

the final touches on the process for manufacturing the wheat-based disposables. He describes the process as working in a manner similar to "a giant waffle iron."

The process involves pouring a wheat-starch batter into a heated mold, which is closed and locked. Moisture in the batter generates steam, causing the batter to foam, expand, and fill the mold. The steam is then vented and, once the baking step is completed, the mold is opened, and the container is removed. Coating it with a water-resistant film helps the container keep its strength and shape. The cycle then repeats itself.

The entire process takes less than a minute, according to Glenn, who has also developed a potato-starch version of the container. Having a selection of different starches from which to choose gives "some purchasing flexibility" to food packaging manufacturers, he adds. The flexibility helps them keep prices at a level that is competitive with polystyrene items.

EarthShell's initial target market is take-out items for fast-food meals or leftovers from restaurant dinners. Cups, bowls, plates, and/or lids are other possible applications, as are containers for refrigerated, frozen, or room temperature foods. Other options are packages that are usable in microwave and dual ovens.

### Boil Over Controlled in Microwave Meals

Danisco Cultor USA, Inc. (201 New Century Pkwy., P.O. Box 26, New Century, KS 66031-0026; Tel: 913/764-8100 or 800/255-6837, Fax: 913/764-5407) has introduced Grindsted ProTex AB, a line of specialty ingredients designed to control boil over in microwave meals.

The emulsifier stabilizes the meals

and keeps them from being so messy. Until now, notes Jennifer Lindsey, product manager of functional systems, special packaging has been the only solution available to food manufacturers, albeit a cost prohibitive one.

Lindsey continues, "The ProTex AB line can be tailored to the specific functional needs of the food product." The company uses various hydrocolloids, starches, and other functional ingredients, in conjunction with soft emulsifiers, to make the line.

Danisco, however, departs from traditional soft, unsaturated emulsifiers that come in a paste or liquid form. The company makes the Grindsted ProTex AB in a powder that has all of the functional benefits of soft emulsifiers but without the problems.

Lindsey says that normally boil over protection has been combated with the addition of lecithin or mono- and diglycerides. The additives, she adds, are somewhat effective but not optimal, and often they negatively impact the flavor profile of finished food products. She stresses that Grindsted ProTex AB has no effect on a food's flavor profile.

The emulsifier demonstrates more controlled boiling in many of consumers' favorite microwave meals. Lindsey cites macaroni and cheese, instant and hand soups, pasta and rice dishes, and instant oatmeal as potential applications for Grindsted ProTex AB.

## SWEETENERS

### Sweet Future in Store for Honey

If the National Honey Board (390 Lashley St., Longmont, CO 80501;

Tel: 800/553-7162, Fax: 303/776-1177) has its way, honey's future is about to change for the better.

According to Bruce Wolk, director of marketing, the organization plans to move honey "front and center" in mainstream formulations. Honey will be presented as an integral ingredient and purchase incentive in market-ready prototypes at the Board's New Product Showcase, which will be held on October 20-21, 2004 at the Westin Crown Center Hotel (Kansas City, MO).

Food manufacturers will get a preview of honey as an ingredient in what Wolk terms "breakthrough applications." He lists extruded corn chips, blendable beverage syrup, processed poultry coating (reduces the need for preservatives by 15%), enriched adult nutrition beverage, drinkable yogurt, and honey balsamic vinegar (contains no sulfites) as products to be showcased.

The prototypes will offer food processors "a creative springboard" that focuses on honey's versatility and profitability, adds Wolk. Hopefully, the processors will decide to avail themselves of honey's golden ingredient attributes rather than just praising them.

### WheyLow Reduces Glycemic Index

Vivalac, Inc. (P.O. Box 264, Ashton, MD 20861-0264; Tel: 888/639-8480, Fax: 301/774-2433) has designed its WheyLow sugar mixture specifically to reduce caloric intake and glycemic index in diabetics.

The fructose/lactose sweetener, however, can be useful also for individuals who are overweight, glucose-impaired or get too large a fraction of their daily calories from "added sugars," states Lee Zehner, company president.

Zehner places the caloric values of WheyLow at between 1.7 and 2.7 kcal/g. The value can drop as low as 0.8 kcal/g when the sweetener is used in combination with starch. Its level of sweetness, however, is high (a whopping 96%).

The company has been marketing WheyLow to retail consumers as a one-for-one sugar replacement. With the issuance of U.S. Patent 6,777,397, the company is prepared to begin shipping bulk supplies of the sweetener to food processors. A yogurt company in California is already using it, and other food processors are testing and/or considering using WheyLow in various edible formulations, according to Zehner.

Sucrose can be used as a replacement for all or part of the fructose in the sweetener, for processors desiring to increase sweetness or improve certain functional properties, without substantially changing caloric value.

The fructose/lactose mixture achieves the same sweetness level and duration, taste, and mouthfeel as sucrose. The mixture also exhibits a thermal stability in baking and cooking similar to that of sucrose.

The fructose and lactose work synergistically to reduce available calories and blood sugar concentration, explains Zehner. Specifically, he states, fructose interferes strongly with normal small-intestinal absorption of lactose and moderately with sucrose absorption, while lactose interferes with normal small-intestinal absorption of both sucrose and starch.

Unabsorbed di- and oligosaccharides pass into the colon and cause increased growth of healthful bacteria. This feature gives WheyLow an added health benefit – use as a mild prebiotic. No gastrointestinal symptoms of sugar intolerance have been ob-

served when the sweetener is ingested at normal dietary levels, stresses Zehner.

## INDUSTRY NEWS

### Cargill Enters ARA Business

Cargill, Inc.'s (Health and Food Technologies unit, MS 110, 15407 McGinty Rd. W., Wayzata, MN 55391; Tel: 952/742-7575, Fax: 952/742-7393) joint venture with Wuhan Alking Bioengineering Co., Ltd. (Wuhan, Hubei Province, the People's Republic of China) marks its entrance into the arachidonic acid (ARA) business.

Wuhan Alking is the number one ARA producer serving the Chinese infant formula business. Cargill's partnership with the company emphasizes the importance of ARA, an essential fatty acid, as an ingredient in the global infant formula market.

The joint venture will provide ARA oil and powder to customers in China and other select geographies. It should be operating within the next 30 to 120 days.

### Manitoba Harvest Expands Hemp Line

Manitoba Harvest Hemp Foods and Oils (#15-2166 Notre Dame Ave., Winnipeg, Manitoba, Canada R3H 0K2; Tel: 800/665-4367 or 204/953-0233, Fax: 204/956-5784) has expanded its hemp ingredient line to include private label and bulk product sizes.

"In the past few months, we've experienced a spike in interest from companies asking us to produce a private label product for

them," states Mike Fata, co-founder and manager of North American sales. The company, therefore, has devised its Fresh Hemp Food Service that will sell hemp ingredients (nuts and oil) and foods (nut butter and protein powder).

Hemp ingredients and foods have experienced a boost in demand since the industry won its legal case and the DEA ban on nutritious hemp foods was lifted. Fata refers to lifting the DEA ban sales of nutritious hemp foods as being "a juggernaut" to demand. "Consumer and retailer confidence created by the favorable resolution of the legal issue boosted us to our best sales quarter ever," he adds.

Also fueling interest are more scientific studies that emphasize the health benefits of essential fatty acids (EFAs), in particular omega-3 and omega-6. Fata calls hemp "nature's best and most-balanced source of omega-3 and omega-6 EFAs." Nutrition experts are also paying attention to the hemp foods' strong digestible protein profile, soluble and insoluble fiber content, and a wealth of vitamins and minerals.

### Loders Croklaan to Acquire Soctek

Loders Croklaan (Hogeweg 1, 1521 AZ Wormerveer, The Netherlands; Tel: 31(0)75-6292911, Fax: 31(0)75-6289455) is in the process of acquiring Soctek Sdn Bhd, a Malaysian palm specialties company.

Soctek operates a 9-hectare production site in the southern Malaysian port of Pasir Gudang. Its plant, with an annual capacity of over 300,000 metric tons, specializes in the refining and fractionating of palm oil and palm kernel oil.