



American Egg Board

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AEB Update: Conversion Video Educates Bakers

Lights, camera, conversion! The flour was flying as American Egg Board recently partnered with AIB International (American Institute of Baking) to create two short educational videos about egg product conversion. They are designed to show bakery owner/operators the easy process of switching from shell egg usage to liquid or powdered egg ingredients, respectively. *(Continued inside)*

Protein Power of REAL Eggs

Protein used to occupy its quiet slot on the nutrition facts panel with little notice from the average consumer. Today its muscled its way to the package front and is no longer the sole province of weight lifters and professional athletes. Multiple studies confirm consumers are sold on protein-fortified foods and the benefits protein supplies to a healthy diet.

However, formulators are left with the puzzle of fitting extra protein into a food that still needs to achieve target goals for structure, taste, appearance and texture. Eggs already are considered a perfect protein and the standard against which all other proteins are measured. Equally as important egg ingredients supply critical functional properties, an acceptable flavor profile and also enjoy a high degree of familiarity and acceptance among consumers.

The perfect complement to fortification is functionality, but it's a rare protein that can supply both. Egg ingredients provide more than 20 functional benefits to food applications, among them foaming and aeration, coagulation, gelation and shelf life extension. The proteins found in the whites, yolks or contained in whole egg ingredients are responsible for

the majority of these functional attributes.

The fact that egg ingredients supply more than a single function multiplies the benefits to the formulator for a synergistic effect with other ingredients. A product's mouthfeel and texture cannot be attributed to any single ingredient and outside factors such as time and temperature can affect this aspect of a food product. Other ingredients for example can create an emulsion but egg proteins help form stable emulsions that remain true through storage, shipping and shelf life. Egg proteins provide structure and coagulative properties to noodles that hold their shape when either held in a liquid or a high-moisture frozen environment while maintaining a desirable texture.

Egg ingredients contribute to gluten-free formulating, prevent staling in baked goods, control crystallization in frozen foods and help create impressive gels. And it is well known that no other natural food ingredient can create as large a foam as egg whites. Egg whites, when whipped, create a foam six to eight times greater in volume than the original volume of the liquid, and this helps aerate baked products to provide structure, appearance, mouthfeel, texture and shelf life. *(Continued inside)*

AEB Update: Conversion Video Educates Bakers

(Continued from cover)

Eggs provide amazing functionality in baking operations all across America. Many small to medium-sized bakeries that use shell eggs are interested in switching to liquid or powdered egg ingredients to create cakes, cookies, desserts and other products.

Several reasons could prompt a baker to make the switch including the ability to create premixes, the opportunity to save time and labor spent cracking open individual shell eggs compared to the convenience of measuring liquid or powdered egg ingredients, or the availability of and storage space required for shell eggs.

Toby Moore, a baking professional at AIB, said the organization regularly receives calls from bakers asking about the conversion process, indicating an audience ready for this educational outreach. “Bakers often believe the conversion will be complicated and expensive when in reality it is an easy and often economical switch,” said Moore.

Some of the many benefits for a baker to switch from shell eggs to liquid or powdered can include:

- **Save time/labor**
- **Save storage space**
- **More accurate measurements**
- **More consistent finished product**
- **Potential food safety improvements**
- **Decrease waste**

All of the footage was shot onsite in the industrial baking facilities at AIB International, Manhattan, Kansas. AIB’s credibility as an educational and testing organization is well known in the baking industry.

Each video is available in English and Spanish and is approximately four minutes long, yet provides thorough instruction on the benefits and ease of making the conversion, including a discussion about safety and proper handling. Printable worksheets in both English and Spanish make conversion easy to implement in any bakery location.

Find the video links and download printable conversion worksheets at AEB.org/conversion.

Protein Power of REAL Eggs

(Continued from cover)



Egg yolk is well known for emulsification properties primarily supplied by lecithin and low density lipoproteins. Proteins also aid in coagulation and help form gels. Protein functionality in egg white and egg yolk help create structure that also aids in extending shelf life due to entrapped moisture.

According to Elisa Maloberti, Director of Egg Product Marketing, “No other single protein ingredient can supply the multiple functions formulators can rely upon from egg proteins, not to mention the benefits derived from the wealth of vitamins and minerals contained in a whole egg.”

REAL eggs might possess one of the best reputations among proteins as well, when it comes to consumer sentiment.

A recent NPD study indicates **78%** of consumers agree with the statement that protein contributes to a healthy diet. And when asked which protein they are consuming more today than in the past, **55%** of respondents said they are eating more eggs.

Maloberti says this increased egg consumption bodes well for food formulators’ use of eggs when it comes to label concerns.

“A consumer increasing their at-home consumption of eggs will be comfortable with eggs on a product label,” she says.

As a final note, the protein contained in REAL eggs is easily digestible and readily available. This helps create nutritious foods consumers will find filling, tasty and satisfying. “When formulators choose REAL eggs to use in food products, they’re choosing the whole protein package – functionality, flavor, familiarity and depending on usage levels, fortification.”

Egg Ingredient Spotlight: Does Clean Label Still Matter?



The short answer is “yes,” however there are different reasons why it still matters and why using REAL eggs makes sense for formulators.

Despite the flurry of lawsuits over the word “natural” on product labels, consumers are still looking for real and authentic ingredients and fewer of them. Some industry experts are using terms like “transparent” or “transparency,” in terms of desired company values, practices and ingredients. As Millennials overtake Baby Boomers as the dominant market force, their values and purchasing habits become more important. This is a generation interested in authenticity and sustainability, which dovetails with the clean label philosophy.

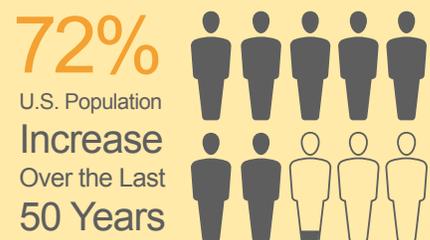
In addition to shorter labels, consumers prefer ingredients similar to those found in a typical kitchen. Egg ingredients, available in dried, liquid or frozen forms, can generally

be listed as “eggs” on the label. Most consumers, in fact 94% of them, have shell eggs in the refrigerator at home and are familiar with and enjoy eggs.

In addition, egg ingredients can supply more than 20 different functional properties within formulation, a fact that means a great deal creating a clean label product. When one ingredient can perform multiple functional tasks within formulation this translates into a shorter ingredient deck.

Concerning sustainability, the egg industry recently completed a landmark, 50-year study documenting progress towards an improved environmental footprint. The U.S. population increased **72%** over the last 50 years, yet egg farmers increased the hen supply by just **18%** to meet this greater demand. Today the industry releases **71%** lower greenhouse

gas emissions, has reduced water usage by **32%** and improved hen feed to deliver a scientifically nutritious diet, while requiring fewer corn and soybean crops.



American farmers supply most of the further processed eggs used in this country, as a reliable domestic source, in contrast to transporting ingredients from overseas. And further processed egg ingredients are pasteurized according to strict standards to ensure their safety. Domestic sourcing, improved sustainability, incredible functionality and a safe track record – REAL eggs make sense for clean labels.

Q&A: Solutions to Commonly Asked Questions

Q. We're trying to breathe fresh life into our baking line and think a hybrid might be a profitable experiment, but we're also trying to control costs. Should we find a substitute for eggs in our formulation?

A. Hybrid bakery items seem to sweep over the culinary world in waves, appearing and disappearing just as quickly. We've witnessed the cronut (a cross between a croissant and donut), the duffin (an amalgam of a muffin and donut), the townie (tart meets brownie) and an as-yet-unnamed mixture of a cheesecake layer atop a delicious fudge-like brownie.

While hybrid varieties might come and go, the overall category of pastries was the best performer within baked goods globally. According to Euromonitor International, pastries experienced a compound annual growth rate of more than 3% from 2008-2013, with analysts attributing this performance to a combination of flavor innovation with the rise of specialized bakery chains. Both of these trends are setting the stage for further development of hybrid pastries.

One distinctive that defines the category of hybrid pastries is the consumer expectation of an artisanal-quality experience, which translates into reliance on authentic ingredients and from-scratch preparation. For example, brownies should be rich with a strong presence from dairy ingredients, chocolate and butter. The more fudge-like the brownie, the more it depends on the whole eggs and egg yolks added for richness and mouthfeel. Whole eggs and egg yolks deliver great flavor and help build the structure of the brownie.

If that brownie were topped with a cheesecake layer for a hybrid creation, that element would be started first, prior to the brownie construction as part of a two-stage baking process. Again, REAL eggs in cheesecake preparations add



the functional properties of coagulation and gelation and create proper texture and mouthfeel in a cheesecake layer.

While eggs might not appear in the classic French croissant, they are included in the dough for a cronut, since it mixes the textures, appearance and flavor of a croissant with a donut.

In all of these creations egg ingredients play three major roles, in leavening, gelation and coagulation. There isn't a single protein ingredient available in the market that can replace the superiority in baking formulations that eggs deliver. Customers will appreciate the quality, the flavor and the appearance that REAL eggs bring to hybrids or any other bakery item that relies on eggs, including muffins, donuts, brownies, cakes, cookies and similar products.



American Egg Board

According to the Latest Data from Mintel...

Consumers continue to look for shortcuts when it comes to healthy, satisfying breakfasts. With hectic schedules gobbling up time, 63% say they feel low on energy in the morning but only 48% eat breakfast every day. This amplifies the need for speed, convenience and portability. To serve this need, 53% of consumers would like to see more frozen/refrigerated breakfast entrees in the grocery store. This doesn't impact breakfast sales alone. While the majority of handheld products are consumed at breakfast, 46% eat them for lunch, 30% for dinner and at least 20% as a snack, illustrating the blurring of dayparts. We cover breakfast trends every quarter.



Go to AEB.org/BkfstTrends for the latest news.

Egg Product Innovations



Gluten Free Smoked Gouda Mac & Cheese

Phil's Fresh Foods, Boulder, Colo., introduces a frozen entrée within its evol. brand; new Gluten Free Smoked Gouda Mac & Cheese. Gluten-free elbow noodles mix with caramelized onions and chives in a cheese sauce of smoked Gouda and cheddar. Whole egg helps bind together the gluten-free flours in the elbow macaroni to lend a pleasant color and proper texture. This all-natural product contains 13 grams of protein and is marketed as suitable for vegetarians.



Greek Yogurt Dressing

Bolthouse Juice Products, Bakersfield, Calif., taps into the power of traditional Greek yogurt for a new salad dressing introduction, its Bolthouse Farms Creamy Basil Greek Yogurt Dressing. Deliciously creamy, the product is low in fat, with 40 calories per serving and is marketed as free of gluten, trans fats, preservatives, artificial colors and flavors. Egg yolk helps emulsify the vinegar and extra virgin olive oil to create a smooth, consistent dressing.

incredible!



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Here's your new edition of the
eggsaminer

The eggsaminer is published semi-annually and distributed free to food manufacturers and bakeries across the country.

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REAL Eggs or Egg Replacers?

REAL eggs make a REAL difference on your label. A familiar and trustworthy ingredient, eggs can make an important difference in consumer buying decisions, while giving product developers incredible functionality. Using REAL eggs makes a real difference in consumer acceptance and product quality.



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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