



USDEC News

Hilmar Cheese Co. and Hilmar Ingredients Named “Exporter of the Year”

Long-time U.S. dairy export pioneer Hilmar Cheese Co. and its Hilmar Ingredients business unit were recognized by *Dairy Foods* magazine as the 2009 “Exporter of the Year.”

The annual award goes to a company that demonstrates leadership in driving global dairy demand and U.S. dairy exports, commits resources to export market development, posts significant export sales, and makes exports a key part of its overall growth strategy.

Hilmar Ingredients excels on all fronts.

“We have a strong willingness and long-term commitment to serve global markets, and as a result, we devote the resources necessary to this very important part of our business,” says Kevin Vogt, vice president and general manager for ingredients for the Hilmar, California-based company.

Nowhere is that more evident than in the sharp focus Hilmar Ingredients puts on customer service and delivering products suited specifically to clients’ functional needs.

Customer service and customization “is something we do everyday,” says Vogt. “We have developed our staff to accommodate the special needs of international markets.”

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Close to the Customer

The company, which exports to more than 40 countries, cites the importance of the “knowledge value of the interaction,” according to Vogt.

“Both sides learn something and the outcome is an advance in understanding that moves your thinking forward, whether it’s in new product uses or new appreciation of culture and attitudes. The fundamentals keep us profitable, the interaction keeps us energized and adroit,” he explains.

This leads to the development of products that have been specifically tuned for foreign markets, such as *Hilmar 8800*, an alpha-lactalbumin-enriched whey protein concentrate (WPC) that suits Asian demands for specialized nutritional products, like infant formulas and sports recovery beverages.

Blends of whey proteins and lactose have also carved a market niche for themselves.

“Our edible and refined lactose is easily blended with our whey protein hydrolysates for infant formula in markets like China and India who are experiencing birth booms,” says Bernard Corkery, general manager, lactose. “Our development of high-purity refined edible lactose and pharmaceutical grade lactose has also broadened our export possibilities with new end uses and new countries of interest.”



Cheese, Please

In addition to ingredient sales, Hilmar Cheese Co. has a growing cheese export business.

“The Japanese, in particular, have been impressed with the consistency and quality of our cheese, and their hunger for typical American fare provides quite an opportunity,” says Phil Robnett, vice president, cheese. Robnett says foodservice and hospitality buyers have been eager for applications for “American Original” cheeses like monterey jack (plain and with jalapeños) and colby.

High Quality Standards

Through it all, Hilmar Cheese Co. and Hilmar Ingredients place a high priority on mastering the technical requirements of being a global supplier.

“Since we are also dealing with international government agencies, it is imperative that we understand what is required in terms of documentation and food safety precautions,” Vogt says. “We are serious about serving the international market and we’re careful to ensure our products adhere to stringent standards.”

Hilmar Cheese Co. and Hilmar Ingredients facilities and services are ISO 9001:2000 certified. They also follow Good Manufacturing Practices and a Hazard Analysis Critical Control Points program at every stage of production.

Hilmar’s products are Halal- and Kosher-certified, and all products are GMO-free and conform to European Union standards. Its USP lactose meets additional quality standards, such as international pharmacopoeia requirements.

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USDEC News is published by the U.S. Dairy Export Council (USDEC) and is designed to provide up to date information about the U.S. dairy industry for the benefits of our international partners.

USDEC was formed by Dairy Management Inc. in 1995 to enhance the U.S. dairy industry’s ability to serve international markets. USDEC is an independent non-profit membership organization representing dairy processors, exporters, milk producers and industry suppliers.

USDEC supports international buyers of dairy products by providing information about U.S. suppliers, their products and capabilities. We bring buyers and sellers together through conferences, trade missions and trade shows. USDEC furnishes application and usage ideas for U.S. dairy ingredients through seminars, one-on-one consultations and technical publications. We assist with foodservice promotions, menu development and education. We also work with local authorities to resolve market access issues that ensure reliable delivery for customers and importers. When you work with USDEC and its members, you are partnering with companies that manufacture and export more than 85% of all U.S. dairy products.

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Future Growth

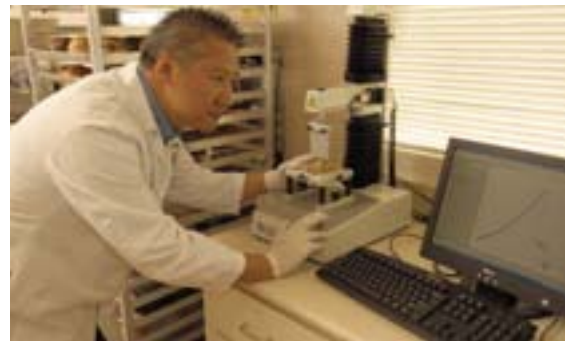
Moving ahead, Hilmar Cheese Co. and Hilmar Ingredients expect continued export growth. A new plant in Dalhart, Texas, commissioned in 2007, was designed primarily to serve the domestic marketplace. However, its proximity to the southern border puts Mexico, and Central and South America at its door.

Together, the Dalhart and Hilmar sites handle more than 17 million pounds (approximately 7.5 million liters) of milk

per day, attesting to the company's supply capacity. Continuous and large volume runs deliver consistent and reliable product composition, the company says.

It plans to start Phase Two of Dalhart in 2010, expanding cheese, WPC and whey protein isolate production.

Past winners of the "Exporter of the Year" award include Davisco Foods International, Darigold Inc. and Schreiber Foods.



Dr. Kwok-man Lee in the Hilmar Ingredients R&D Facility

In the News...

New USDEC Members

- USDEC welcomes three new organizations to the membership: **Blimling & Associates**, a commodity brokerage firm based in Cottage Grove, Wisconsin; **SGS North America Agricultural Services**, a St. Rose, Louisiana-based inspection, verification, testing and certification company; and **Wisconsin Cheese Makers Association**, a trade association based in Madison, Wisconsin.

New Plants and Upgrades

- Darigold Inc.** will spend \$20 million to expand processing capacity and wastewater treatment at its Boise, Idaho, fluid milk plant. Capacity at the facility, which also produces ultra-pasteurized products and soy beverages, will grow by 15 million liters annually. The project is expected to be complete in the spring of 2010.
- Glanbia Nutritionals** opened a 650-square-meter research and development (R&D) facility in Twin Falls, Idaho. The new "Glanbia Collaboration Center" is designed to maximize interaction with customers and to reduce product development time by combining an R&D facility with a pilot plant.

The operation will focus on developing and testing prototypes of nutrition and snack bars, beverages, baked goods and other applications for Glanbia's dairy protein and flax ingredients.

- Unilever** will invest \$100 million to expand its Covington, Tennessee, plant, adding 275 jobs. The facility, which currently makes *Slim-Fast* drinks, will add production of ice cream and frozen novelties. Construction is set to begin during the first quarter of 2010.
- Via Cheese**, Swanton, Vermont, will receive \$750,000 from the state to upgrade the former **Lucille Farms** cheese factory, which it bought in 2006. Via will use the money for general repairs and upgrades to increase efficiency, and to bring the plant up to U.S. Department of Agriculture standards.
- Whitehall Specialties** is expanding its Whitehall, Wisconsin, cheese processing plant by 20%. The \$8–10 million project will add lines for individually wrapped and slice-on-slice cheese products.

Moves and Consolidations

- Farmland Dairies**, once part of **Parmalat USA**, sold its Grand Rapids,

Michigan, plant to **Agropur Co-op of Canada** and its Wallington, New Jersey, operation to **Grupo Lala**, Mexico's largest milk processor.

- Marathon Cheese Corp.'s** Mountain Home, Idaho, cheese cut-and-wrap plant will downsize due to a reduction in sales. The plant opened in January 2007.

Acquisitions and Mergers

- Foster Farms**, the largest private dairy processor in California, was the only bidder for **Humboldt Creamery**, acquiring the bankrupt co-op's Fernbridge and Stockton, California, plants for \$19.25 million. Humboldt's Los Angeles and Loleta, California, plants are still available for sale and will be auctioned off separately.

Miscellaneous

- Finlandia Cheese** changed its name to **Valio USA** to reflect its expansion beyond the cheese case. The company, a subsidiary of Finland's **Valio Ltd.**, will be split into two divisions: the Finlandia Cheese Division and the Healthy Dairy Division. The latter will include lactose-free milk and other "dairy innovations," the company says.

U.S. Showing at World Cheese Awards ‘Opens Eyes’



On a global stage, an international team of judges deemed U.S. specialty cheeses among the best in the world. This year's World Cheese Awards competition, held in October in Las Palmas, Grand Canaria (one of the Canary Islands), was judged by 150 cheese experts from 24 countries. The verdict: 36 U.S. companies collected 83 medals—21 gold, 27 silver and 35 bronze—in 43 cheese categories.

"The performance at this year's contest reaffirms that U.S. cheesemakers have come of age," says Angélique Hollister, marketing director, cheese and manufactured products, U.S. Dairy Export Council (USDEC). "We have the capabilities to compete with any country in the world in cheese quality and variety."

Indeed, one of the most impressive aspects of this year's event was the broad sweep of U.S. success. U.S. cheese artisans earned awards in 43 different categories.

U.S. companies scored well in known specialties like cheddar and mozzarella, but they also took home medals for other types such as camembert, provolone and gouda—varieties that have been rarely represented on the winner's list in the past.

"Gouda in particular is one of the world's most popular cheeses, and one that has

leapt from culture to culture and country to country fairly easily in recent years, penetrating and gaining a foothold in markets where cheese, at one time, was a foreign concept," says Hollister. "Yet the United States is not known as a gouda producer—and some overseas buyers might not even consider a U.S. source when looking to purchase it."

Holland's Family Cheese, a Thorp, Wisconsin-based company, took home five medals for its gouda at the competition, with Bravo Farms Handmade Cheese of Traver, California, picking up a sixth.

"That's one specific instance where an event like the World Cheese Awards can open people's eyes," says Hollister.

More than 2,500 cheeses from all corners of the globe vied to please the taste buds of the judges. While all U.S. winners were notable, some companies merited outstanding recognition.

Sartori Foods Corp., Plymouth, Wisconsin, picked up the most medals—11—including three golds for its romano, gorgonzola and *Sartori Reserve Black Pepper Bella Vitano* (hand-rubbed with cracked pepper). Nampa, Idaho-based Sorrento Lactalis, the U.S. arm of France's Lactalis Group, nabbed nine medals in five Italian cheese categories. BelGioioso Cheese Inc., Denmark, Wisconsin, took home six medals, three of them golds for its *Ricotta con Latte*, parmesan and aged provolone.

Marin French Cheese Co., Petaluma, California, won eight medals in seven categories—everything from camembert to brie—and earned the USDEC trophy for "Best U.S. Cheese" for its *Le Petit Déjeuner*.

Marin describes *Le Petit Déjeuner* as a soft, cow's milk cheese with an "old-fashioned ripened butter flavor," traditionally



served with breakfast but versatile enough for hors d'oeuvres with any meal.

"The contest has become a showcase for U.S. cheese craftsmen to demonstrate their world-class cheesemaking expertise," says Hollister. "The recognition they continue to achieve works hand-in-hand with USDEC's export development efforts to enhance the global image of the U.S. dairy industry as a quality supplier of just about any variety of cheese a customer may need."

U.S. Cheese Processors Stake Claim in World Gouda Market

Importers of bulk gouda have a new friend in U.S. cheese processors.

Relatively recent entrants into the global bulk gouda scene, U.S. cheese companies offer great-tasting, high-quality cheese at competitive prices. They now offer both 40 pound (18.2 kg) blocks of dry salted gouda as well as 10–20 pound (4.5–9.1 kg) loaves of brined gouda, all customizable to fit customers' needs. This new capacity offers prospective buyers the chance to mitigate risks by diversifying their supply sources to various regions of the world.

Processors Eager to Meet Unmet Demand for Gouda

Gouda, a semi-hard cheese made from cow's milk, is well known for its fantastic melting ability. It is, therefore, an ideal ingredient in foods including sauces, soups, casseroles and a wide variety of traditional dishes in Mexico and elsewhere. Depending on its age, it ranges in taste from buttery and sweet to nutty with butterscotch undertones. Gouda also shreds easily, making it a great cheese in gourmet pizza cheese blends.

U.S. cheese processors are known worldwide for their excellent and abundant cheddar and mozzarella production, and they were eager to add gouda, the third-most popular cheese in the world, to that list. Worldwide consumption of the cheese is expected to reach around 900,000 metric tons (MT) once the global economy rebounds. And although U.S. cheese processors manufacture award-winning specialty gouda, more than 60% of the cheese consumed worldwide is made in bulk.

U.S. Dairy Export Council staff recognized the opportunity for U.S. cheese processors to enter this market but gouda production capacity was limited. So in 2007, they began working with several



U.S. cheese manufacturers on infrastructure changes.

USDEC provided information to assist these companies in modifying their processes; with only minor tweaking, their new gouda production systems soon became fully operational. Next, USDEC arranged for meetings between these U.S. cheese companies and potential importers in Mexico, Russia, Korea and Japan. The meetings included sampling of the cheeses in many different applications.

In addition, USDEC developed high-profile marketing and promotion strategies targeted at local retail and foodservice customers, designed to back U.S. suppliers.

U.S.-made Gouda Gains Favor with Mexican Importers

Importers in Mexico, the world's largest importer of gouda, have even more reason to buy U.S.-made gouda: proximity. Even from the far corners of the United States, Mexican importers can expect their gouda to ship in less than a week's time. This also aids those importers looking specifically for very young gouda, re-

gardless of whether they are motivated by price or by product use.

Mexico imports nearly all of its gouda, giving Mexican importers a vast amount of experience in searching for quality bulk gouda. U.S. processors therefore knew the success of their cheeses rested in these importers' opinion of the taste, quality and functionality of the new U.S.-made gouda.

In tasting sessions with U.S. suppliers, Mexican cheese importers have been impressed on all counts, and have reported that the gouda is at least as good as any they've imported in the past. They also are pleased to partner with U.S. cheesemakers, who have a well-earned reputation for product quality and consistency of supply. Most importantly, they're buying U.S.-made gouda.

What Next for U.S.-made Gouda?

U.S. processors continue to reach out to gouda importers in Mexico and are looking to move into the Japanese and Russian markets as well. If you are interested in sourcing U.S. gouda, please contact USDEC.

Specialized Functional Dairy Ingredients



Technological advances in the processing of dairy proteins allows the U.S. dairy industry to offer a variety of specialized and highly functional dairy ingredients that can be tailored to meet the needs of the international food and beverage industry. These innovations result in a multitude of new dairy-based ingredients which are able to deliver performance, function, nutrition and/or cost efficiency.

Functional dairy ingredients are often added to foods or beverages to improve, or maintain over the shelf life, the quality of the product while optimizing production costs. The challenge for manufacturers around the world is in selecting the right ingredients that will provide the right degree of functionality and nutrition while imparting pleasant tasting product.

This article is designed to help R&D specialists become more familiar with some of the whey-derived functional ingredients and blends currently available for export by USDEC member companies.

What are Specialized Functional Dairy Ingredients?

The U.S. dairy industry has a consistently high-quality supply of milk which allows the

production of specialized functional dairy ingredients. The technologies used to create these ingredients are often proprietary to the dairy ingredient manufacturer. However, the general technologies used are heat treatment, membrane separation, ion-exchange separation and hydrolysis. U.S. dairy ingredient manufacturers use a combination of all or some of these technologies to create a wide range of functional dairy ingredients for the food and beverage industry. These ingredients can be further blended to produce a highly customized ingredient system for a particular food product.

When developing specialty dairy ingredients the dairy manufacturer considers a variety of whey fractions for their composition and functional attributes including: particle size, solubility, dispersibility, hygroscopicity, ionic character, shear and thermal stability. These will influence the ingredient's capacity to gel, bind water, build viscosity, bind fat, and emulsify the ingredients in a processed food. The final dairy ingredient will typically be designed for a specific application or function, optimizing cost and performance.

A number of U.S. dairy ingredient manufacturers work with food technologists and R&D departments to design specialized functional dairy ingredients. These ingredients are intended for use in a wide array of applications, such as bakery, confectionery, dairy, deli, frozen desserts, meats, nutrition bars, protein-fortified beverages, soups and many other food or beverage applications.

Benefits of Specialty Dairy Ingredients

There are several advantages to using specialized functional dairy ingredients. Similar to traditional dairy ingredients, they offer functionalities that can replace non-protein ingredients such as gelling agents, or non-dairy ingredients such as egg white and soy protein. They also provide a "clean" ingredient list on the label, while contributing nutritional value to the food or beverage.

However, the difference is that, in certain applications, specialty dairy ingredients will offer a superior or more specific functionality because they have been customized for the rigors of a process and will meet a specific functional need. In many cases they will help optimize costs by replacing more expensive ingredients.

USDEC Members Offering Specialized Functional Dairy Ingredients

All American Dairy Products, Inc. offers an extensive family of dairy ingredient formulations that can adapt to a company's specific needs in bakery, deli and dairy foods.

Bongards' Creameries offers *Perham™ Pc-Protein* which is produced by a proprietary ultrafiltration process that concentrates whey proteins and milk phospholipids to provide emulsification capacity and stability. This product can be used in bakery products, frozen desserts, protein-fortified beverages, and emulsified and processed foods.



Davisco Foods International, Inc. has developed and advanced its technology to precisely specify a product's biological and functional attributes. *Biozate*[®] 3 is a highly purified, hydrolyzed whey protein isolate (WPI) with a unique molecular weight profile. The addition of *Biozate*[®] 3 to protein bars results in softer-textured bars over time under various storage conditions.

Erie Foods International, Inc. offers *ECCO 2730*, a hydrolyzed sodium caseinate and highly functional milk protein developed to achieve rapid dispersibility in food and pharmaceutical applications. This product offers good emulsification properties, excellent solubility and fat- and water-binding capabilities. Typical applications are whipped toppings, special dietary foods, bakery goods and emulsified meats.

Glanbia Nutritionals offers a line of specialty functional products.

- *Thermax*[®] 34 whey protein concentrate (WPC) is designed with enhanced heat stability, water retention and gelation properties for superior performance in beverages, infant formula, soups, sauces, frozen yogurt and ice cream.

- *Thermax*[®] 70 is a WPC with excellent nutritional value and functional properties such as good solubility, high water-retention capacity and excellent emulsification.
- *Thermax*[®] 690 is a premium, heat-stable hydrolyzed WPI for use in low-acid beverages. It can be used as the sole source of protein in ready-to-drink beverages. It remains stable throughout UHT and retort thermal processing. Its high solubility, mild flavor, low fat (<1%) and low carbohydrate content make it a versatile and easy-to-use ingredient in a variety of nutrition, sports and diet beverages.
- *BarPro*[™] is a partially hydrolyzed milk protein isolate (MPI) formulated to extend the shelf life of high-protein nutrition bars.

Hilmar Ingredients offers a variety of customized functional dairy proteins.

- *Hilmar*[™] 8200 is a WPC ideal for use in applications that require heat stability. It also exhibits good gelation characteristics.
- *Hilmar*[™] 8370 is a moderately hydrolyzed whey protein created to provide a soft texture and extend the shelf life of high-protein bars and other nutritional products.
- *Hilmar*[™] 8390 is an extensively hydrolyzed whey protein for dairy, general nutrition and sports nutrition applications, as well as flavor enhancement benefits in savories, snacks, prepared foods and meats.
- *Hilmar*[™] 8600 is a WPC with strong gelling attributes and is ideal for processed meat and surimi applications. Its main benefits are firm, heat-induced gelling characteristics, excellent water-binding capabilities and outstanding emulsification.
- *Hilmar*[™] 8610 is a highly functional WPC with good heat stability and high-gelling characteristics – useful in bakery, dairy and nutritional applications.

Leprino Foods Company offers several unique functional dairy proteins.

- *HyD Pro*[™] is ideal in food products such as nutrition bars, sports bites, energy snacks and nutritional supplements.
- *Gel Pro*[™] is formulated for heat-thickening to replace “empty calorie” thickeners and other high-cost functional ingredients in foods.
- *Temp Pro*[™] has been specifically developed for use in UHT and retort processes that require a heat-stable WPC product.
- *Temp Pro+*[™] is a patent pending whey protein hydrolysate that can successfully replace expensive caseinate and MPIs in many applications including beverages with up to 12% protein in solution. Its unique functional properties are well suited to high-temperature processing applications, where protein stability and prevention of protein precipitation are necessary. It performs especially well in aseptic beverages and retorted or UHT foods, such as puddings.

Main Street Ingredients offers serum proteins which provide creamy, milky notes and structural properties similar to those of natural milk. They formulate these functional fractions into high-quality, highly efficient dairy ingredients





which enables them to customize products for specific end-use.

Main Street markets its ingredients under the *Cornerstone™*, *Capstone™* and *Gemstone™* branded ingredient lines. These products are used worldwide by leading food manufacturers and are regarded as an excellent alternative to traditional milk solids, and in many cases are preferred to traditional milk solids.

- *Cornerstone™* functional dairy proteins are formulated for use in a wide range of food applications. They provide creaminess, texture, water-binding, opacity, adhesion and dairy flavor. *Cornerstone™* functional proteins, which contain more than 7% beta-lactoglobulin, will form a strong irreversible gel when heated to more than 75°C. This provides structure and mouthfeel.
- *Capstone™* branded products are customized and formulated to meet specific applications for the end-customer.
- *Gemstone™* branded products offer a wide range of functional ingredients for the bakery industry.

Milk Specialties Global offers several highly functional whey protein hydrolysates that can be tailored specifically

to a company's requirements. What makes these proteins so versatile is that the amino acid chains are hydrolyzed or broken down at specific points in order to impart desired characteristics. The Milk Specialties Global R&D team can design a low- or high-hydrolysis product depending on the desired functional requirements. Uses include nutrition bars, nutrition beverages, savory applications, foaming/whipping applications, tablets, infant formulas and hypoallergenic formulas.

PGP International, Inc. offers several hydrolysates produced from U.S. dairy sources. *Whey Protein Hydrolysate 4020*, also known as *Prolong 90*, is made to ensure minimal off-flavor and bitterness which may occur in hydrolyzed proteins. The product has a 90% protein level, excellent bioavailability and is easily digested and absorbed.

New products are continuously being developed to meet the growing and changing needs of the market. Please contact U.S. dairy ingredient suppliers directly to learn more about the best uses for their products. Additional information, including supplier contact information, is available at www.usdec.org.

Methods to Develop a Specialized Functional Dairy Ingredient

Traditional whey ingredients are obtained from a liquid whey or dairy solution by using ion-exchange and/or membrane separation technologies. Specialized functional dairy ingredients are created by controlled modifications to the whey proteins and/or their ratio in the finished ingredient.

Heat treatment is used to denature milk proteins to improve the ability of the protein to bind water, therefore contributing to a stronger gel or allowing a food product to retain more water content. By adjusting time and temperature treatment, the functional properties of a dairy protein ingredient can be altered. For example, a treatment at 95°C for 5 minutes will produce a dairy protein ingredient with excellent water-holding capacity. This increased functionality can be useful in many food applications, such as frozen foods where it can help reduce the formation and size of ice crystals, to help improve profitability.

Hydrolysis is an enzymatic process that breaks proteins down into smaller components or peptides. The level of hydrolysis directly affects the functional properties of the ingredient and can be strictly controlled to produce highly purified and customized functional ingredients. One example is a hydrolyzed WPI with reduced gelling properties for use in heat-processed beverages.

For more information on the processes used to produce dairy ingredients please see the USDEC Reference Manual for U.S. Whey and Lactose Products.

Dairy – More Than a Great Source of Protein

By Carla Sorensen, Minnesota, USA

The importance of protein in the daily diet is a well established fact. Protein is part of every bone, muscle and tissue in the body and a required nutrient for health and longevity.

People today are living longer than ever and life expectancy around the world has roughly doubled in the last century. On average, women today live to age 66 and men to almost 63. Men and women face different health challenges, in part due to hormone differences, but in general women are healthier than men. Economics play a factor for adults, according to the World Health Organization (WHO). In areas with rising economies, women often become more health-conscious while men tend to smoke more, exercise less and eat less nutritiously.

Maintaining healthy diet and exercise habits often seems overwhelming in what is an already stressful lifestyle for many. The good news is that it's easy to incorporate dairy into one's diet due to the abundance of food products formulated with high-quality dairy ingredients, including whey protein and milk powders. Dairy ingredients provide a number of health benefits when consumed in adequate amounts including improved body composition, increased satiety and healthier muscles.

The more we learn about dairy products the more important they become to the daily diet due to the numerous health and wellness benefits they provide to men, women and children of all ages. A few of these are described further.

Dairy from the Start

Pregnancy is a special time but also a nutritionally demanding time. Protein needs increase as protein provides the fuel for new cells to help develop the growing fetus. Requirements vary by individual but many experts recommend an additional 10 to 15 g of protein per day dur-



ing pregnancy—often more in cases of multiple births or if the mother is not in good health.

Protein is also important for new mothers as lactation, or breast-feeding, often increases the body's daily requirements. Dairy products, which are a rich source of essential amino acids, are an ideal food source to nourish most women during pregnancy and lactation.

In addition to protein, dairy products provide natural calcium and other nutrients which are important for bone growth and tooth development. When women don't get adequate amounts of calcium, the growing infant can draw on existing maternal stores, which may put the mother at risk of osteoporosis and dental problems later in life. Low calcium intake (less than 800–1200 mg/day) may also lead to depression, insomnia, leg cramps and irritability.¹

The natural calcium found in skimmed milk powder and other dairy ingredients has been shown to be more effective than

calcium from supplements.² As in other situations with special dietary requirements, nutrition needs vary and a consultation with a medical or nutrition professional is advisable before incorporating special products or supplements into one's diet.

Oral Health for Better Health

According to the U.S. Surgeon General, good oral health is essential to overall health and well-being but is often neglected and under-valued. Tooth decay and periodontal (gum) disease both lead to tooth loss and infection, and some studies even show a correlation with an increased risk of cancer.³

Teeth begin to form before birth and are necessary for eating, chewing and jaw development. Nutrients naturally present in dairy products, including calcium, vitamin D and other vitamins, are all beneficial for dental health, starting early in life. Dairy calcium and vitamin D work together to build strong teeth and bones and prevent tooth loss. The casein in non-



fat dried milk powder, cheese and yogurt contains phosphopeptides which help enhance the re-mineralization of tooth enamel for stronger teeth and may also help prevent dental caries when used over longer periods of time.⁴

Whey & Immune Support

The H1N1 virus has put people in many parts of the globe on alert and made them more conscious of building a healthy immune system. One easy way to help enhance immune health is by adding whey protein to the diet.

The body naturally forms free radicals during metabolism or when it needs help in fighting off unwanted bacteria or viruses. Environmental factors including pollution, cigarette smoke and UV exposure also increase free radical production. When the body produces an excess amount of free radicals it creates a state of imbalance called oxidative stress. During this time the body has a reduced ability to detoxify the system or repair any resulting damage. Oxidative stress is directly related to increased aging and a variety of health conditions including cancer, obesity, diabetes and heart disease.

The immune system plays a key role in reducing oxidative stress and this requires an adequate amount of glutathione (GHS), an important cellular antioxidant that helps neutralize the free radicals that can cause oxidative stress. Factors such as stress, infection, medication and poor diet all deplete GHS levels. GHS is formed in the cells using the amino acids cysteine, glutamate and glycine. Cysteine is the rate-limiting amino acid in this process and an adequate supply enables the body to ward off oxidative stress. Whey protein is among the richest natural sources of cysteine and contains more than four times the amount compared with other high-quality proteins.⁵

Whey protein, either in the form of whey protein concentrate (WPC) or whey protein isolate (WPI), is often a preferred ingredient in immune support and enhancing products, both for individuals with special needs and for those in relatively good health. The individual components or fractions in whey, such as immunoglobulins which comprise 10–15% of the total protein, have known immune-enhancing properties.

Weight & Cancer Connection

Breast cancer is the most prevalent type of cancer in women, and generally arises in mid-life. It is about 100 times less common in men. Certain dietary habits have been associated with an increased risk of breast cancer, but this does not include the intake of dairy foods. In fact, a large multi-year study reported no consistent association between the risk of breast cancer and the consumption of dairy products.⁶

Excess weight is one of the better documented risk factors associated with an increased cancer risk for men and women. According to the WHO, a Western diet high in calories, fat and refined carbohydrates, combined with a lack of exercise, is responsible for the increase in obesity and cancer.

Post-menopausal women are especially prone to weight gain—at a time when their risk of cancer is also increasing. Cal-

cium-rich dairy products have repeatedly been shown to help improve body composition when included in a reduced fat and calorie diet. And just recently, a new study out of Australia reported even greater weight loss when people on a lower calorie diet ate five instead of three daily servings of dairy products. The bioactive peptides in dairy work together with the natural calcium component to help increase weight loss, a result that cannot be duplicated when dairy is replaced with calcium supplements. Switching from a Western diet to a lower-calorie diet rich in low-fat dairy products is one way to help look and feel better while at the same time reducing cancer risk.

An added benefit of weight loss is a reduced risk of heart disease. A body mass index of 25 or greater is a powerful predictor of hypertension and heart disease and increases risk by more than 40%.⁷

Cancer is often treated with chemotherapy, the side-effects of which include nausea, poor appetite and reduced immunity. Nutrition supplements formulated with whey protein provide an easy-to-digest source of high-quality protein and are often recommended during the treatment phase to help prevent muscle loss while enhancing the immune system.

Age-Related Changes

Hormonal changes later in life have varying effects, some of which can be life-altering, such as osteoporosis. Menopause has been shown to be the most important risk factor for bone loss in women. During their lifetime women lose approximately 30–50% of their bone surface and bone tissue, and roughly half of this loss occurs after menopause.⁸

Osteoporosis is generally viewed as a “female issue” but it is a growing concern among men. As men live longer the issue will become even more apparent. Bone loss in men happens at a slower rate due to their larger skeletons. Men aren’t affected by hormonal changes in their 50’s like women, but by ages 65–70 men and women have equal rates of bone loss.

Both also have a reduced ability to absorb calcium which can be compounded by factors like the regular intake of oral medication.

The first step to ensuring good bone health is to get adequate amounts of calcium-rich products, like dairy products, before the age of 20. Children between the ages of 9 and 18 need approximately 1,300 mg of calcium per day which is equivalent to four servings (one serving = 237 ml milk, 170-227 g yogurt, or 28.4-42.5 g natural cheese) of dairy products. During the adult years the requirements drop slightly to between 1,000 and 1,200 mg of calcium per day.⁹

Other frequent complaints associated with hormonal changes in both women and men are insomnia, irritability, fatigue and depression.¹⁰ An extensive survey analysis of over 10,000 women in Europe found that a low consumption of dairy products contributed to a higher rate of menopausal symptoms. One of the com-

ponents in whey protein is alpha-lactalbumin which is rich in tryptophan and has been shown to have a calming effect and improve sleep quality. Alpha-lactalbumin is one of the main protein components in human breast milk.¹¹

In Summary

Dairy products play an important role at every stage of life in terms of achieving health and wellness. Consumers today have more options than ever thanks to improved methods of production, storage and transportation.

Today, numerous varieties of U.S. cheeses and other dairy products may be found in food outlets all around the world. Food formulators also have a variety of high-quality U.S. dairy ingredients to select from. The list is expected to grow as U.S. manufacturers continuously find ways to optimize dairy ingredients, including whey proteins and milk powders, to meet the current and future needs of their customer base.

Please contact the USDEC office in your area to learn more about U.S. dairy ingredients, including new opportunities in your market.

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U.S. Dairy Industry News

Letter to the Readership

The December 2009 issue of **USDECNews** will be the last official issue of the International newsletter. USDEC would like to express their sincere thanks to all the readers for their constant and loyal support since the first issue was published exactly three years ago. We hope you have found the newsletters to be a valuable resource as you look for new ideas and opportunities for dairy ingredients in the marketplace and U.S. suppliers of these ingredients.

All past issues of **USDECNews** will be available for reference and downloading at www.usdec.org/library in the 'Periodicals' section. The USDEC online library also contains a variety of information and we encourage you to browse the library at your convenience.

At the end of January 2010 the webpage for each individual office will be removed from the internet. USDEC will continue to offer a variety of resources at www.usdec.org. We invite you to visit the website often for the latest news and information on a number of topics including the following:

- Innovations in Dairy Ingredients
- Current Market Conditions
- New U.S. Dairy Ingredient Suppliers
- New Product Applications and Formulations
- Technical and Research Updates
- Trade Shows and Seminars

If you have any questions, or if you would like any information on U.S. dairy ingredients, please contact your local USDEC office. Representatives will be available to assist you as needed.

Commercial Creamery Company

Commercial Creamery, Spokane, Washington, produces a number of truly unique products including real sour cream and yogurt powders, natural cheese powders and shelf-stable *Chunkettes* and *Crumbettes*. The privately held company, owned and managed today by third and fourth generations of the Gilmartin family, exports products to markets in more than 30 countries.

Earl Gilmartin took over the company in 1908. "At first we were a true creamery, making butter," says his granddaughter, Megan Boell, vice president of sales and marketing. "But during the 1920s, we were one of the first to dry eggs. That's how we got into the spray-drying business. Later, we were the first creamery to make spray-dried cheese powder."

Commercial Creamery employs 100 people in Washington and Idaho. The company's headquarters, research and development department, and pilot plant are in Spokane. The main production facility is in Jerome, Idaho, a major cheese-manufacturing center in the third ranked dairy state in the United States.

Commercial Creamery's product focus is primarily on spray-dried cheese powders, which find applications in many food sectors, including potato chips and other savory snacks, rice and pasta dishes, entrées, baked goods, dips, dressings, sauces and soups. The company also manufactures and markets enzyme-modified cheeses (EMCs) which are used in the manufacture of sauces and dressings, as well as flavors, sauce mixes, non-dairy specialty powders, shortenings and margarine.

Emphasis on Quality

Decades of experience, and an emphasis on real dairy quality, make Commercial Creamery an industry leader and an obvious choice for many food manufacturers in the United States and abroad, Boell says.

"We're the pioneer. We have a lot of experience in making cheese powder and specialty dairy products, and our primary focus is in this area," she says. "Our sour cream powder starts with cultures which are dried only after the flavor is perfected."

Boell says this makes for a higher quality product with noticeably better flavor notes. The company follows the same true-culturing process for yogurt powders, she notes.

Commercial Creamery has two trademarked, branded products in *Chunkettes* and *Crumbettes*. These are small cheese pieces made from specific varieties of natural cheeses. *Chunkettes* are sold primarily in the United States, with a small amount exported to Mexico and Canada. While both are shelf-stable, the *Crumbettes* are better suited for shipping due to their high temperature stability and are sold worldwide.

Commercial Creamery purchases most of its milk and cream from Idaho dairy farms. It procures cheese on the open market from all over the world, but much of it comes from Idaho and California. Boell says Idaho is an ideal manufacturing location because of the proximity of milk sources and because the near-zero humidity makes for efficient drying operations. The Jerome plant has received the American Institute of Baking's highest rating for the last several years. The company has capacity available on its high-speed, low-shear blending line at the Jerome facility, and it offers custom blending and drying packages.

Export business began in the 1970s under the leadership of Boell's father, Earl "Bud" Gilmartin Jr., and it now represents nearly 20% of Commercial Creamery's business. The company sells into world markets both directly, and through distributors and brokers.



"The Internet has created significant new business and export opportunities for Commercial Creamery," Boell says. "We receive requests every day from companies around the world interested in our products."

Export Products

- **Branded Products:** *Crumbettes* and *Chunkettes*
- **Cheese Powders:** asiago, blue, cheddar, feta, monterey jack, parmesan, romano and swiss
- **Dairy Powders:** butter, cream cheese, sour cream, sweet cream and yogurt
- **Flavors:** blue cheese, butter, cheddar cheese, cream, parmesan and romano
- **Sauce Mixes:** alfredo, au gratin, cheddar, cream, monterey jack, mac & cheese and scallop
- **Snack Seasonings:** barbeque, cheddar, jalapeno, nacho, sour cream & onion and more

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Interfood Inc.

In August 2008, Interfood Inc. was formed in Waltham, Massachusetts, becoming the newest of 16 offices owned and operated by Interfood Holding of the Netherlands. Since 1970, Interfood Holding has been buying and selling dairy products around the world.

"There has been a lot of opportunity to buy from America," says Ferry de Veen, Interfood Inc. managing director.

"There is demand in the market so we thought the time was right for us to open a U.S.-based office."

The office now has a staff of 12, including commercial team members Jerry Ostrowski, Fabian Rivera and Chris Kilibarda and office manager Ellis Bogers.

"Our main interest is in exporting products from the United States to other parts of the world," de Veen says. "The dollar-euro exchange rates have helped."

Interfood Inc. operates as a component of Interfood's global network, which has offices on every inhabited continent, and annual sales of more than \$1.1 billion. The primary focus of Interfood Inc. is to purchase U.S. dairy products and sell them into other markets, including China, Southeast Asia, Oceania, Europe, Mexico and South America.

"Products include powdered milk, milk fats, cheese and whey ingredients. These are purchased from numerous sources in the major dairy regions across the United States. They are sold for milk recombination or for use in making yogurt, ice cream, bakery and other food products," de Veen says.

Interfood's customers expect top-quality products at a competitive price. "We have the ability to meet these expectations because we know when and where to buy," de Veen says. "We have the expertise, just like a stockbroker."

INTERFOOD INC

Dairy, the source of life.

Cheese sourced from the United States includes hard grating cheese, cheddar, gouda and mozzarella. A variety of powdered milk products are available, including nonfat dry milk, skimmed milk powder and full cream milk powder. U.S.-made proteins include acid casein and whey protein concentrates (WPCs) at various protein levels. The company also can produce custom-blended milk or whey powders with a wide array of nutritional profiles.

Interfood's online marketing describes the company as a "globally operated trading house offering extensive services to customers and suppliers." Logistics is one such service.

Interfood has specialized staff that can file documentation and ensure compliance with country-specific regulations. In total, 250 employees within Interfood Group offices around the world provide the needed backup, working in different time zones as part of a multilingual, coordinated team.

The company says it also emphasizes strict quality control. According to de Veen, "From raw materials to finished product, continuous quality checks are performed in specialized laboratories, which guarantees consistently high standards for the best results."

Interfood has great expectations for its U.S. division. "The U.S. market has become more and more important," de Veen says. "And having a U.S. office puts us in a better position to work with Mexico and the rest of the world."

"Market conditions and exchange rates will have an effect on the division's volume this year, but as long as U.S. dairy

manufacturers are interested in exporting, and the world markets are interested in buying, Interfood Inc. is expected to grow," says de Veen.

Export Products

- **Caseins:** acid casein, rennet casein, calcium caseinate and sodium caseinate
- **Cheese:** cheddar, gouda and parmesan; available in blocks and barrels
- **Cheese Powder:** a variety of types and forms, including Italian styles
- **Custom Blends:** specific whey and milk powders formulations
- **Lactose**
- **Liquid Concentrates:** milk permeate 25% and skimmed milk 35%
- **Milk Fats:** anhydrous milk fat, butter and butteroil
- **Milk Powders:** buttermilk powder, nonfat dry milk, skimmed milk powder and full cream milk powder
- **Whey Ingredients:** whey protein concentrates (WPC 34, WPC 80 and WPC 80 High Gel), whey protein isolates, whey permeate and deproteinized whey

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United Dairymen of Arizona

United Dairymen of Arizona (UDA), Tempe, Arizona, is a milk marketing cooperative incorporated in 1960. UDA began with the merger of two dairy associations seeking to ensure a stable market for producers and an adequate supply of fresh dairy products for consumers.

UDA is by no means a newcomer to exports. For instance, 100% of the co-op's lactose output has been exported for many years, with the majority shipping to Asia. However, exports have gained significance over the last five to six years, according to James (Jimco) Hrusovszky, vice president of business relationships and development.

"Last year we exported 8,000 metric tons (MT) of milk protein concentrate with 40% protein (MPC 40), 10,000 MT of lactose and 6,000 MT of butter," Hrusovszky says. "About 20% of our product, by total solids, was exported."

UDA's membership consists of approximately 70 producers, averaging 2,000 head per dairy. Collectively, they represent about 85% of the milk in the state. UDA's modern facility in Tempe is capable of processing up to 4.8 million liters of milk per day. Annual sales are approximately \$800 million. Earlier this year, UDA completed the start-up of a cheese subsidiary, Arizona Cheese Company LLC, with its own dedicated plant, also located in Tempe.

Hrusovszky says the co-op has grown with the Southwest region over the last five decades.

The co-op has also positioned itself to capitalize on export opportunities by maintaining additional capacity. "We always say that we don't know until we try," Hrusovszky says. "We are very willing to knock on doors and turn over stones to find ways to move milk. Exporting is a great way to do that."

UDA offers an extensive line of products for export including milk powders, lactose, butters, cheese and custom blends. "We try to specialize in the not-so-common things in terms of our blends,"

Hrusovszky says. "We want to make each relationship a true win-win situation by creating products that offer a specific unique function or alternatives that work at a reduced cost-level."

An ample supply of dairy co-products helps UDA to be cost-effective, Hrusovszky says. Creativity and adaptability come from being a large organization that is flexible enough to operate like a small, proprietary company.

Growth through Partnerships

Among the key components in UDA's growth—and in the emergence of its export business—has been the formation of joint ventures, and its membership in DairyAmerica. "UDA became a founding member of the exporting cooperative 11 years ago to work with other U.S. companies to jointly offer more capabilities to global buyers while increasing returns."

UDA has a 50/50 joint venture with Erie Foods International, Inc., Erie, Illinois, called EU Blending Company. The partnership, which has allowed UDA to expand its portfolio of blended ingredients, was established in 2008 with a plant in nearby Casa Grande, Arizona.

The Casa Grande manufacturing facility is undergoing an expansion to more than double its capacity, which will increase export opportunities.

Blue-veined and feta cheeses are available through UDA from additional joint ventures with Wisconsin-based Wiskerchen Cheese and the Arizona Cheese Company. A small percentage of the co-op's cheese is currently exported, but the growth of that business is a key goal for UDA.

Whether they are exported directly by UDA or through a joint venture, products from UDA are entering markets around the globe, with a particular emphasis on Mexico. "Mexico is one of our largest targets. Since we are only hours from the border we have a definite freight advantage," Hrusovszky says. "That proximity allows us



UNITED DAIRYMEN OF ARIZONA

to export skim milk powder, MPC's, fresh cream and condensed skim."

"I believe exports need to stay at the top of everyone's focus. In the near future I think the export market will provide even more opportunities for U.S. dairy ingredients."

Export Products

- **Butter:** 80% and 82% butterfat; salted and unsalted, in 25 kg blocks
- **Cheese:** blue-veined, gorgonzola and feta
- **Condensed skim milk:** fresh liquid
- **Cream:** fresh liquid
- **Edible Grade Lactose Powder:** made from ultrafiltered (UF) milk permeate
- **Milk Protein Concentrate:** MPC 40, MPC 42 low and medium heat and MPC 70 low heat
- **Nonfat Dry Milk:** all heat treatments
- **Skim Milk Powder:** all heat treatments
- **Wet Dairy Blends:** custom blends utilizing milk and milk products
- **Whey Protein Concentrate 34%:** fresh liquid

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To learn more about DairyAmerica and Erie Foods International, Inc., please read their profiles in the December 2008 issue of USDECNews.