 \cdot Improved hen feed. Today's hens use a little more than half the amount of feed to produce a dozen eggs.

• Better disease control and advancements in hen housing systems. Today's hens are living longer as a result of improved building ventilation, temperature control, better lighting and a more secure housing environment.

Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org<<u>http://www.incredibleegg.org/</u>> AEB.org<<u>http://www.aeb.org/</u>> [cid:image001.png@01CEE9DE.FC70DE70] < http://www.incredibleegg.org/>
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[cid:image006.png@01CEE9DE.FC70DE70] < http://www.linkedin.com/company/american-egg-board>

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Letter-to-the-Editor: Wall Street Journal

Date: November 24, 2013 Headline: "Startup Scrambles to Replace Egg" Page number: XX Writer's location: Indiana

As an egg farmer in northern Indiana for more than XX years, I take issue with the Nov. 24 article, "Startup Scrambles to Replace Egg." The truth is, the time-tested, all-natural, gold-standard-of-highquality protein egg cannot be replaced.

Over the past few decades, a variety of innovations have taken place across the egg industry that we – as egg farmers – take pride in. With the growing population and egg demand on the rise, egg farmers like myself are working really hard to provide safe, nutritious food while maintaining the highest quality care for our hens. Today's hens are producing more eggs and living longer due to better health and nutrition and ventilation, temperature and lighting advancements in their living environment.

At the same time, we have made egg production more efficient by using fewer resources and producing less waste. A new study by the Egg Industry Center proves the egg production industry has significantly reduced its environmental impact over the past 50 years. Since 1960, we've decreased greenhouse gas emissions by more than 70 percent – that's real progress.

Though replacer eggs like the ones produced by Hampton Creek Foods have made some noise, our customers have said they really aren't interested in these substitutes. They want real eggs – they can take comfort in the familiar ingredients and nutritional, taste and quality benefits of natural eggs. We may never know the answer to the age-old question, "Which came first: the chicken or the egg?" But the real question is, why settle for anything less than the original, timeless, nutritious egg?

Bob Krouse Egg farmer Midwest Poultry Services in Indiana

From:	Kevin Burkum
To:	Joanne Ivy; "Jaffe, Brad"; Maher, Missy; John Howeth
Cc:	Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject:	RE: Bill Gates" Food Fetish article
Date:	Tuesday, November 26, 2013 1:35:46 PM
Attachments:	image001.png image002.png image003.png image004.png image005.png image005.png image006.png image008.png image009.png image009.png image010.png image011.png image012.png
	image014.jpg image015.jpg image016.jpg image017.jpg image018.jpg

Interesting POV from an egg industry reporter.

http://www.wattagnet.com/165162.html

Kevin Burkum | Senior Vice President of Marketing

 American Egg Board

 0 847 296.7043 | D 224 563.3702 | F 847.296.7007

 PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068

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Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks Brad. Your perspective is appreciated.

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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Sent: Tuesday, November 26, 2013 12:30 PM
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Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

I like the link. If we're going to post, I agree that it should be included. One note: occasionally, websites like Forbes.com remove links within their forums if they're seen as advertising. I think we have a good case to make re: why this link ought to be included.

Brad Jaffe Senior Vice President | Crisis & Issues Management Edelman 200 E. Randolph, Suite 6400 Chicago, IL 60601 office: +1-312-240-2714 mobile:: (b) (6) asst: +1-312-233-1312 (Glee Mangiamele) www.edelman.com | http://edelmancrisis.com | Read our latest White Paper: <u>Building a</u> <u>Reputation Risk Management Capability</u>

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3) It was disappointing that the article was filled with negative, incorrect information about the egg industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

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We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac Reporter Forbes, San Francisco Office: 1-415-544-4911 Cell: (b) (6) Site: <u>http://www.forbes.com/sites/ryanmac/</u> Twitter: <u>http://twitter.com/rmac18</u>

From: Joanne Ivy [JIvy@aeb.org] Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent Forbes article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for food manufacturers. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs, have been around for years.

While we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Therefore, we are disappointed by the undeserved attacks on the natural egg industry in this article.

Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

Protein comparison

In my interview, I also compared the nutrition of plant-based protein to the protein in real eggs – a point we believe is important to share with your readers but did not surface in the article. Natural eggs provide one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. The notion that you can replace an egg, which is the gold standard of high-quality protein, with a combination of low quality plant protein sources, is misguided.

Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

• Decreased pollution. Egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.

 \cdot $\,$ Reduction in natural resource use. Hens now use 32 percent less water per dozen eggs produced.

 \cdot Improved hen feed. Today's hens use a little more than half the amount of feed to produce a dozen eggs.

• Better disease control and advancements in hen housing systems. Today's hens are living longer as a result of improved building ventilation, temperature control, better lighting and a more secure housing environment.

Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org<<u>http://www.incredibleegg.org/</u>> AEB.org<<u>http://www.aeb.org/</u>>

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[cid:image004.png@01CEE9DE.FC70DE70] < http://pinterest.com/incredibleeggs/>
[cid:image005.png@01CEE9DE.FC70DE70] < http://www.youtube.com/americaneggboard>
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From:	Joanne Ivy
To:	<u>"Jaffe, Brad"; Maher, Missy; Kevin Burkum; John Howeth</u>
Cc:	Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject:	RE: Bill Gates" Food Fetish article
Date:	Tuesday, November 26, 2013 1:32:53 PM
Attachments:	image014.png image015.png image016.png image017.png image018.png image029.png image020.png image022.png image023.png image024.png image024.png image025.png image025.png image026.jpg image027.jpg image028.jpg image029.jpg image029.jpg image029.jpg

Thanks Brad. Your perspective is appreciated.

Joanne C. Ivy, CAE | President & CEO

 American Egg Board

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 847 296.7043 | D
 224 563.3701 | C
 (b) (6)

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From: Jaffe, Brad [mailto:Brad.Jaffe@edelman.com]
Sent: Tuesday, November 26, 2013 12:30 PM
To: Joanne Ivy; Maher, Missy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

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Brad Jaffe Senior Vice President | Crisis & Issues Management Edelman 200 E. Randolph, Suite 6400 Chicago, IL 60601 office: +1-312-240-2714 mobile:: (b) (6) asst: +1-312-233-1312 (Glee Mangiamele) www.edelman.com | http://edelmancrisis.com | Read our latest White Paper: *Building a* <u>Reputation Risk Management Capability</u>

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Brad, what do you think about the link to the environmental study? It's research, so it seems appropriate.

Joanne C. Ivy, CAE | President & CEO American Egg Board 0 847 296.7043 | D 224 563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org



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To: Kevin Burkum; Jaffe, Brad; Joanne Ivy; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Ok, and you definitely want to move forward and send based on Brads note below, correct? I just want to make sure. If so we'll send back with the link.

From: Kevin Burkum [mailto:KBurkum@aeb.org]
Sent: Tuesday, November 26, 2013 12:06 PM
To: Jaffe, Brad; Maher, Missy; Joanne Ivy; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Thanks Brad. I think this is looking good. Can we provide a link to information about the environmental footprint study within the comment?

Kevin Burkum Senior Vice President of Marketing American Egg Board 0 0 847 296.7043 D 224 563.3702 F 847.296.7007

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Sent: Tuesday, November 26, 2013 12:02 PM
To: Maher, Missy; Joanne Ivy; Kevin Burkum; John Howeth
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Happy to discuss further. Again, we understand if you feel you have to post a comment. So, we've recommended relatively benign language below.

Best, Brad

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From: Maher, Missy
Sent: Tuesday, November 26, 2013 11:21 AM
To: Joanne Ivy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: RE: Bill Gates' Food Fetish article

Hi we are writing a comment for you to post.

From: Joanne Ivy [mailto:Jlvy@aeb.org]
Sent: Tuesday, November 26, 2013 11:11 AM
To: Maher, Missy; Kevin Burkum; John Howeth
Cc: Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Jaffe, Brad; Singer, Jamie; Grosshandler, Jennifer; Mia Roberts
Subject: FW: Bill Gates' Food Fetish article

Missy, I received a response and the editor stands behind Ryan's copy. I decided to address his opinions. It is just frustrating to read their justification.

Since they are not going to make any corrections, I think we need to use the comments section on the story to voice our opinion as he suggested. The article is mainly about the "horrible" egg industry, so we may want to post the contents of our letter to Ryan starting with the production section followed by the inaccuracies. What do you think Kevin?

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From: Joanne Ivy Sent: Tuesday, November 26, 2013 10:47 AM To: 'Mac, Ryan' Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Ryan, Thanks for relating your opinion, but my comments were definitely mischaracterized in the article.

1) AEB is conducting a campaign targeted to food manufacturers **not consumers** as stated in the article. Beyond Eggs is an egg replacer, which is used as an ingredient in food formulations, such as mayo. AEB campaign's features the benefits of REAL eggs compared to egg replacers for food formulations. Plus, the campaign reminds food manufacturers that 93% of consumers want food products that have a clean label with familiar ingredients -- REAL eggs not a list of synthetic ingredients.

2) Beyond Eggs, is just another plant-based replacer that has been available to food manufacturers for years. It is nothing new. **Our campaign is not addressing egg substitutes, such as Egg Beaters.** I never mentioned egg substitutes or Egg Beaters, which are still "eggs," and it is another form of egg available to consumers. I realize that was your added commentary, but it is presented as part of my statement so it appears that AEB is targeting egg substitutes such as Egg Beaters. Totally false and misleading.

3) It was disappointing that the article was filled with negative, incorrect information about the egg industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org AEB.org

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-----Original Message-----From: Mac, Ryan [mailto:RMac@forbes.com] Sent: Tuesday, November 26, 2013 9:37 AM To: Joanne Ivy Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Hi Joanne,

My editors do not feel we mischaracterized your statements in the story and we stand by our piece. You contend that I mischaracterized your quote about egg replacers and attributed the line on Egg Beaters to you. The exact line reads as follows:

"President Joanne Ivy maintains that the campaign was not directed at Hampton Creek, and indeed, egg substitutes such as ConAgra's Egg Beaters have been around for years."

The second part can be read as commentary from Forbes.

We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac Reporter Forbes, San Francisco Office: 1-415-544-4911

Cell (b) (6) Site: <u>http://www.forbes.com/sites/ryanmac/</u> Twitter: <u>http://twitter.com/rmac18</u>

From: Joanne Ivy [JIvy@aeb.org] Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

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Protein comparison

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Sincerely,

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From:	Jaffe, Brad
To:	Joanne Ivy; Maher, Missy; Kevin Burkum; John Howeth
Cc:	Schaffner, Serena; Jensen, Elizabeth (Schreiber); Liuzzi, Andrew; Singer, Jamie; Grosshandler, Jennifer; Mia
	Roberts
Subject:	RE: Bill Gates" Food Fetish article
Date:	Tuesday, November 26, 2013 1:30:33 PM
Attachments:	image001.png
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	image005.png
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Kevin Burkum | Senior Vice President of Marketing

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Subject: FW: Bill Gates' Food Fetish article

Missy, I received a response and the editor stands behind Ryan's copy. I decided to address his opinions. It is just frustrating to read their justification.

Since they are not going to make any corrections, I think we need to use the comments section on the story to voice our opinion as he suggested. The article is mainly about the "horrible" egg industry, so we may want to post the contents of our letter to Ryan starting with the production section followed by the inaccuracies. What do you think Kevin?

 Joanne C. Ivy, CAE
 President & CEO

 American Egg Board
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From: Joanne Ivy Sent: Tuesday, November 26, 2013 10:47 AM To: 'Mac, Ryan' Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Ryan, Thanks for relating your opinion, but my comments were definitely mischaracterized in the article.

1) AEB is conducting a campaign targeted to food manufacturers **not consumers** as stated in the

article. Beyond Eggs is an egg replacer, which is used as an ingredient in food formulations, such as mayo. AEB campaign's features the benefits of REAL eggs compared to egg replacers for food formulations. Plus, the campaign reminds food manufacturers that 93% of consumers want food products that have a clean label with familiar ingredients -- REAL eggs not a list of synthetic ingredients.

2) Beyond Eggs, is just another plant-based replacer that has been available to food manufacturers for years. It is nothing new. **Our campaign is not addressing egg substitutes, such as Egg Beaters.** I never mentioned egg substitutes or Egg Beaters, which are still "eggs," and it is another form of egg available to consumers. I realize that was your added commentary, but it is presented as part of my statement so it appears that AEB is targeting egg substitutes such as Egg Beaters. Totally false and misleading.

3) It was disappointing that the article was filled with negative, incorrect information about the egg industry, so it would have been appreciated that, at least, the information from our interview was correct and not misleading.

I appreciate you taking the time to respond. Yes, I will use the comment section to voice my opinion.

Joanne

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-----Original Message-----From: Mac, Ryan [<u>mailto:RMac@forbes.com</u>] Sent: Tuesday, November 26, 2013 9:37 AM To: Joanne Ivy Cc: Upbin, Bruce Subject: RE: Bill Gates' Food Fetish article

Hi Joanne,

My editors do not feel we mischaracterized your statements in the story and we stand by our piece.

You contend that I mischaracterized your quote about egg replacers and attributed the line on Egg Beaters to you. The exact line reads as follows:

"President Joanne Ivy maintains that the campaign was not directed at Hampton Creek, and indeed, egg substitutes such as ConAgra's Egg Beaters have been around for years."

The second part can be read as commentary from Forbes.

We believe the story is accurate and fair and we encourage you to use the comments section on the story to voice your opinion.

Many thanks,

Ryan Mac Reporter Forbes, San Francisco Office: 1-415-544-4911 Cell (b) (6) Site: <u>http://www.forbes.com/sites/ryanmac/</u> Twitter: <u>http://twitter.com/rmac18</u>

From: Joanne Ivy [JIvy@aeb.org] Sent: Monday, November 25, 2013 11:05 AM To: Mac, Ryan Subject: Bill Gates' Food Fetish article

Dear Ryan,

I am writing on behalf of the American Egg Board in response to your recent Forbes article dated November 23, 2013: "Bill Gates' Food Fetish: Hampton Creek Foods Looks to Crack the Egg Industry." As I was interviewed and quoted as part of this article, I am disappointed that several characterizations of the natural egg industry in the article are patently false.

American Egg Board's "Accept No Substitutes" campaign While the article suggests our campaign targets consumers, it actually focuses on highlighting the benefits of using real eggs as opposed to egg replacer ingredients for food manufacturers. These benefits include that eggs are a simple food that cannot be replicated by a product produced by scientists in a laboratory; are multi-functional while retaining taste and nutritional benefits; and demonstrate the latest egg production advances in science and technology to ensure high quality.

Clarification of "egg replacer"

The article inaccurately suggests that the American Egg Board acknowledges egg replacers like Egg Beaters have been around for years. However, this was a mischaracterization of my quote; Egg Beaters were never mentioned, as Egg Beaters are still an egg and not an egg replacer. Rather, I suggested in the interview that we recognize that plant-based egg replacers, such as Beyond Eggs,

have been around for years.

While we recognize the emergence of new egg replacement options, we believe strongly that, for a variety of reasons, the time-tested, all-natural egg remains the best option for consumers, food manufacturers and food service companies alike. Therefore, we are disappointed by the undeserved attacks on the natural egg industry in this article.

Ingredient comparison

We do not feel the article presented an accurate comparison of ingredients in natural eggs vs. egg replacers. America's egg farmers are committed to providing nutritious, all-natural eggs, which are rich in vitamins and minerals. Our research shows that 93 percent of consumers want a clean label with familiar ingredients. On the other hand, egg replacers – such as Hampton Creek Foods' product – have a list of unnatural ingredients.

Protein comparison

In my interview, I also compared the nutrition of plant-based protein to the protein in real eggs – a point we believe is important to share with your readers but did not surface in the article. Natural eggs provide one of the highest quality proteins of any food available. In fact, the quality of egg protein is so high that scientists often use eggs as the standard for measuring the protein quality of other foods. The notion that you can replace an egg, which is the gold standard of high-quality protein, with a combination of low quality plant protein sources, is misguided.

Environmental impact/animal welfare

Finally, the article presupposes environmental and animal welfare failings of the natural egg industry which are a woeful misreading of the truth. In reality, egg farmers in local communities across the country continue to provide safe, fresh, locally-produced eggs, while caring for hens in accordance with the highest standards in the nation. Egg farmers have also made great strides toward making egg production practices more efficient, allowing them to provide an affordable source of high-quality protein while producing less waste and requiring fewer resources. In fact, in October 2013, the Egg Industry Center released a landmark study revealing that the egg production industry has significantly reduced its environmental impact over the past 50 years. Lifecycle analysis findings of U.S. egg production from 1960-2010 found environmental efficiencies as a result of a wide range of factors:

• Decreased pollution. Egg production process releases significantly less polluting emissions, including 71 percent lower greenhouse gas emissions.

 \cdot Reduction in natural resource use. Hens now use 32 percent less water per dozen eggs produced.

 \cdot Improved hen feed. Today's hens use a little more than half the amount of feed to produce a dozen eggs.

· Better disease control and advancements in hen housing systems. Today's hens are living

longer as a result of improved building ventilation, temperature control, better lighting and a more secure housing environment.

Given many of the characterizations of the natural egg industry were disparaging and my comments from the interview were inaccurately presented in the article, we request corrections be made on the points outlined above. I would appreciate if you would acknowledge receipt of this email.

Sincerely,

Joanne C. Ivy, CAE | President & CEO American Egg Board O 847.296.7043 | D 224.563.3701 | C (b) (6) PO Box 738, 1460 Renaissance Drive, Park Ridge, IL 60068 IncredibleEgg.org<<u>http://www.incredibleegg.org/</u>> AEB.org<<u>http://www.aeb.org/</u>>

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