

Forward Thinking: Milking It

Manufacturers find new ways to grab consumers using innovative flavors in dairy and more.

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The dairy category is a \$125-billion-a-year industry, according to The International Dairy Foods Association (IDFA), composed of the Milk Industry Foundation (MIF), the National Cheese Institute (NCI) and the International Ice Cream Association (IICA). Although there has been a decline in traditional milk consumption, dairy's high-protein health benefits have attracted new applications in a number of categories ranging from flavored and spiked beverages to savory yogurts and non-dairy alternatives. In addition, technology is driving new product development and unique applications within the dairy segment, including sweetness modulation.

Milk's New Identity

According to the U.S. Department of Agriculture (USDA), milk sales overall have been on a steady decline for decades, and per-capita consumption of fluid milk and cream fell by 25% from 1975 to 2012.^a

Furthermore, Euromonitor predicts milk sales will decline another 3% by 2018.^b In response to this continued decline, the Milk Processor Education Program (MilkPEP) introduced the National Milk Mustache Got Milk? ad campaign in 1995, which featured celebrities and athletes wearing a milk mustache to promote the health benefits of milk. In February 2014, MilkPEP launched Milk Life, a new ad campaign, which focuses on the "8 grams of high-quality protein in each 8-ounce glass of milk" message. The print and TV ads use images of propelling milk splashes that fuel consumers through activities such as playing sports, dancing and playing a guitar. Similarly, Fairlife LLC (Chicago, Illinois) introduced a sexy ad campaign of women dressed in milk splashes in pin-up poses to promote the company's new Purely Nutritious milk. Purely Nutritious is touted to contain 50% more natural protein and calcium and half the sugars of ordinary milk, and is made with real milk and no protein powders. Although it's not a milk product per se, protein is the focus for the Powerful Yogurt brand. To target active consumers, the company introduced Powerful Yogurt Protein Bars, which feature 20 grams of protein, while the Powerful Yogurt Plus+ line offers 21 g of natural protein per 8 oz serving.

Soledad Bianchi, global dairy category director at IFF, states, "Dairy products have many health benefits, as they are highly nutritional and provide a good source of protein. The desire



Orange Cream Dream, Cookies 'N Cream, Coco Loco, Sir Strawberry Swirl and Jammin' Banana flavors from MilkSplash.

for protein is definitely a growing trend, where dairy plays an obvious and relevant role."

This growing trend is evidenced by the recent NPD Group's "Protein Perceptions and Needs" report, which notes that 78 % of U.S. consumers state that protein contributes to a healthy diet, and more than half of adult consumers indicate a desire to incorporate more protein into their diets.^c

Got Flavored Milk?

Recognizing the decline of milk consumption and competition from other ready-to-drink (RTD) beverages, consumer packaged goods manufacturers are launching new and fun, limited-edition milk flavors. As part of its seasonal collection, Hiland Dairy released three Easter-inspired flavored milks, including **Jelly Bean**, **Chocolate Marshmallow** and **Easter Egg Nog**, while Dean Foods offered a limited edition of TruMoo **Chocolate Marshmallow** milk sold during the month of February. MilkSplash, a zero-calorie "milk enhancer" that

^a<http://time.com/9459/got-milk-campaign-ends-in-favor-of-milk-life/>

^b<http://www.euromonitor.com/drinking-milk-products-in-the-us/report>

^c<https://www.npd.com/latest-reports/food-and-beverage-protein/>

is similar to liquid water enhancers, launched in March. Sold at Target and Walmart, the company offers five flavors: **Coco Loco**, **Cookies 'N Cream**, **Jammin' Banana**, **Orange Cream Dream** and **Sir Strawberry Swirl**. Magic Straws launched in 2010 under the Got Milk? brand and offered 11 flavored straws such as **Chocolate**, **Vanilla Milkshake** and **Strawberry**. New flavors expected this year include **Banana Split**, **Candy Corn**, **Cotton Candy** and **Rootbeer Float**. In 2013, in conjunction with the Dippin' Dots ice cream brand, the company introduced **S'mores** and **Birthday Cake** flavors. Johnny Moo created Intense Milk Flavoring Straws, which feature flavor pods described as a "K-cup for kids" that one inserts through the straw to release the flavor. The company offers reusable replacement straws and four flavors: **Banana Blast**, **Cookies & Crème**, **Extreme Chocolate** and **Very Strawberry**. Like all consumer packaged goods, packaging is an important aspect, and last year Kemps designed a notable, cow-shaped bottle for its flavored milk.

"Flavored milk will finally make its way into mainstream, especially since school lunch programs are reducing the other beverage options like soda and juices," says Carol McBride, category director for dairy at Symrise, North America. "Adults will also begin to view flavored milk as a suitable snack."

Cutting the Sugar in Flavored Dairy

Despite milk's healthy attributes, flavored milk is perceived negatively by some. In an effort to battle youth obesity and reduce sugar, 11 Oregon schools banned chocolate milk and other flavored milk from school cafeterias. According to a study by Cornell University published April 16, 2014^d, banning the chocolate milk did not benefit the students. Instead, the ban backfired, and the report stated that "milk sales dropped by 8% and 29% of white milk was thrown out." In conclusion, children prefer flavored milk and, for increased consumption, flavored milk needs to be offered. The flavor houses are fully aware of the challenge to reduce sugar while maintaining expected flavor profiles and mouthfeel. To address the issue of added sugars in dairy products, particularly in milk and yogurt drinks, Wild Flavors Inc. offers natural sweetness enhancers "that allow for the reduction of added sugars in a product with no taste impact," says Jessica Jones-Dille, associate director, marketing and business development. Similarly, McBride said, "Sweetness modulation is big and finally finding a home in dairy" and that Symrise's Symlife^e taste modulation platform addresses this need.

Lastly, Bianchi adds that IFF's Flavorfit^f sweet portfolio "offers new flavor solutions to our customers that enable their sugar reduction efforts without losing characteristic flavor or mouthfeel."

Spiked Milk

Flavored liquor and beer continue to enter the crowded alcoholic beverage market and cocktail scene; the latest trends in that space include using dairy with a focus on ice cream, and the revival of "milk punch." There's certainly been activity in the crème liqueurs category, with new flavor profiles. Bailey's added **Vanilla Cinnamon Liqueur**, which blends Madagascar



Milk Money Vodka by Leche Spirits is crafted with twice-distilled milk from New Zealand dairy farmers.

vanilla with cinnamon, while Boyden Valley Winery and Spirits introduced **Vermont Ice Maple Crème** infused with local Vermont maple syrup and **Vermont Ice Apple Crème** made from Vermont-grown apples. **Whisper Creek Tennessee Sipping Cream** is formulated with a Tennessee whiskey base and features fig, sorghum, persimmon, pecan, caramel, vanilla and burnt molasses flavors. Interestingly, its bottle silhouette is inspired by a milk bottle and has the shape of a moonshine jug. Even the popularity of RumChata, a rum and cream liqueur, "has spurred growth for the flavor profile in non-alcoholic products" says Jones-Dille.

In other spirits categories, two unique 2014 introductions are Milk Money Vodka by Leche Spirits and Tippy Cow Rum Creams by Midwest Custom Bottling. Milk Money Vodka, produced by New Zealand dairy farmers, is derived from twice-distilled milk. "This vodka is unique because it utilizes a completely different sugar than other vodkas," says Garren Visser, president of Leche Spirits. "At the microbiological level, it's all about the fermentation of sugars with yeast and lactose, which truly have their own profile. Rather than the dry burn from most grain alcohol, Milk Money Vodka has a clean sweet, smooth, almost buttery finish." The label launched in January and is sold in Colorado and New Mexico. In February, Midwest Custom Bottling released Tippy Cow Rum Creams, which blend Caribbean rum with Wisconsin dairy cream. Packaged in old-fashioned milk bottles, there are four flavors available: **Chocolate**, **Orange Cream**, **Shamrock Mint** and **Vanilla Soft Serve**.

According to an April 2014 *New York Times* article^g, milk punch, a cold blend of dairy and liquor that combines cold ingredients with hot milk that curdles and then is repeatedly filtered to create a clarified elixir, is having a revival; several urban bars across the nation are serving some variation. Coachman in San Francisco and Underdog in New York City both offer California

^dwww.news.cornell.edu/stories/2014/04/chocolate-milk-ban-riles-schoolchildren

^eSymlife is a trademark of Symrise.

^fFlavorfit is a trademark of IFF.

^gwww.nytimes.com/2014/04/23/dining/the-milk-punch-revival.html

milk punch, which features Batavia arrack, a rumlike spirit while Punch House in Chicago crafts a brandy-based version called Mary Rockett. Korovazon milk punch made with hibiscus tea-infused pisco, Tahitian vanilla, cinnamon bark, ginger and lime is served at Play, the cocktail bar at New York's Museum of Sex. Another example of cocktail-inspired flavors in the dairy segment is Yoplait's new limited edition **Light Margarita** and **Original Peach Sweet Tea** flavors.

Dairy is also appearing in the beer category. In honor of Oktoberfest, in 2012, Red Robin Gourmet Burgers chain debuted a beer milkshake made with Samuel Adams Oktoberfest, soft serve vanilla ice cream, vanilla syrup and caramel. **Blue Moon Beer Shake** and **Irish Beer Shake** are currently on the chain's menu. In 2013, The Joe restaurant in Charleston, South Carolina, known for its unique menu, crafted three Beer Shakes: **Palmetto Espresso Porter Chocolate**, **Guinness Caramel** and **Sweetwater 420 Strawberry**. At the end of 2013, for its third year, Saugatuck Brewing Co.'s reintroduced its **Neapolitan Milk Stout** formulated with the company's winter seasonal dry stout with added flavors and aromas of Neapolitan ice cream. Although it's not a beer, the Fernet Bronco cocktail, offered at The Eveleigh in Los Angeles, is a spiked float made with Aviation gin, Dolin Blanc, strawberry-fennel soda and scoops of Fernet-Branca ice cream. Additionally, Red Robin Gourmet Burgers introduced the **Mango Moscato Wine Shake**, which combines **Alice White Moscato** and **SKYY Infusions Moscato** vodka with mango purée and vanilla soft serve ice cream.

Clouds in My Coffee

In 2013, due to the popularity of at-home coffee consumption and the desire for coffeehouse flavors, coffee creamers accounted for roughly \$3.7 billion in sales, with 14.9% of market share^h, according to Mintel. There's been quite a flurry of activity in flavored dairy and non-dairy creamers, as well as the introduction of RTD iced coffees.

Wild's Jones-Dille says: "The desire for customization is leading to the advent of new liquid milk enhancers that add traditional milk flavors, as well as offerings that bring coffee-type profiles to milk."

To that end, the dairy creamer shelves are reminiscent of a candy store, with flavors inspired by baked goods such as Coffee-mate's **Girl Scouts Thin Mints** and culinary desserts like International Delight's **Vanilla Heat**. Dunkin' Donuts and WhiteWave Foods Co. partnered and launched Dunkin' Donuts Coffee Creamers sold in the refrigerated dairy section of grocery stores nationwide in the United States. The Dunkin' Donuts Coffee Creamers are made with real milk and cream and available in **Original**, **Fat-Free**, **Extra Extra** and **Unsweetened** varieties. Baileys Coffee Creamers has added three new flavors to its non-alcoholic flavored coffee creamers line: **Chocolatini**, **Cinnamon Dolce** and **Sweet Italian Biscotti** limited edition. So Delicious Coconut milk barista-style creamer launched last year in two flavors: **Original** and **French Vanilla**, while **Cinnamon Cream** joins Coffee-mate's **Natural Bliss** range.

This year, Starbucks added two new flavors to its Via Lattes line up. According to the company, **Via Vanilla Latte** features Starbucks coffee, natural dairy and vanilla flavor, while Starbucks **Via Caffé Mocha** is made with Starbucks coffee, natural dairy



Stumptown Coffee Roasters Cold Brew Coffee with Milk's package is inspired by an old-school milk carton.

and cocoa. Based on research collected from Stumptown Coffee Roasters shops, only 20% of the patrons drink their coffee black, while the rest use milk, cream and sweetener. This prompted the company to create **Cold Brew Coffee with Milk**, which is packaged in an old-school milk carton.

According to McBride, "Coffee and beverage creamers will continue to grow, fueled by millennials who commonly drink flavored coffees and prefer some type of flavor and sweetness as opposed to plain coffee."

Last year, HP Hood LLC, the dairy company known for its milk, launched a line of ready-to-pour iced latte drinks in four flavors: **Mocha**, **Mocha Light**, **Vanilla Latte** and **Caramel**, which all contain the brand's milk. ITO EN North America Inc., known for its teas, entered the coffee market with the introduction of RTD Jay Street Coffees made from fresh-brewed 100% arabica coffee beans and milk from dairy herds that have not been treated with bovine somatotropin, known as rBST. The coffees are available in **Mocha**, **Latte** and **Vanilla** flavors. Meanwhile, **Cold Brewed Iced Coffee Salted Caramel**, **Cocoa Noir** and **XX Espresso** flavors joined Califia Farms' collection. Made with almond milk, the products are soy- and dairy-free. So Delicious introduced Cococcino Coconut Milk Iced Coffees in **Latte** and **Mocha** flavors. The products are formulated with fair-trade coffee and organic coconut, which are dairy-free, vegan, gluten-free, nut-free and soy-free. Although not dairy-based, an intriguing new hybrid is Sweet Leaf Tea's coffee-tea blend in **Original** and **Vanilla** flavors.

Seizing Savory in Dairy

Consumers' interest in savory flavors in expected food and beverage categories continues to increase, and it has begun to spill over into unexpected categories such as yogurt, cottage cheese and ice cream.

"One trend on the horizon is the use of savory flavors in traditionally sweet dairy products, such as yogurt and even ice cream" says Jones-Dille. "Additionally, consumers are searching for healthier food options, which have led manufacturers to incorporate vegetables into their products, fueling savory activity."

^h<http://store.mintel.com/milk-creamers-and-non-dairy-milk-us-april-2014>

In 2012, Chobani opened the company's first Mediterranean yogurt bar in New York City's Soho neighborhood. In addition to sweet flavor creations, Chobani offers five made-to-order savory flavor combinations, including **Cucumber & Olive Oil**, **Hummus & Za'atar**, **Mango & Avocado**, **Red Pepper Harissa & Feta** and **Zucchini Pesto & Tomato**. Sohha Savory Yogurt, located in New York City's Chelsea Market, also features a yogurt bar. The company's tagline is "Yogurt doesn't have to be sweet," and it serves tangy, Middle Eastern-style strained yogurt with a variety of seasonings and vegetable toppings. Customers can purchase cups of yogurt or pita sandwiches with seasonings such as **Za'atar Bliss** (thyme, sumac, extra virgin olive oil and olives) or **Everything Bagel** (roasted pine nuts, poppy seed, sesame seed, garlic and onion) and fresh, local farm-grown herbs and vegetables. Located in New York City's financial district, GRK Fresh Greek is a quick-serve restaurant that has savory yogurt combinations such as **Simi** (figs, olives, tomato, pepper, cucumber, basil, pita chips and extra virgin olive oil) and **Corfu** (basil, apples, figs, lentils, sea salt and extra virgin olive oil).

In consumer packaged goods, according to Nielsen dataⁱ, U.S. retail market sales for refrigerated yogurt reached \$6.54 billion in the 52 weeks ending February 15, 2014, and Greek yogurt is leading the growth with a 52% share of dollar sales. "With the blurring of category lines, we have seen a growth in savory yogurts, an interesting trend that encompasses both snacking and convergence," explains Bianchi. "Some new savory yogurt launches have even begun offering chips for dipping." Blue Hill, the well-known New York farm and namesake farm-to-table restaurants, introduced savory yogurts which feature "new, unexpected flavors," while Chobani announced plans to launch Chobani-branded savory dips later this year. Blue Hill yogurts are made with milk from 100% grass-fed cows and available in six flavors: **Beet**, **Butternut Squash**, **Carrot**, **Parsnip**, **Sweet Potato** and **Tomato**. In May, Lifeway Foods Inc. released a Veggie Kefir dairy-based kefir smoothie line available in **Tomato**, **Cucumber** and **Beet** varieties. According to the company, there is no sugar or salt added and each 8 oz bottle delivers one full serving of vegetables. Not a yogurt, but a notable launch is Hood Cottage Cheese's new savory variants **Cucumber and Dill** and **Garden Vegetables**.

According to Mintel's "Ice Cream and Frozen Novelties U.S.—July 2013" report, U.S. retail sales of ice cream and frozen novelties were worth \$11.2 billion in 2013 and grew 9% between 2008 and 2013. Since many consumers aren't getting enough fruits and vegetables in their diets, manufacturers are adding vegetables to ice cream. In February, Nestlé introduced Dreyer's Outshine Fruit and Veggie bars in five flavor combinations: **Apple and Greens**, **Blueberry Medley**, **Peach Mango Medley**, **Strawberry Rhubarb** and **Tangerine Carrot**. As part of its Spoon Vege line, Häagen-Dazs announced plans to debut **Tomato Cherry** and **Carrot Orange** flavored ice creams in Japan in May 2014. According to the company, **Tomato Cherry** combines the sweetness of tomato paste with the fruity flavor of cherry juice, while **Carrot Orange** mixes carrots juice with the taste of fresh citrus. Odd Fellows, the Williamsburg, Brooklyn artisan ice cream shop, offers a variety of unusual savory flavors such as **Beet Pistachio Honey Goat Cheese**,



Parmela Creamery's Creamy Tree Nut Cheeses are created with cashews and coconut oil in **Original**, **Kalamata Olive** and **Black Pepper** spreads.

Celery Sorbet and **Manchego Pineapple with Thyme**. Similarly, Philadelphia's Little Baby ice cream features savory flavors like **Carrots and Cake**, **Everything Bagel** and **Pizza**. Coolhaus, the Los Angeles mobile ice cream truck company, has received significant press for its signature **Fried Chicken and Waffle Ice Cream**, which features brown butter maple ice cream with maple candied chicken skins and caramelized waffles. On April 28, Sonic Drive Thru released a **Chocolate Jalapeno** milkshake. According to strategist and trend watcher Sourabh Sharma of 3FS's (Food, Fashion & Frameworks), "candied celery and cabbage with sorbet, kale ice pops and sweet onion with ice cream are just a few whimsical affairs that vegetables are starting to have with desserts."

I Can't Believe It's Not Dairy

It is estimated that 30 to 50 million Americans^j believe they are lactose intolerant and often avoid dairy such as milk, cheese and yogurt. In response, the National Dairy Council and Lactaid^k partnered to educate lactose-intolerant Americans about the essential nutrients that dairy provides and the real dairy, lactose-free options available. For example, GlenOaks Farms is making lactose-free Greek drinkable yogurts in **Strawberry**, **Peach** and **Raspberry** flavors. In addition to being lactose-sensitive or -intolerant, veganism, as lifestyle, is on the rise. According to TopRNtoBSN.com's "The Rise of Veganism" infographic, 1 million Americans are vegan, and veganism has grown to 2.5% of the U.S. population. These two factors have propelled nut milks to mainstream status and, according to Mintel's "Milk, Creamers and Non-Dairy Milk U.S.—April 2014" report, in the non-dairy milk segment, almost every almond and coconut

ⁱwww.nielsen.com

^jwww.marketwired.com/press-release/national-dairy-council-lactaid-brand-share-solutions-help-those-with-lactose-intolerance-1881088.htm

^kLactaid is a trademark of McNeil Nutritionals LLC.



Stonyfield Frozen Yogurt Pearls is the first consumer product to use WikiFoods' technology.

milk product saw double-digit growth in sales and market share in the 52 weeks between Dec. 30, 2012 and Dec. 29, 2013. Bianchi concurs, "Consumers are looking for alternative sources of protein, and milk alternatives other than soy, such as rice, almond and oat, are becoming stronger."

The use of nuts, oats and plant-based ingredients are emerging alternatives to traditional dairy. So Delicious recently introduced cashew milk in **Unsweetened** and **Unsweetened Vanilla** variants, while Treeline Cheese offers a line of two soft and two hard cashew nut cheeses. Parmela Creamery debuted Creamy Tree Nut Cheeses made with cashews and coconut oil in **Original**, **Kalamata Olive** and **Black Pepper** spreads.

"It took over 2,000 iterations to go from what started as a purely sour flavor to culture the cashews to taste like cheese is meant to," says Ryan Salomone, founder of Parmela Creamery.

Additionally, the company launched vegan Alfredo sauces in **Original** and **Artichoke** flavors. WayFare developed a line of vegan, dairy-free, and gluten-free ice creams, cheeses, sour cream and pudding, all based on a whole-grains formula, while Daiya Foods' cream cheese-style spreads and hard non-dairy cheeses are based on tapioca. Chia Pod launched in 2013 and features chia seeds mixed with coconut milk and cold-processed fruit. Available in eight flavors, the products are dairy-free and vegan and "provide 100% of your recommended daily intake of Omega 3, 25% of your fiber." The company recently added four Chia Pod Oats to its range that combines chia seeds, oats and coconut oil, which are packaged in a microwaveable container to "heat and eat." Nemi Chia Spoonable Chia is a vegan and gluten-free pudding-style product made with chia seeds soaked in a blend of almond and coconut milk in four varieties: **Blueberry**, **Original**, **Peach** and **Strawberry**. To that end, creating non-dairy products meant to mimic the flavor and often creamy and smooth texture of dairy products is challenging, and flavor suppliers are aware of this.

"Without the functional properties of dairy, some dairy-free products can lack a pleasing consistency," says Catherine Armstrong, vice president of corporate communications at Comax Flavors. "However, our dairy enhancer flavor helps manufacturers achieve the rounded mouthfeel and full taste that is associated with dairy, while still remaining non-dairy. It

is ideal for use in milk substitutes like soy milk, almond milk, non-dairy creamers and non-dairy cheeses, as well as alcoholic beverages, smoothies and sauces."

McBride notes, "Often, dairy alternatives require rebalancing to add creamy notes." Symrise's Synlife¹ taste modulation platform addresses these demands.

Hi-Tech Dairy

Technology is what moves all industries forward, whether it is new ingredients or raw materials, new delivery systems, new manufacturing processes, or new sensorial experiences. There are a number of companies, that are incorporating unique and exciting technology into their products.

WikiFoods Inc., a Cambridge, Massachusetts edible packaging startup, created WikiPearls, "which imitate natural packaging by enclosing food and liquid in an edible membrane." In 2013, the company opened the WikiBar in Paris, which serves WikiFoods such as ice creams, yogurts and cheeses that are all enveloped in edible "skins." Another Wikibar is set to open in Massachusetts in July 2014. Using this technology, Stonyfield Organic, recently launched Stonyfield Frozen Yogurt Pearls sold at select Massachusetts Whole Foods Markets. The first product to use this edible casing technology is formulated with scoops of Stonyfield organic yogurt and packaged in biodegradable cellulose bags.

"Looking for plants that can fulfill the culinary functions of eggs," Hampton Creek Foods says it engineered Beyond Eggs (for food manufacturers) and Just Mayo made from a mixture of 11 plants including peas, sorghum, sunflower lecithin and canola. The company says it "has built a unique technology platform to enable the production of healthier food at a lower cost" which aims to make it better for animals, the environment and local economies. Soon to be released, Hampton Creek created eggless cookie dough and scrambled egg substitutes.

Sub Zero Ice Cream & Yogurt in Utah, founded by Jerry and Naomi Hancock, is reportedly the leading retailer in the liquid nitrogen ice cream business. The quickly growing franchise was featured on ABC's entrepreneur reality TV series "Shark Tank" at the beginning of 2013. All orders are customized, and the brand claims it can create "a trillion combinations." Customers select one of six bases: premium custard, low fat, yogurt, soy or rice milk, followed by a wide selection of flavors and mix-ins that are then combined in a metal bowl and flash frozen with -321-degree (Fahrenheit) liquid nitrogen. The company says the 15- to 30-second process creates "the ultimate creamy and smooth customized ice cream" experience.

The founder of Lick Me I'm Delicious ice cream in the United Kingdom, Charlie Harry Francis, received a lot of attention last year for his glow-in-the-dark ice cream, formulated with synthesized luminescence protein from jellyfish. This year, Francis' newest invention is the "The Arousal" ice cream, which was custom-ordered for a celebrity. Each scoop of blue-colored ice cream contains 25 mg of Viagra and is champagne-flavored. Häagen-Dazs, in a move to address consumers' wait time for their ice cream to soften, cleverly designed the Concerto Timer app, which integrates detailed 3D Kinect technology and video data to give consumers an augmented reality experience. One can aim his or her cell phone camera at the lid of a pint of ice

¹Synlife is a trademark of Symrise.

cream and a hologram of a female violin player pops up from the top of it. Add another pint of ice cream, and a male cellist appears. Both play a two-minute concert of Bach's Invention No. 14, which is the amount of time Häagen-Dazs recommends to temper the ice cream, "in order to get the full, rich consistency and allow all the flavors to fully bloom."

As for dairy technology that is out of this world, Yakult Probiotic, a beverage company based in Tokyo, announced its six-year partnership with Japan Aerospace Exploration Agency (JAXA). Because the International Space Station (ISS) is gravity-free, Japanese astronauts will consume Yakult beverages for one-month periods and then have their systems analyzed. Hiroshi Ohshima, JAXA's manager of space biomedical research, stated, "Space is a model for accelerated ageing, so if we can find preventive measures in space, these could be applied on the ground, too."

Dairy on the Horizon

From beverages to yogurt to ice cream, milk is a staple ingredient in dairy products with an array of flavor options. As consumers continue to look for healthier choices, manufacturers will focus on the benefits of protein found in milk, as well as the reduction of fat and sugar, while flavor suppliers will be challenged to create flavor profiles that address these needs and meet the consumers' expectations for uncompromised taste and mouthfeel. For example, Barry Callebaut, the chocolate and cocoa firm, owns a cocoa flavanol E.U. health claim and has identified the flavored milk market as one of the best opportunities for its use. Additionally, "dairy will continue to be dynamic and even new offerings will launch as a result of cost reduction formulations that help food and beverage companies address the high costs of dairy ingredients," says McBride.

As with other markets, dairy categories are overlapping, creating new opportunities and challenges. According to Bianchi, "we will continue to see this blurring of categories with new 'hybrid' product introductions. Dairy drinks might be a good driver of many trends, since they are a vehicle for creating new ways and moments of consumption." In addition, Jones-Dille says new "ways to consume dairy products will emerge and new flavors will be developed." Shelf-stable dairy and non-dairy products are other areas of interest in developed and emerging markets, and Bianchi believes these are areas to watch.

Additionally, non-dairy and vegan alternatives are growing and industry should expect to see the use of technology to create more plant-based and sustainable products. Jones-Dille suggests milk and milk alternatives will continue to rise, and "both will



Blue Hill savory yogurts are made with milk from 100% grass-fed cows.

benefit from expanded flavor offerings that focus on less sweet profiles." In conclusion, regardless of the category, "flavor continues to be an exciting area," McBride says, "and imagination and creativity reign."

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