



Weak economy changes consumer buying behavior

The Conference Board's Consumer Confidence Index has been on a steady decline for the last 19 months, dropping to an all-time low in February. The daily drumbeat of negative economic news has had a profound effect on consumer food buying decisions.

Most Americans aren't necessarily eating and drinking less than they did before we officially entered recession, but the widespread pessimism has changed what, where and how they consume.

"Consumers are making trade-off decisions in 2009," said David Henkes, vice president of Technomic Inc., a Chicago-based food industry consultancy.

One of the first things to go is eating in restaurants, Henkes told attendees at this year's Dairy Ingredient Symposium in San Francisco. Real (inflation-adjusted) sales growth in restaurant sales slipped into negative territory in the second half of 2008 and remains there. The last time we had negative growth in restaurant sales was 1992.

In many cases, consumers are trading down. Sales at quick-serve restaurants are faring relatively well in the current economic climate. Performance at casual-dining and upscale establishments is hurting.

Though consumers are eating and entertaining more at home, they are trading down there as well, Henkes said. For instance, they're using more store brands and shopping at club stores more frequently. They're turning their ovens back on and learning to cook again. They're also not stocking up as much, a phenomenon Henkes calls "pantry de-leveraging."

Until the economy turns around and consumer confidence improves, expect a continued slow-down in end-use categories for dairy ingredients, Henkes told attendees. Sales of cheese – the number one user of dairy ingredients – are expected to hold up at both the retail and foodservice sector, as are retail sales of candy, nutritional products and yogurt.

In this environment, emphasizing a value proposition with ingredient buyers and consumers is imperative, he advised. In addition, "ingredient suppliers must adapt, especially in product mix and marketing emphasis."

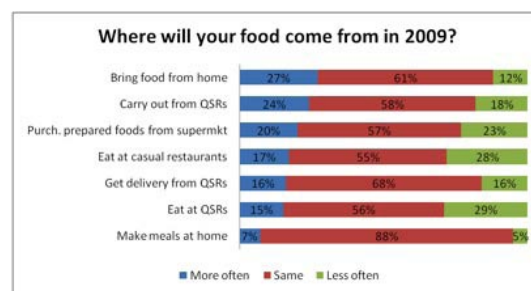
"Suppliers need to use market-based intelligence and insights to know

where to look for growth," Henkes said. "They may want to focus on specific categories and be more strategic in their approach to product development and selling."

He also stressed the need for suppliers and industry groups to get out the message on the benefits of dairy in food formulations to create a demand pull.

Despite the uncertainty in the market, understanding change allows areas for proactive responses, he concluded.

"By understanding the market conditions, dairy ingredient suppliers can take the lead and adjust. They can and should build their business plans around what's happening in the marketplace," Henkes said.



Compared with last year, consumers say they will bring more food from home and use more carryout fast food, while cutting back on eating at casual and fast food restaurants.

Source: Technomic Inc.

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Native whey protein delivers clean flavor



Most high-quality whey products can boast a clean flavor. Yet for the purest flavor possible, researchers are investigating new processing technologies. “Native” whey is a protein which has been removed from milk through microfiltration (MF) versus going through the cheesemaking process.

Since the proteins are not exposed to cheese cultures, enzymes, coloring or heat treatment, the proteins do not need to be bleached or otherwise modified. What’s left is almost pure protein.

With its milder, virtually non-existent flavor and aroma, native whey protein is particularly suited for added-value applications like beverages. Target uses include flavored milks, protein waters, isotonic waters, smoothies and yogurt.

The technology to produce native whey proteins is not really new; it has been around for more than 20 years. However, the original ceramic MF membranes were too costly for most plants. More recently, less expensive spiral-bound, polymeric MF membranes have been developed to handle the separation, thus, making the process more affordable.

The University of Wisconsin-Madison’s Center for Dairy Research (CDR) has been studying native whey protein for several years. Researchers recently established a process for making native whey out of whole milk.

“Until now, most of the work with native whey protein has been done using skim milk,” says Karen Smith, dairy processing technologist at CDR. “But it’s not practical for a plant to separate all that raw milk to make native whey. You’d be skimming millions of pounds of milk per day.”

Consequently, Smith’s group has been working on whole milk filtration processes. For example, her group has completed work to separate beta-casein. According to Smith, “It’s the gold standard for emulsifiers. As the milk is cooled, the beta-caseins come loose and we can then re-run the stream through the filter to split them off.”

As an added benefit, making cheese out of the milk that has beta-casein removed may improve cheese ripening and melt in the final product. However, current standards of identity do not allow standardized cheese to be made with milk that has the native whey protein removed. It can only be used in manufacturing non-standardized cheeses.

CDR’s applications work on native whey also includes study of basic functional properties. K.J. Burrington, CDR’s dairy ingredients applications coordinator, developed prototypes of protein water, isotonic water and smoothies made with traditional whey protein isolate (WPI) and native whey protein isolate. In cooperation with researchers at North Carolina State, Burrington’s group has been comparing clarity, flavor, shelf-life, heat stability, foaming properties and other sensory characteristics of native whey protein in beverage applications to validate its performance.

Burrington’s group focuses on higher-value applications.

“Consequently, we don’t want to cannibalize the markets for traditional whey. Native whey protein has a higher value because of its purity. You would have to consider it a new product,” states Burrington.

As the market for whey proteins grows and technology develops, native whey protein may have an important role to play.

Cheese whey vs. native whey

	Cheese Whey	Native Whey
Starter culture	Yes	No
Secondary flora	Yes	Negligible
Rennet enzymes	Yes	No
Residuals (GMP/CMP)	Yes	No
Pasteurization steps	2	1
Fat/phospholipids	Yes	Negligible
pH	<6.5	6.6

From Karen Smith, CDR

Dairy ingredient annual migration



Like the swallows returning to San Juan Capistrano every spring, dairy ingredient and food and beverage industry leaders return to California for the Annual Dairy Ingredient Symposium. In its 11th year, the Symposium attracted more than 160 product-development, research, sales and marketing, and management personnel from the top companies.

The event was started in 1998 by Dr. Phil Tong and the staff at Cal Poly's Dairy Product Technology Center (DPTC). Since 2007, the Symposium has been a joint effort with Dairy Management Inc.'s U.S. Manufacturing and Ingredient Marketing group, a collaboration that has allowed the Symposium to broaden its reach and continue to provide relevant information on a wide variety of topics.

This year's Symposium continued the mission of bringing the most up-to-date information on science, technology and business to the diverse group of attendees. Presentations by experts in their fields covered a wide range of topics. To provide context, the program began with an overview of supply, demand, competition and market opportunities. Presenters then moved into discussions on improving the performance of dairy

ingredients, including a session on utilizing infrared spectroscopy for product characterization. Additional sessions provided perspectives from food and beverage formulators on the role of ingredient suppliers. Others shared insights on how to control spore formation in dairy ingredients and innovations in dairy ingredient processing. On the nutritional front, presentations addressed the role of dairy ingredients in the areas of sport nutrition, body composition, metabolic dysfunction and healthy aging.

The audience also was captivated by Col. John Hoffman, USA Retired, Senior Research Fellow, National Center for Food Protection and Defense, A Homeland Security Center of Excellence. Col. Hoffman briefed the audience on the mission of the Center, which is threefold:

- Reduce the likelihood of an attack
- Improve the nation's ability to respond effectively to food system events
- Reduce the consequences of an attack and accelerate recovery

Col. Hoffman went on to explain the work being done by the Center in collaboration with academia and industry. He discussed the risks inherent in our food system and the steps government, academia and industry are taking to ensure our safety.

Judging from the comments of those in attendance at this year's event, the Symposium was successful in bringing information that can benefit their companies right now. For those of you that attended, thank you for joining us. For those that could not make it, we look forward to seeing you next year.

Jim Dodson,

Director, U.S. Manufacturing and Ingredient Marketing

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