

## Erasing dairy costs

Alternatives are available when prices fluctuate for whey, lactose or cream

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Dairy ingredient prices long have been prone to fluctuations and, judging by price levels prevailing Nov. 4, this year is no exception. Ingredient suppliers have responded and launched alternative solutions for ingredients, including whey and lactose that are rising in costs.

Whey powder was selling for 60@65c a lb on Nov. 4, which compared with 34c a lb a year ago. Lactose was at 69@79c a lb on the same date, which compared with 31c a lb a year ago. Whey protein concentrate (34% edible) was at \$1.40@\$1.45 a lb on Nov. 4, which compared with 98c a lb a year ago.

"While global demand for high quality food grade whey continues to increase, production capacity continues to restrict as processors shift whey solids to high protein production," said Linda Myhr, sales manager at Proliant Dairy, Inc., Ankeny, Iowa. "And while higher protein production will lead to more lactose, demand from international infant formula and pharmaceutical customers, as well as milk powder standardization, will continue to press supply available to food manufacturers."

Glanbia P.L.C., Kilkenny, Ireland, addressed whey prices when giving an interim management statement Nov. 16.

"Strong global demand for high-protein whey combined with limited growth in supply in the short term has resulted in a market imbalance, leading to significant whey price increases in recent months," Glanbia said.

Proliant has launched VersiLac dairy solids ingredients to replace whey powder, lactose or nonfat dry milk/skim milk powder in a variety of food systems. In studies, VersiLac replaced up to 100% of whey powder, lactose or non-fat dry milk and 10% to 25% of sugar, cocoa, butter or salt in select bakery, confectionery, savory and beverage applications.

VersiLac may replace whey in such applications as biscuits, brownies, cheese sauce, hot cocoa, ice cream, pizza crust and tomato soup. It may replace lactose in such applications as biscuits, chocolate candy, ranch dip, ranch dressing and tomato soup.

"Recently, both whey powder and lactose prices have reached near all-time highs," Proliant said. "These prices could remain at historic high averages as production shifts toward high protein whey products and lactose demand from infant formula and milk powder producers remains insatiable."

"While this is not the first time dairy prices have risen so quickly, unlike the last run-up in 2007 when food formulators could reformulate with less costly corn and corn-based alternatives, corn prices today are also significantly higher than average."

To replace whey protein concentrate, National Starch Food Innovation, a business of Corn Products International, Inc., offers Precisa Cream, said Suzanne Mutz-Darwell, senior market development manager, texture, for National Starch Food Innovation, based in Bridgewater, N.J. Besides reducing costs, Precisa Cream may provide desired thickening as well as fat mimetic and lubricity properties to enhance mouth-coating and meltaway, she said.

Precisa Cream and certain Novation ingredients from National Starch Food Innovation may replace the texture provided by sweet whey in formulations, as well as reduce the milk fat, to build back the creaminess and texture, she said.

Ms. Mutz-Darwell added National Starch offers Novation Indulac 3320, a texture system that works in Greek-style yogurt. It may allow

...the milk barrier... dairy manufacturers to avoid capital equipment expenditures and associated waste treatment costs.

Rising gelatin prices are affecting yogurt manufacturing, according to Cargill, Minneapolis.

Gelatin has a melting point below the temperature of the human body, which results in excellent mouthfeel and intense flavor release, according to Cargill. The property makes it suitable for the creation of texture and body in yogurt and other dairy products.

However, gelatin plants are operating at 70% to 80% of capacity as a result of a lack of raw materials, according to Cargill. Gelatin suppliers thus have been forced to put some customers under allocation due to reduced output, according to Cargill.

Cargill in September introduced Vitex AYS stabilizers, a functional system that enables dairy food manufacturers to manage raw material costs in yogurt. Vitex AYS features modified food starch and hydrocolloids to create a cost-effective alternative to gelatin.

"Gelatin and starch prices have risen in the last year," said Eric Zorn, product manager for Cargill Texturizing Solutions. "To help our global dairy food manufacturing customers remain competitive in the face of these price pressures, we've developed Vitex AYS. Customers can provide the same creamy product their consumers expect in a more cost-effective manner."

Companies seeking to save money on cream may investigate ReadiCream from Advanced Food Systems, Inc., Somerset, N.J. When hydrated in water, ReadiCream may be used as a 1:1 replacement for heavy cream or half and half. Made with cream solids, ReadiCream HC has 82% less fat than liquid heavy cream. Because of its 13% to 17% usage rate in the prepared ingredients, costs and fat content are reduced.

Potential applications for ReadiCream include soups, sauces and baked foods, said Mark Purpura, technical service manager for Advanced Food Systems. He added companies may save on storage costs and that ReadiCream does not need to be refrigerated.

Advanced Food Systems also offers Milk Plus, a dairy powder system. When hydrated in milk, it may be used as a 1:1 replacement for heavy cream in sauces, soups and baked foods. The finished product is similar in mouthfeel and color to heavy cream but has about 74% less fat, according to the company.

Use ingredients to cut costs in sweeteners and packaging

The choice of ingredients may have a positive cost effect in such areas as sweeteners, cocoa and packaging.

Save on sweeteners

The Corn Refiners Association, Washington, offers a calculator to compare the cost of high-fructose corn syrup, either HFCS 42 or HFCS 55, to beet sugar. With the estimated volume in lbs used during a given period, companies may calculate the total annualized ingredient cost. The source of the prices available from the CornNaturally.com cost calculator is the U.S. Department of Agriculture and *Milling & Baking News*, which aggregates the information from the U.S.D.A. and updates it on a monthly basis.

Corn Products International, Inc., Westchester, Ill., provides solutions for both calorie and sugar reduction in addition to reducing costs with a whole formulation approach, said MaryLynne Shafer, manager, beverage business development. For instance, sweetener blends may use Enliten Reb A, a stevia-based high-intensity sweetener from Corn Products International, with other sweeteners such as dextrose, high-fructose corn syrup and polyols. The company also may provide single ingredient replacement options such as dextrose for sugar in various applications.

Save on packaging

Minneapolis-based Cargill this year introduced Clear Valley 80 high-oleic canola oil that offers a shelf life of 18 to 20 months. Because Clear Valley 80 resists oxidation, it requires less packaging to protect processed foods from light and oxygen, according to Cargill. Manufacturers thus may save costs by using one oxygen barrier layer as opposed to more layers.

Save on cocoa

London-based Tate & Lyle, P.L.C. in August launched a cocoa replacement system that uses Carcao, a carob powder ingredient. Carcao may be used as a partial cocoa replacement in dairy products, baked foods and ice cream applications.

"In light of volatile cocoa pricing and supply issues, many food manufacturers are looking for solutions that reduce the cocoa content of their products as a means of controlling recipe costs," said Kerstin Werner, head of business development, Tate & Lyle Food Systems. "We offer a complete and tailor-made approach by producing bespoke Carcao products and helping with the formulation of

system. We offer a complete and turn-key approach by providing complete cocoa products and helping with the formulation of the recipe, ensuring that their products adopt a similar cocoa taste profile and look."