



## Clean, Green, and Lean: IFT18 Ingredient Trends

Food expo exhibitors showcased ingredients created to help food and beverage formulators deliver on consumers' expectations for taste, texture, and nutrition with products that are clean label, plant-based, and lower in sugar.

One of the more interesting booth concepts presented by an ingredients manufacturer at the IFT18 food expo was courtesy of **Synergy Flavors**. The company took inspiration from the natural beauty of some of the notable gardens in Chicago and its suburbs: The Morton Arboretum, the Monarch Community Garden, and the Chicago Botanic Garden. The company developed product concepts that focused on its lines of naturally derived flavors, plant-based ingredients, and flavors that enhance taste sensations in foods and beverages. These included various fruit and vegetable flavors, floral flavors, herb flavors, and even a *Natural Maple Oak Flavor WONF* and *Synergy Pure American Oak Essence*. Touring the various sections of Synergy Flavors' booth and visiting many of the other ingredient manufacturers, it became clear that there was an overall focus on creating ingredients that are promoted as naturally derived. Out of this come trends that address flavor, plant-based eating, and sugar reduction. Here's a take on these trends, which we are calling "Clean, Green, and Lean."

### 1 Clean

When it comes to flavors that consumers crave, clean and natural continue to be top of mind. Whether savory or sweet, globally inspired or traditionally American, a winning flavor profile must have sensory appeal and be free of artificial taste. At IFT18, ingredient manufacturers

demonstrated their commitment to creating delicious flavors through creative concept foods that deliver tang, zest, and zing.

Among the concepts that have gained traction this year are umami, the savory "fifth" taste often present in broths, stews, and meats; and kokumi, which embodies the sensation of heartiness or "mouthfulness" that occurs when complementary flavors of food are combined. At the **Ajinomoto** booth, chef Chris Koetke demonstrated the concepts with two unique tastings: *Vegetarian Ramen* and *Lentil Beef Stew*, both of which featured the company's *Savorboost K* and *Savorboost UM*. The ingredients maximized flavor while challenging visitors' understanding of umami and bridging their experience through food.

Likewise, **Lycored's** tomato-based flavor enhancer, *SANTE*, along with its *CTC (Clear Tomato Concentrate)*, were used to preserve the sweetness, acidity, and intensity of natural tomato flavor while reducing sodium and sugar. Chef Charlie Baggs showcased the ingredients in a variety of concept foods, including a spicy *Tom Yam Shrimp Soup*. "I've long been interested in the idea of using natural sources of umami to create craveability," said Baggs. "These recipes show how effectively you can do that with ingredients from the humble tomato."

**Salt of the Earth** had a different take on umami with its proprietary mix of sea salt and vegetable extracts comprising *Mediterranean Umami*. The

innovative ingredient features a unique blend of naturally occurring monosaccharides to help food manufacturers reduce salt and sugar while maintaining the savory and sweet flavors in dressings, ketchup, meat products, and vegan alternatives. **Kikkoman Sales USA** showed how its sauces and sauce-based ingredients boost umami and also enhance the overall flavor of products. *Granulated GF Tamari Soy Sauce-NGP* is ideal for topical snack food seasonings like the one developed for *Thai Coconut Curry Potato Chips*. That ingredient and *Gluten-Free Less Sodium Teriyaki Sauce* gave *Tofu Jerky* a rich meaty flavor. A combination of *Granulated GF Tamari Soy Sauce-NGP* and *Sesame Oil* helped to formulate a *Peanut-Free Peanutty Cookie*.

When it comes to trending flavor, **Asenzya** can address a wide variety of global influences using unique seasoning blends from custom-ground spices, seeds, herbs, and dry-blend ingredients. Among the popular flavors identified by corporate executive chef Dax Schaefer are authentic Mexican profiles featuring traditional ingredients such as maize, chocolate, chili peppers, the jitomate fruit, frijoles, cilantro, comino, and oregano. The profiles range from lightly sweet to spicy floral to pungent grassy.

The demand for clean, natural flavors is also evident in dairy-free innovations. **Eldlong's** Beth Warren, chief commercial officer, spoke about how the company is reinventing the taste of dairy by "adding authentic, often unique taste profiles to plant-based formulations,"



Photo courtesy of Edlong

giving customers the ability to create healthier products without sacrificing indulgent taste. Among the concepts featured was *A Lemon Slice of Heaven*, a trend-setting cocktail in which authentic dairy flavor from Edlong's *Sweet Cream-Type Flavor #1412560* was used to recreate the taste of lemon meringue pie, and a flight of three creamy dips made with a lower-fat base of cottage cheese and a boost of dairy flavor thanks to various natural cheese flavors.

Among the winning flavors in confectionery and bakery applications, chocolate and vanilla often take center stage. At **Solvay's** booth, visitors were treated to homestyle waffles with added chocolate sauce and vanilla sugar, featuring ingredients from the company's extensive portfolio of natural and functional vanillin-based solutions. The rich chocolate sauce contained *Vanifolia 52*, a new variant and free-flowing powder with an intense vanillin taste that enhances the flavor of chocolate through a range of creamy, milky notes. Edouard Janssen, senior vice president and general manager, Solvay Aroma Performance, Americas, explained, "The trends for 'natural' and 'clean label' are not showing any signs of slowing down, and an increasing number of producers are looking for solutions that retain the taste and texture that consumers have grown to love."

Beverage is another area where flavor management research is exploring how best to preserve quality while delivering palate appeal, and **Amelia Bay** has been a leader in the development and processing of natural tea, coffee, and botanical extracts, essences, and aromas. Among

the samples of on-trend tea and coffee formulations the company highlighted at IFT18 were organic green tea with lemongrass and mint; premium brewed organic lightly sweetened black tea; and organic lightly sweetened cold brew coffee. Amelia Bay foresees a bright future for ready-to-drink tea that delivers health benefits along with delicious flavor, calling it "Mother Nature's original functional drink."

## 2 Green

It's no secret that plant-based innovations are growing exponentially. Preferred by younger consumers, who increasingly identify themselves as vegetarians, green eating has moved from fad status to having a solid foothold in the future of food. According to Innova Market Insights, plant-based product claims increased globally by a CAGR of 62% between 2013 and 2017, with claims appearing on everything from plant proteins and sweeteners to herbs, seasonings, and even food coloring.

One area in which components of plants play an important role is food quality and safety. The ingredients derived from plants contribute many functions to foods and beverages and also appeal to consumers interested in green eating and who want more clean label products. Antioxidants and other compounds from plants can successfully protect foods against the growth of food-borne pathogens and improve the overall taste, color, and aroma of foods in ways comparable to synthetic preservatives. Green tea and herbs are often used, as

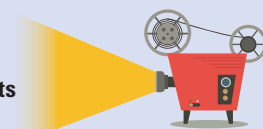
well as fruits and vegetables. Offering a natural alternative to traditional shelf-life extension is **Camlin Fine Sciences'** *NaSure* line of plant-based antioxidants. Available in both liquid and dry solutions, *NaSure* is designed to protect against oxidation while meeting the growing consumer demand for a cleaner label. Another plant-based shelf-life extension ingredient is *Fortium RVC* from **Kemin**. This rosemary and ascorbic acid blend helps delay the onset of lipid oxidation. It's added to vegetable oils where it lengthens the shelf life of bulk oils and of products in which the oils are used such as bakery and snacks. **Naturex** introduced *XtraBlend RN*, a blend of extracts of rosemary and spinach that combats lipid oxidation in mayonnaise and dressings. In addition to rosemary and spinach, the company also offers food preservation ingredients derived from acerola cherry, green tea, and pomegranate.

Another way plants are being used as ingredients is in powder form. **POWDERPURE**, which is part of **IFF**, uses a patented infrared drying technology to produce fruits and vegetable powders, jalapeno powder, coconut water powder, and ginger powder, all of which are easily dispersible and are said to have retention of key nutrients present in the original food. The company showed that these

## Video Viewing Guide

The following videos on trending topics in the food and beverage ingredient industry are available at [iftevent.org/news/news](http://iftevent.org/news/news).

- Sugar Reduction
- Botanicals, Beer, and Spirits
- Cognitive Health



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## Clean, Green, and Lean continued...



Photo courtesy of Blue Diamond Almonds Ingredients Division

powders can be used in different types of applications by developing product concepts such as *Raspberry Lemon Kombucha* (POWDERPURE Raspberry and POWDERPURE Lemon), *Whole Grain Baked Pancake* (POWDERPURE Jalapeno), *Tart Cherry Bourbon Syrup* (POWDERPURE Tart Cherry), *Carrot Cake Yogurt* (POWDERPURE Sweet Potato, POWDERPURE Carrot, and POWDERPURE Ginger), and *Coconut Pistachio Granola with Cinnamon, Flaxseed & Oats* (POWDERPURE Coconut).

Nuts and nut ingredients offer formulation possibilities for manufacturers looking to appeal to consumers who want more plant-based options. **Blue Diamond Almonds Global Ingredients Division** introduced *Almond Protein Powder*, an excellent source of fiber, magnesium, phosphorous, manganese, and copper, and a good source of potassium and calcium that blends easily into products such as smoothies, shakes, and bars due to its fine texture. The **Almond Board of California** developed product concepts like *Lavender Rose Almond Crispers*, *Everything Almond Butter Spread*, and *Moringa Almond Refresher Beverage* that showcased the taste and textural attributes of almond ingredients like chopped almonds, almond butter, and almond milk. **Golden Peanut and Tree Nuts** wants manufacturers to know that peanuts are for more than just making a creamy peanut butter. Peanut flour is a plant-based protein source that adds texture, creates mouthfeel, and binds fat, while peanut oil is *trans* fat free, is a source of vitamin E, and is high in mono-unsaturated fat.

Plant-based protein ingredients are having their moment in product development. In particular, plant-based protein ingredients have really taken off as evidenced by the number of ingredient manufacturers promoting their versions. For example, **ADM** developed a *VeggieQ Slider* product concept with 10 g of plant-based protein per serving thanks to its *PrimeProTex Soy Shred*, and *Chicharron Type Plant Rinds* and *Ancho Chili Queso Flavored Rinds* with at least 5 g of plant-based protein per serving from *Textura*, the company's customizable inclusion solutions that allow manufacturers to add protein and other nutrients to products. **Cosucra** focused on the functional and nutritional benefits of its *Pisane* pea protein isolate, showcasing it in a nutrition beverage concept. The ingredient boosted the protein content of the beverage while giving it a smooth texture. Another pea protein isolate, this one from **Ingredion**, enhanced the protein content of poppyseed buns. *VITESSENCE Pulse 1803* pea protein isolate contains at least 80% protein and can help make it easier to reach the 10 g per serving needed to make an "excellent source of protein" claim, according to the company. In addition to soy and pea, pulses are a source of plant-based protein. **Ingredion** developed a *Toasted Rye Ramen Noodles* product concept with its *VITESSENCE Pulse CT 3602* faba bean protein while **Nutriati** and **PLT Health Solutions** served chai lattes and chocolate chip cookies made with *Artesa* chickpea protein concentrate.

### 3

## Lean

The demand for sweetener alternatives continues to rise, along with a growing awareness of the health benefits of reducing sugar intake. New formulations and blends that reduce bitterness and aftertaste were a focus at IFT18, as exhibitors showcased innovations that satisfy a sweet tooth while slashing calories and retaining a natural sweet flavor.

**Matsutani Chemical Industry's** *Astraea* brand is a rare sugar monosaccharide—the simplest form of sugar and one of approximately 50 that exist in nature. *Astraea* allulose carries just 0.2 calories

per gram and gives true sugar flavor with no aftertaste, allowing manufacturers to formulate reduced-calorie or low-calorie food and beverage products with the same sucrose-like sweetness of full-sugar variants. **Icon Foods** has a sweetener system called *KetoseSweet+*. It is made up of a blend of low-calorie sweeteners such as allulose, stevia, and monk fruit.

Based on what many of the ingredient manufacturers showcased at IFT18, stevia is the sweetener of the moment. Stevia from the glycoside *Reb A* was the first to be introduced, but it has off-tastes that were not appealing to consumers. Now, sweetener manufacturers are exploring other glycosides found in the stevia leaf. In addition to the glycoside *Reb A*, there are others that have sweetening potential. **DSM** introduced *AVANSYA Reb M*. The glycoside *Reb M* has a sugar-like sweetness with a clean taste. The company used *AVANSYA Reb M* in a yogurt product concept that had a 100% reduction in added sugar. Meanwhile, **SweeGen** promoted its *BESTEVIA Reb M* and *Reb D* stevia sweeteners. Produced through non-GM technology, *BESTEVIA Reb M* has a sweetness factor that is 250 times sweeter than sugar and can be used to formulate beverages with 70% sugar reduction without compromising taste, according to the company. Earlier this year, SweeGen announced that its *BESTEVIA Reb D* received Non-GMO Project Verified status. (Its *BESTEVIA Reb M* received the status in 2017.)

Other ingredient manufacturers highlighted stevia ingredients. Among **Tate & Lyle's** newest offerings is *TASTEVA M*, a *Reb M* stevia sweetener showcased in *Mango Coconut Refresher*, one of the product concepts highlighted at the booth. *TASTEVA M* enables manufacturers to create food and beverages made with less sugar and fewer calories to assist consumers in reaching their health and wellness goals. The ingredient achieves an unsurpassed sweetness profile comparable to sugar at high sugar replacement. Another stevia sweetener based on *Reb M* is *Starleaf* from **PureCircle**. The company is working on techniques to bring more *Reb M* and other glycosides to market in order to

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give food manufacturers more sweeter solutions. “It’s becoming more complex but also more sophisticated,” said Sidd Purkayastha, PureCircle vice president, business development and regulatory affairs. Combining different stevia glycosides in a formulation allows product developers to effectively capitalize on each one’s distinctive flavor profile, he added. Working with a combination of glycosides also allows for deeper sweetener reductions.

Read on for more about ingredients that address these trends as well as other areas of importance to food and beverage product development, such as improving food safety, enhancing texture, and reducing sodium.

### Multifunctional Fats

AAK showcased several of its multifunctional fats that help manufacturers develop products that can fit into better-for-you positioning. Two product concepts formulated with some of these fat ingredients are worth a closer look.

A fig and sweet potato scone with maple icing had a slightly softer and lighter crumb structure than a typical scone. This comes from *ESSENCE 86-33*, a blend of palm kernel oil and canola oil, which provides tenderness and helps to prevent dryness on the edges, and *CISAO 82-53*, a flaked shortening made with palm oil, which makes the scone pliable and less prone to having a crumbly texture. *CISAO 82-53* was also used in the maple icing, where it helped prevent cracking and allowed the icing to set quickly. The flaked shortening can be flavored, and in this case, maple syrup and vanilla extract provided the maple flavor.

A rich and slightly chewy chocolatey fudge brownie had several components, each with at least one AAK functional fat that allowed for a product that has no *trans* fat. The cake part of the brownie was made with *CISAO 82-95 NCF*, an all-purpose margarine made with palm oil. This ingredient does not have flavor or color, is a non-partially hydrogenated oil, and does not require refrigeration. It helped produce a product with a dense and moist texture. Chocolatey chunks featured *CEBES 21-20*, a cocoa butter

substitute made with palm kernel oil, and *CEBES 29-07*, a cocoa butter substitute. The ingredients gave the chunks a fast melting quality while the brownie is eaten. The icing was made with *CISAO 81-16*, an emulsified icing shortening made with palm (mass balance) and soybean oil. It helped prevent moisture loss and helped the icing keep its shape.

### Insights Into the Global Dairy Market

Consumers are driving change in food and beverage product development across categories, and the dairy market is not immune. Consumers are concerned about hormones used by the dairy industry, dairy allergens, and the perceived unhealthfulness of dairy, but at the same time label friendly and nutritional value are topics driving the consumption of dairy, according to **Cargill**.

The company conducted research on the shifting global dairy market, including consumer usage of dairy products and consumer insights about the category. The study looked at the dairy product purchase and consumption habits of 5,200 grocery shoppers in 13 countries. In general, there has been a decline in dairy usage in many of the markets. The research found that there was a 22% decline in fluid milk consumption in the United States (2000–2016) and a \$3.6 billion decrease in dairy sales in the United Kingdom, France, Germany, Denmark, Spain, and Russia (2012–2017). While there was a decline in these markets, dairy sales were increasing in Latin America (Cargill’s research looked at Mexico, Argentina, and Brazil), with sales of \$430 billion in 2017. In fact, Latin America is one of the fastest-growing regions for dairy, and consumers there report that they choose dairy for bone health benefits and that they prefer the taste of real dairy, according to Cargill’s research. The findings point out that Asia-Pacific is the world’s largest dairy market, and that clean label dairy products are popular among consumers in Indonesia and China. In the United States, taste is the most important factor in dairy product purchases. Dairy is still popular in Europe, but the use of dairy alternatives is increasing, with some consumers



Photo courtesy of AAK

making a full switch to nondairy products and others consuming them in addition to dairy foods and beverages.

Whether it’s taste, texture, reduced sugar, or clean label, Cargill offers ingredients that deliver these benefits. Of the several product concepts developed for IFT18, one was dairy-based. The *Strawberry Drinkable Yogurt* featured ingredients such as *EverSweet Steviol Glycosides*, which reduced the amount of added sugar in the formulation. The drinkable yogurt also contained *Oliggo-Fiber Chicory Root Fiber*. This ingredient helped to boost the dietary fiber content of the product concept to 6 g per serving. The addition of *Vitex Texturizer* gave the drinkable yogurt mouthfeel and a smooth flow that made it easy to drink on the go.

### Blend Ingredient Types for On-Trend Products

**Archer Daniels Midland** showed how it takes a holistic development approach when assisting its customers by combining in-depth knowledge of product and consumer trends with expertise in ingredient sourcing and manufacturing. ADM’s vast array of ingredients includes sweeteners, plant-based proteins, colors, grains, and taste and nutrition solutions. All the product concepts formulated for the IFT18 food expo showed how food formulators could combine ingredients from the various categories to create food and beverage products that meet the demands of consumers, be they clean label, more protein, reduced sugar, or better taste.

“*Say Cheese*” Tea was one of the more unusual offerings on the sampling menu at the ADM booth. Cheese tea, which is



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iced tea topped with fluffy whipped cream cheese, is said to have originated in Taiwan. The concoction is both a bit sweet and savory, and it has recently come to the attention of food writers and market research analysts. ADM formulated a dairy-free version with its vegan dairy flavors, which gave the “cheese” topping rich flavors without the dairy. *Blueberry Coconut Bites* and *Cranberry Citrus Bites* showcased some ADM ingredients that helped to keep the total sugars per serving at less than 8 g and added plant-based protein and prebiotic dietary fiber. Natural flavor solutions helped to enhance the overall flavor of the bite-sized bars. The *Savory Souper Shot* was formulated around

a base of *Chicken StockPlus*. With the help of *Natural Source Vitamin E* and *Antioxidant Blend*, one serving of the soup shot had 58 mg of antioxidants. Finally, there was *Purple Power Up*, a beverage that contained ADM’s vitamin B blend and chia seeds as well as *Fruit Up for Sweetness from Fruit*, *SweetRight Stevia*, and *Sweet Potato Juice Concentrate*. The intense purple color came from *Sleepy Iris Color*.

The purple color turned up in more than just the product concept. ADM redesigned its booth space into a more streamlined area that featured softer lighting, unobstructed views from one product concept stand to the next, and purple color accents. The color, which

was added here and there throughout the booth, was based on research from the color institute Pantone, which named Ultra Violet as the color of the year for 2018, said Stephanie Edgecombe, global brand manager of food marketing for ADM.

### Improving Quality with Botanicals

EDTA is a synthetic ingredient used to prevent the development of off-tastes and color degradation in mayonnaise and other lipid emulsions. While EDTA is effective at managing oxidation in these products, it does not equate well with the rise of clean label concerns. To address this, **Naturex** introduced *XtraBlend RN*, a botanical ingredient alternative to EDTA that combats lipid oxidation in mayonnaise and dressings.

Researchers at the company studied more than 400 botanical extracts from edible plants, examining their chelating and antioxidant properties, and then determined the blends of ones that offered a synergistic effect and delivered the same functionalities as EDTA. They determined that a specific blend of rosemary and spinach extracts proved to be the most effective. The proprietary blend that makes up *XtraBlend RN* is said to act as both a chelating agent and a free radical scavenger that does not affect the taste of the finished product. Standardization of active compounds leads to consistent performance of the ingredient in the manufacturing of products from batch to batch.

### Ingredient Companies Connect to Create

**Kerr Concentrates** and **TIC Gums**, both part of the **Ingredion** group of companies, came together for the first time with Ingredion at the IFT food expo to showcase the ingredient and product development capabilities and synergies that the three companies offer to manufacturers.

The booth theme was “Converge. Connect. Create.” The theme relates to the company’s “ingredient solutions that connect to converging trends” and the shared expertise of Ingredion, TIC Gums, and Kerr Concentrates used to “help manufacturers solve challenges and create on-trend, appealing products.” »»

## Sampling the Expo

- Summertime outdoor socials are great occasions to gather with others and eat delicious food. **Bell Flavors & Fragrances** held its own version of an outdoor social. Even though it was held inside, under the fluorescent lights of McCormick Place, Bell’s outdoor social featured some deliciously flavored party food. A *Hunan Nacho Dog* was composed of fried waffles, a mini hot dog, Hunan chili oil, nacho cheese sauce, and green onion. Several flavors were used, such as fried type flavor, chili crisp type flavor, and an umami enhancer. Another flavored product concept was called *Waffling Between Sweet & Savory*, which was a sweet corn waffle topped with browned butter blackberry swirl ice cream topped with Calabrian chili jam and smoky bacon. Another waffle-based concept—*Honey Butter Cornbread Sundae*—was clearly sweet. The sweet corn waffle, flavored with a boiled corn type flavor, was topped with browned butter blackberry swirl ice cream, drizzled with honey butter sauce, and finished with crunchy sweet corn kernels. The *Party Thyme Peach Lemonade Slush* was flavored with lemon, peach, and thyme flavors.

- While it did not serve up samples, **Golden Peanut and Tree Nuts** did display an imperial porter from Double Barrel Brewing made with 12% peanut flour. Peanut and tree nut flours, oils, and extracts provide a range of functional benefits to foods and beverages.

- So-called “designer grapes” from **Milne MicroDried** are colorful and come in unique shapes and textures. The grapes are grown in the United States and are perfect for use in trail and nut mixes. Representatives from the company were available to explain more about these ingredients as well as the dozens of other fruit and vegetable ingredients that the company produces. The company emphasized the fact that its ingredients are 100% fruit or vegetable with no added sugar, color, or preservatives.

- **Riviana Foods’** rice offerings include regular white milled rice, parboiled rice, pre-cooked rice, Calrose rice, rice mixes, ready-to-serve rice, jasmine rice, basmati rice, arborio rice, organic rice, wild rice, and brown rice. With more than 20 brands and 500 products, Riviana’s wholesome offerings are widely distributed in countries around the world.

- The alpha-dextrin *CAVAMAX W6* from **Wacker Chemie** provides emulsifying and stabilizing properties to reduced-egg and egg-free bakery products and baking mixes. The water-soluble powder is easy to handle and process and can help manufacturers achieve a cost reduction of up to 40% compared to egg-containing products, according to the company. At IFT18, experts from the company promoted these advantages of the ingredient as well as its use as an alternative to eggs in vegan bakery products.

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Some of the ingredients that Ingredient highlighted were *NOVATION PRIMA 309* and *609* organic functional native starches, *HEMECRAFT Create 365* multifunctional tapioca flour, and *VITESSENCE 1803* pea protein isolate and clean taste pulse proteins. There was also a focus on sweeteners such as *BESTEVIA Reb M* stevia leaf sweeteners, *ENLITEN Fusion* stevia sweeteners, and *VERSASWEET* low-sugar glucose syrup. TIC Gums focused on its *SIMPLISTICA* ingredient systems while Kerr Concentrates developed custom formulations from some of its fruit and vegetable ingredients, including pumpkin and jicama juice concentrates. Throughout the three-day food expo, attendees sampled product concepts that featured these ingredients. On the menu were *Black Sesame Chewy Candy Bites*, *High Protein Toasted Rye Ramen Noodles* and *Vegan Shitake Ramen Broth*, and *Pumpkin Jicama Curry Ice Cream*, to name just a few. *Organic Sweet Corn Eloté Soup*, *Protein Enhanced Poppy Seed Buns*, and *Vanilla Coconut Custard* were also served.

One section of the booth was dedicated to Ingredient's Inside Idea Labs. This virtual lab features expert technical advice, formulations, consumer insights, and more. This interactive platform will continue to evolve as new information pertaining to product categories is added. Attendees had a chance to demo the Inside Idea Labs on a giant flat-screen set up in the booth.

### Go With the Grain

Grains are packed with flavor and nutrition and serve as key ingredients across a wide range of food and beverage product categories. Creamy plant-based beverages are a great application in which to include certain grains for nutrition and texture. Cereals and bakery products, too, feature various grains. Quinoa and other ancient grains turn up in recipes for veggie burgers. Chip and dip applications, some presented by **Ardent Mills**, are also popular foods featuring a variety of hearty grains. The experts at Ardent Mills continue to expand the company's portfolio of grain ingredients that include barley, quinoa, ancient and

heirloom grains, and whole wheat, to name a few. There's even a newly released line called *Pulseful* that features pulses in whole and flour versions.

Flours, flakes, and crisps are some of the formats available to manufacturers. Taking grains to the next level is another innovative format from Ardent Mills. Individually quick frozen (IQF) grains provide the flavor, texture, and nutrition of fully cooked grains in a convenient, ready-to-eat, pourable frozen form. The lineup consists of eight identity-preserved ancient and heirloom grains: *Sustagrain Barley*, *Ardent Mills Great Plains Quinoa*, *White Sonora Wheat*, *Red Quinoa*, *Farro (Spelt)*, *True Blue Barley*, *Pure Purple Barley*, and *Blackjack Barley*. Because the grains are fully cooked, they offer manufacturers and foodservice professionals convenience by helping to save time and labor that would be spent cooking the grains.

Some of the IQF grains were



Photo courtesy of Ingredient

featured in several on-trend product concepts like *Build Your Own Bowl*. In the morning, attendees were invited to top a bowl full of IQF grains with a variety of breakfast food toppings while in the afternoon, they could choose toppings like fajita chicken, Korean barbecue, and curries. Another product concept, *Quinoa Falafel*, featured *IQF Great Plains Quinoa* and *IQF Red Quinoa* and was

## Sampling the Expo

- Tacos and aqua frescas colored with *Exberry* ingredients gave the tasty product concepts attractive eye appeal. *Exberry* is **GNT's** line of coloring foods made from fruits, vegetables, and edible plants. The *Cauliflower Duo* and *White Bean Purée Taco* was made from pickled cauliflower, fresh cauliflower, white bean purée, pickled red onion, and corn tortilla and featured *Exberry Shade Spicy Yellow*. The *Chile Braised Pork with Smoked Berry Mole Taco* had braised pork mole topped with pickled red onion and queso fresco in a corn tortilla. *Exberry Shade Purple Mist* added color. The company served three brightly colored aqua frescas that were also colored with *Exberry* coloring foods. *Red Fruit Sangria* featured *Exberry Shade Purple Mist*, *Guava Passion Fruit* was colored with *Exberry Shade Royal Pink*, and *Citrus Hibiscus* featured *Exberry Shade Spicy Yellow*.

- **ICL Food Specialties** wanted to show attendees how its ingredients, including ones from its *BEKAPLUS*, *ROVITARIS*, and *BEKABAKE* lines, help improve the texture and quality of different types of food and beverage products. Some of the product concepts for sampling that were formulated

with these and other functional ingredients were vegetarian chicken nuggets, vegan fish sticks, vegan beer cheese soup with vegan croutons, reduced-sodium ham, and a protein-fortified macchiato beverage.

- **Tekirdag Flour Mills** supplies functional flours and extruded cereal ingredients to food manufacturers around the world. Some of the ingredients include heat-treated wheat flour, pregelatinized wheat flour, and pregelatinized corn flour. Its pregelatinized flour is a cold-water swelling flour with excellent water binding properties. It increases water absorption and dough hydration, improves the shelf life of baked goods, and stabilizes batters, dough, and emulsions, according to the company. Heat-treated flour is produced through a dehydration process. It is used in instant soups, bread premixes and cake mixes (as an enzyme carrier), powder flavor and savory mixes, and more, according to the company. Other ingredients that the company produces are all purpose baking flour, cake flour, noodle flour, dehydrated flour, and pre-gelatinized wheat/corn flour. Some flour ingredients are also available in organic versions.



## Clean, Green, and Lean continued...

served with tzatziki. Chilaquiles was made with a couple of IQF grains as well as with *White Sonora Flour*.

### Non-GMO Project Verified Gums

**Colony Gums** proudly introduced *TrueGum*, its newest line of non-GM gums, at IFT18. For more than 78 years and three generations, Colony Gums has been developing, matching, and assisting customers in their pursuit of cost-effective stabilizer systems for specific application needs.

The company's ongoing pursuit of technical innovation, utilizing the highest quality gums and stabilizers, enables

Colony Gums to provide the expertise, experience, and quality needed in an ever-changing marketplace. An innovative and knowledgeable team of food science experts guides customers in the step-by-step creation of a specific stabilizer system or assists in imparting basic functionalities, such as texture and stability, to products using a standard hydrocolloid.

By using the finest quality gums and stabilizers, Colony Gums can provide a critical component in the manufacture of sauces and condiments, in food and beverage production, and in confectionary and baking uses. Gums can be employed

as thickeners, to create emulsions, suspend particles, enable freeze and thaw stability, improve mouthfeel, and to create gels and unique textures.

With an in-house lab and state-of-the-art manufacturing facility, Colony Gums offers creative solutions across a broad cross section of uses in the food and beverage industry.

### Umami and Kokumi

"As a chef, I know the power of umami as a key component to building enticing and balanced flavor profiles," says Chris Koetke, world-renowned umami chef, who delighted visitors to **Ajinomoto's** booth with a variety of concept foods based on umami and kokumi. Umami refers to a savory quality present in meaty dishes, while kokumi refers to food compounds that enhance flavors by triggering calcium receptors in the tongue.

Visitors were able to sample a *Zesty Garlic Hummus Chip* that improves herb and savory notes; a *Nacho Cheese Tortilla Chip* showing the impact of kokumi through yeast extracts; *Cold Brew Coffee* in flavors of hazelnut, ginger cardamom, and honey cinnamon that demonstrate sweetener solutions with zero added sugar; and a *Meatless Burger* that improves the flavor and texture of plant-based proteins.

Ajinomoto is a global leader in the research, development, manufacturing, and sale of amino acid-based products and food solutions. As experts in harvesting the power of umami since its discovery in 1908, Ajinomoto focuses its efforts on building the bridge between science and taste.

### Plant-Based Shelf-Life Solutions

Experts from **Kemin** were on hand to discuss the company's shelf-life extension solutions, including some of its newest ingredients. One is *Fortium RVC*, a rosemary and ascorbic acid blend that offers manufacturers a consumer-friendly ingredient alternative to traditional tocopherols. The antioxidant is said to significantly delay lipid oxidation in bakery and snack applications. It is produced through a proprietary grinding technology that helps to ensure the suspension has small and uniform particles to improve the physical stability of fats and

## Sampling the Expo

• **Briess Malt & Ingredients** offered samples of a creamy, rich, and malty *Ultimate Malted Milk Shake* made with its *Briess Malted Milk Powder*. As a vertically integrated grain processing and malting company, Briess controls all aspects of its malted milk powder production from grower to customer and produces its malted milk powder in North America. The company also demonstrated the functional capabilities of *BriesSpecialty Malt Flours* (for natural color and flavor), *InnoSweet Sprouted Whole Wheat Powder* (for sweetness and whole grain), and *Insta Grains* pregelatinized, reduced cook time ingredients (for added texture, flavor, color, and multigrains) in *Mini Marble Brownies* and *Shortbread Tarts*.

• **Gold Coast Ingredients** developed creatively flavored ice cream and iced coffee product concepts sure to inspire product development efforts. The last sip of the sweet milk at the bottom of the cereal bowl was transformed into four ice cream samples. There was *Chocolate Puff Cereal Milk Flavored Ice Cream (Cocoa Cereal Type, Natural)*, *Cinnamon Crunch Cereal Milk Flavored Ice Cream (French Toast Crunch Type, Natural)*, *Sugar Flakes Cereal Milk Flavored Ice Cream (Frosted Cereal Type, Natural)*, and *Captain Berry Cereal Milk Flavored Ice Cream (Berry Crunch Cereal Type, Natural)*. Attendees could try one or all of them. Iced coffee is a popular beverage, and the food technologists at Gold Coast developed some intriguing flavor

varieties. *Hickory Smoked Caramel Flavored Iced Coffee* featured the company's *Smoke Hickory Type, Natural*; *Caramel Type, Natural*; and *Coffee Extract, Natural* flavors. *Brown Butter Flavored Iced Coffee* was formulated with *Butter Type, Natural*; *Brown Sugar W/NF, Natural*; and *Coffee Extract, Natural* flavors. A *Chocolate Affogato Flavored Iced Coffee* was flavored with *Coffee Dessert Type, Natural*; and *Coffee Extract, Natural*.

• **Gluten-free brownie balls** were among the bakery and confectionery highlights featured at the **Jungbunzlauer** booth at IFT18. As one of the world's leading producers of biodegradable ingredients of natural origin, Jungbunzlauer offers a broad spectrum of solutions to a diverse range of industries. Among the ingredients Jungbunzlauer specializes in are citric acid, xanthan gum, gluconates, lactics, specialties, and special salts and sweeteners for foods and beverages.

• **SaltWorks** distributed fold-out brochures with sample-sized packets of some of its gourmet salts attached. Information included in the brochures detailed the stories of the various salts, providing such information as origins, available variations, and application suggestions. The six samples were *Real Wood Smoked Sea Salt Yakima*, *Fusion Naturally Flavored Sea Salt Black Truffle*, *Mediterra with Carnauba Wax*, *Pure Ocean Premium Sea Salt*, *Ancient Ocean Himalayan Pink Salt*, and *Pacific Blue Flake Sea Salt*.

## Clean, Green, and Lean continued...



Photo courtesy of Kemin

oils in products, according to the company.

Other new additions to Kemin's ingredient portfolio are *BactoCEASE NV* and *NaturFORT RSGT*. The first is a vinegar-based ingredient that extends the shelf life of ready-to-eat meats, fresh meat and poultry, and fish products. The other is a blend of rosemary, spearmint, and green tea plant extracts that functions as a replacement for EDTA in salad dressings and sauces.

### Layer Flavors With Coffee, Tea Extracts

In years past, **S&D Coffee & Tea** would develop product concepts like bakery items and chocolate confections formulated with its coffee and tea extracts. But for this year's IFT18 food expo, it was all about quenching thirst. That's because the popularity of coffee and tea beverages continues to grow and branch out into new and innovative directions, said Helen Griffith, the company's vice president of corporate marketing.

The company specializes in coffee and tea extracts such as cold brew coffee extracts, hot brew coffee extracts, cold brew tea and herbal extracts, and hot brew tea and herbal extracts. IFT18 attendees were able to sample some of the extracts in familiar formats like black tea and cold brew coffee. Of course, the experts at S&D Coffee & Tea did not stop with these basic coffee and

tea beverages. Other beverage concepts featured creative flavor combinations like a *Blueberry Pancake Cold Brew Latte*, *Peppermint Patty Coffee Frappe*, and *Caramel Coconut Banana Cold Brew*. Herbal extracts enhanced trendy herbal tea beverages like *Rooibos with Lavender, Licorice, and Valerian*; *Hibiscus Lemonade with Rosehip and Lemongrass*; and *Cascara*.

Okay, so the company did feature one nonbeverage product concept, *Matcha Green Tea Ice Cream*. Griffith said that matcha can be a polarizing flavor—people either love it or hate it—but S&D developed an extract that has just the right intensity of green and grassy notes characteristic of matcha without being too overpowering.

### Rare Sugar Science

**Matsutani Chemical Industry** spotlighted its rare sugar brand, *Astraea Allulose*, in chocolate and other items, showing how the ingredient can be used to create low-calorie products for all food and beverage segments.

"*Astraea Allulose* was developed in partnership with Kagawa University in Japan. It's the first allulose to be commercialized in the world," noted Yuma Tani, Matsutani's deputy rare sugar business manager. "Its discovery opens entirely new territories in reduced- or low-calorie food and beverage formulation."

*Astraea's* GRAS status allows for use

in every food and beverage category. Recommended applications include beverages, confections, dairy, bakery, and sweet goods. The sweetener can also be used as a 100% tabletop granular sugar replacement, and as a replacement in hard candy and chewing gum at 50%.

Not only does *Astraea* reduce calories in finished products, but researchers say that it may provide physiological benefits as well. Matsutani's rare sugar scientists touched on these findings and explored the potential health benefits for D-allulose and rare sugars during the session "Physiological Functions of D-Allulose: Current Findings and Future Research of Physiological Benefits."

### Flavors of Louisiana Cuisine in Chicago

Attendees who enjoy the flavor of aged peppery heat headed straight for the **McIlhenny Co./TABASCO** booth for food and beverage product concepts made with the classic sauce and innovative ingredients based on the company's line of *TABASCO* sauces.

First on the menu was *Seafood Étouffée* made with juicy shrimp and crawfish tails served over rice in a dark roux-based stew flavored with *TABASCO Brand Original Red Sauce*. The sauce also made appearances in *Spiced Vanilla Ice Cream* (creamy vanilla soft serve with a hint of *TABASCO Brand Original Red Sauce* topped with spicy sprinkles and animal cracker crumbles) and a *Pepperita* drink (silver tequila, sweet vermouth, Campari, and simple syrup, balanced by a splash of *TABASCO Brand Original Red Sauce*). One of the more recent ingredient developments is *TABASCO Brand Chipotle Spray Dry Flavoring*. The fine flavor particles give snack foods, baked goods, breadings, and more the chipotle and aged fermented notes of *TABASCO Brand Chipotle Pepper Sauce* without added moisture. At the food expo, the company served *Chipotle Cheese Doodles*, an extruded snack coated with the smoky richness of *TABASCO Brand Chipotle Spray Dry Flavoring*.

The McIlhenny Co. is a Louisiana institution dating back 150 years. Executive chef Jud McLester of McIlhenny Co./TABASCO says he is





## Clean, Green, and Lean continued...

looking forward to the IFT19 event, which will be held in New Orleans, where he can celebrate the best of Cajun cuisine (McIlhenny Co. is headquartered in the heart of the Cajun region in southern Louisiana) and New Orleans cuisine.

### International Flavors on Parade

Trending international flavors were highlighted in concept foods prepared by **Asenzya's** corporate executive chef Dax Schaefer, who showed how consumers' expanding interest in ethnic flavors can be satisfied with the addition of aromatic spices, new flavor profiles, and an array of sauces and sweet and savory notes. Schaefer demonstrated this with two product concepts, *Nashville Hot Chicken Waffle* and *Asian Chicken Noodle Soup*, both of which added an unexpected twist to traditional dishes by layering flavors.

Among the trends Schaefer noted as currently taking hold are Asian barbecue, characterized by a savory, sweet, slight heat balance; Moroccan cuisine, which is heavily influenced by African,

Arabian, and Mediterranean culinary traditions; Thai cuisine, with its emphasis on lightly prepared dishes with strong aromatic components and a spicy edge; and American regional barbecue, which features distinct regional profiles that include Kansas City, South Carolina, Memphis, Texas, and Alabama.

In addition to Asenzya's culinary expertise, the company's custom spice blends, seasoning solutions, and functional ingredients help create solutions that target sustainable trends and put products at the pinnacle of taste and quality.

### Creating 'Craveability'

**Lycored** partnered with top U.S. chef Charlie Baggs on new recipe concepts that showcased Lycored's tomato-based flavor enhancer, *SANTE*, and *CTC*, its *Clear Tomato Concentrate*. The products create "craveability" by enhancing natural umami and kokumi characteristics while helping to make recipes healthier.

A *Curried Carrot and Apple Soup* made with *SANTE* featured reduced salt and

cream while a *Roasted Red Pepper Sauce* with *SANTE* and *CTC* allowed for less tomato paste and heavy cream.

Baggs is a pioneer of the concept of culinology, which combines food science with culinary art. He specializes in helping companies satisfy consumer needs by working creatively with taste characteristics to drive superior flavor.

"Lycored's approach to taste and flavor is similar to mine—we work scientifically to understand the needs of consumers and develop solutions that meet them," said Baggs.

*SANTE* and *CTC* are part of Lycored's range of real ingredients from tomatoes. Both have non-GMO certification and can be declared as either "tomato concentrate" or "natural flavor," depending on local regulations.

### Production Capacity for Pea Protein Grows

To meet the growing demand for pea protein ingredients, **Cosucra** doubled its pea protein isolate capacity by investing €35 million in a plant expansion in Belgium. The company is also expanding its presence in North America, the largest market for pea protein. In fact, according to information provided by Frank Truong, general manager of Cosucra Inc. USA, Canada, and Mexico, it is expected that by 2022, North America will become the sector's most important market with 41% market share. This will be followed by the Asia-Pacific region and Europe. In dealing with its customers from the markets it serves, Cosucra takes a "solutions-focused approach," working with them to develop concepts that meet local taste preferences.

The core pea ingredient line from Cosucra is *Pisane*. Several versions are available, each providing nutritional benefits (a plant-based protein boost that is rich in branched-chain amino acids and iron and has a high digestibility) and functional benefits (thanks to its emulsifying, texturizing, and gelling properties) to a range of food and beverage products, explained Truong. For example, *Pisane B9* has optimized water retention properties that give gluten-free bread a crisp crust, good volume development, and moist crumb while *Pisane*

## Sampling the Expo

• It was a chocolate lover's dream at the **Barry Callebaut** booth, where an abundance of chocolate treats was available for sampling. As attendees perused the booth, they tried a *Hazelnut Snack Bar* made with *Hazelnut Butter & Hazelnut Brittle Crunch* and organic dark chocolate and *Caramel Apple Bites* made with *Caramel Doré*. There were also *Crunchy Almond Butter Cups* made with almond butter, cocoa nibs, and *Bel Noir Bel Lactée*, and *Chocolate Coins* made with *Dairy Free Chocolate*. One corner of the booth was dedicated to the BC Studio, a chef demo area where company chefs prepared samples of *Chocolate Caramel Stout Milkshake* made with *Rittenhouse Cocoa Powder* and *Sea Salt Truffles* and *Everything Cookie Dough* made with *Sea Salt Truffles*, *Peanut Butter Mini-Cups*, and *Peanut Butter Chips*.

• **Healthy Food Ingredients** promoted its "Unleash the Power of Purple" campaign for its *Suntava Purple Corn* ingredients. The purple color of the corn comes naturally from its

high anthocyanin content. A 1 oz serving of *Suntava Purple Corn* can more than double the current daily intake of health-promoting anthocyanins, according to the company. The formats of the ingredient are flakes, flour, meal, and grits, any of which can be used in many applications like tortilla chips, cereal, breads, extruded snacks, and even beverages.

• Plant-based proteins are a great source of protein and other nutrients, but when plant protein ingredients are formulated into food and beverage products, they can impart a lingering aftertaste. **Wixon** developed several product concepts made with its seasonings, flavor systems, and flavor maskers and enhancers to show how these ingredients can enhance the taste experience. Product concepts included *Crunchy and Roasted Kibbeh Croquette Meatball Analog*, *Ground Meat Kefta Crumble Analog*, *Eat Your Veggies Trail Mix*, *Dessert Overload Trail Mix*, and *Caramel Macchiato Protein Shake Powder*.

## Clean, Green, and Lean continued...

M9 has texturizing properties, high viscosity, and water-holding capacity well suited for formulating meat analogues. The *Pisane* ingredients are also functional in bars, sports and nutrition beverages, and dips. Attendees were able to taste for themselves how the *Pisane* pea protein ingredients functioned in a creamy sports nutrition beverage concept.

Even among manufacturers who formulate with plant-based proteins, there is a need for more options. Truong said that the *Pisane* ingredients are positioned as alternatives to soy protein ingredients.

### Stevia Blends Offer Sweet Solutions

The *KetoseSweet+* line of sweetening systems—made of low-calorie sweetener alternatives—is one of the latest additions to the sweetener lineup from **Icon Foods**. One of the components of the sweetener is the monosaccharide allulose, which is 70% as sweet as sugar but reportedly has the same temporal

profile as sugar. Three versions of *KetoseSweet+* are available: a blend of allulose and stevia, a blend of allulose and monk fruit, and a blend of all three. In addition to *KetoseSweet+*, Icon Foods offers many other sweeteners that allow manufacturers to reduce the amounts of added sugars and calories in food and beverage products. Some of these include *Erysweet+* stevia and erythritol blend; *CocoSweet+*, a blend of stevia and coconut sugar; and *Fructevia*, a blend of fructose, FOS, and stevia.

Attendees had a chance to pick up a copy of *Guy Gone Keto* by Thom King, the founder and CEO of Icon Foods. King, who was on hand to autograph copies, wrote the book to explain his experience of converting from a typical American diet to a ketogenic diet. The book also details tips for reading and understanding food labels and recipes and meal plans that fit into the ketogenic diet.



### Freshness Factor

Manufacturers use flavorings to create layers of flavor, mask off-tastes that other ingredients may have, or produce subtle nuances that enhance flavor. For



example, a typical cheeseburger seasoning blend for snack foods tastes like some of the components of a cheeseburger, but the addition of **Givaudan's** *Lettuce Freshness* flavor brightens up the overall taste. *Freshness* flavors, which include lettuce, citrus, and herbs, are produced with the company's FreezeFrame technology. The proprietary technology captures and measures molecules released from fresh-cut produce and herbs. Attendees tasted how the *Freshness Lettuce* flavor gave the cheeseburger seasoning the green and slightly sweet tastes of freshly chopped lettuce and complemented and rounded out the other ingredients in the seasoning blend.

Givaudan also featured some of its flavors in a convenient, on-the-go snack concept, *Cuppa'O Snack Mix*. The company promoted this craveable concept as having many flavors "found in the budding barbecue joints in Texas." Ancho flavor from the company's *Chili Collection* seasoned the pepitas in the mix while a stout flavor from the *Brewer's Collection* was used on cashews. Pecans were flavored with a roasted coffee flavor from the *Cold Brew Collection*.

### Non-GM Sunflower Lecithin

**Bunge Loders Croklaan** showcased *BungeMaxx* sunflower lecithin at IFT18. The ingredient is Non-GMO Project Verified and features a range of benefits for food and beverages, including emulsification, crystallization, control, and more. Visitors to the booth enjoyed brownies made with *BungeMaxx* sunflower lecithin, as well as corn tortilla chips cooked in the company's *Whole Harvest* non-GM soybean oil and zesty salsa verde made with *Whole Harvest* non-GM canola oil.

"Non-GMO is more than a trend, with 39% of U.S. consumers saying non-GMO is an important claim they seek on foods and beverages at retail," said Mark Stavro, senior director of marketing. "Our customers want to stay competitive in the non-GMO market, and sunflower lecithin is an excellent opportunity. According to AC Nielsen, non-GMO foods and beverages made with lecithin are a \$4 billion market with 6% annual growth over the past three years."

*BungeMaxx* sunflower lecithin helps provide key product claims, including Non-GMO Project Verified, and its superior functionality makes it a straightforward replacement for other lecithins in formulations such as chocolate and beverages.

Bunge has also expanded its *Whole Harvest* portfolio of organic and non-GM expeller pressed oils to include Non-GMO Project Verified canola and soybean oils. Its network of farmers in Manitoba and Saskatchewan grows non-GM canola. In Indiana, Ohio, and Michigan, its network grows non-GM soy, giving customers confidence in the products and their origins.

"Bunge Loders Croklaan is a global leader and world-class innovator, with the industry's broadest range of plant-based oil and fat ingredients, along with integrated, scalable, and increasingly sustainable supply chains that enable our customers to grow confidently alongside top trends in bakery, confectionery, culinary, nutrition, and more," added Julian Veitch, vice president of B2B oils and fats, North America.

### A Sweeter Future

As part of its commitment to solving the challenges of reducing sugar and enriching digestive health in foods and beverages, **Tate & Lyle** highlighted its extensive collection of sweetener, enrichment, and texturant ingredients.

Tate & Lyle's *TASTEVA M*, a Reb M stevia sweetener featured at



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the booth, is supported by the company's partnership with Sweet Green Fields, one of the largest global stevia suppliers. With this partnership, Tate & Lyle became the exclusive global distributor of Sweet Green Fields' portfolio of stevia-based ingredients.

In May, Tate & Lyle acquired a 15% stake in Sweet Green Fields, which launched two new products—*Optimizer Stevia 4.10* and *Intesse Stevia 2.0*—that allow for lower cost in use to help address consumers' desire for healthier and more natural options. *Intesse Stevia 2.0* was showcased in *Raspberry Peach Lemonade*, a low-calorie product concept with a balanced mouthfeel and sweetness profile.

"It was the next logical step in further building Tate & Lyle's partnership with Sweet Green Fields, and our joint commitment to innovation in sugar and calorie reduction," said Abigail Storms, global vice president, sweeteners platform leader at Tate & Lyle.

**What's New in Naturally Derived Colors, Flavors**  
Experts from the three divisions of **Sensient Technologies—Sensient Colors, Sensient Flavors, and Sensient Natural Ingredients**—discussed the latest trends and developments in colors and flavor and presented some of the company's ingredients in various food and beverage product concepts.

A few days before the IFT18 event, Sensient Colors announced that it had acquired Mazza Innovation, a global leader in botanical extraction technology. David Rigg, Sensient Colors' director of global food marketing, and David Gebhardt, Sensient Colors' technical director for food colors U.S., explained the significance of the acquisition to Sensient Technologies' "seed to shelf" strategy to innovate across the value chain for organic and natural ingredients. Mazza Innovation uses a patented solvent-free clean extraction technology, they said, and the expectation is that the

technology's use can be expanded to produce colors and flavors. The novel technology targets specific components of plants and removes them with only water. Both Rigg and Gebhardt said that this represents the next step, or evolution, in natural colors and flavors. As some consumers question how ingredients are produced, even so-called naturally derived ones, the solvent-free extraction technology will allow manufacturers to claim a water-only extraction method was used rather than chemical solvents such as hexane.

Flavorful and colorful product concepts were served over the three days of the food expo. *Organic Gummy Bears* in four different flavor and color combinations featured organic compliant natural extracts, organic compliant natural flavors, and organic certified natural colors. The Sensient experts took inspiration from the sweet-heat trend seen in condiments, seasonings, dairy, and



confectionery in developing cake pops. The generous-sized treats came in *Lemon Ancho* (made with organic ancho) and *Jalapeño Chocolate* (made with organic jalapeño).

Each day, a different mini quiche that featured ingredients from Sensient Natural Ingredients was served. The company's organic garlic was used in a *Garlic and Kale Quiche*, its jalapeño in a *Jalapeño Bacon Quiche*, and its organic ancho in an *Ancho Zucchini Quiche*.

Some manufacturers recognize the segment of consumers who are reducing or eliminating animal products from their diets. Sensient Flavors offers vegan flavors, and it formulated one—*Vegan Chicken Flavor*—into a *Vegan Chick'n Waffle with "Hot Sauce" Crema and Hop "Honey."* Other flavors used were *Citra Hop Extract*, *Honey Flavor WONF*, and *Hot & Spicy Buffalo Flavor*. *SensaSalt 2G Flavor Enhancer* boosted the savory taste.

Finally, with the emphasis on the amounts of added sugar used in products getting more attention, Sensient developed a *30% Sugar Reduction Milk Chocolate Cookie*. Here, the company used its taste modulation (natural sweetness solutions) that enhanced sweetness and mouthfeel that can be lost when the amount of sugar is reduced. Another point to note about the cookie is that the company replaced some of the cocoa powder (a commodity that is exposed to wide pricing and supply fluctuations) with its natural milk chocolate flavor and Sensient Colors' *Sienna Natural Brown* from fruit juice.

#### Proprietary Tech Helps Improve Vegetable Quality

Reduced-moisture ready-to-eat and reduced-moisture IQF vegetables offer manufacturers benefits such as convenience, consistency, and labor cost savings. **White Oak Frozen Foods**, a division of **CSI** and part of **JAIN USA**, uses its proprietary process, Reduced Moisture, to produce ready-to-eat and IQF vegetables that have improved quality attributes. For example, the technology helps produce ready-to-eat tomatoes, onions, bell peppers, and more with less weeping and a firmer texture, and IQF vegetables with higher solids contents. It also helps concentrate the flavor and color in these vegetables, which means manufacturers can use less product and still deliver the desired taste and appearance.

The company uses a validated thermal kill step that ensures that all of its vegetable products meet the U.S. Dept. of Agriculture's definition for ready-to-eat. The proprietary Reduced Moisture technology is validated by an ISO 17025 accredited third-party laboratory in an SQF Level 3 certified facility.

The company's lineup of vegetables features tomatoes, red and sweet yellow onions, eggplant, zucchini, and various bell peppers. There are also mushrooms, several chile pepper varieties, and even green chickpeas. Choose from plain versions of these or, for additional layers of flavor, fire roasted. Experts at the company were available at



## Clean, Green, and Lean continued...

the booth to share product and culinary application ideas for dairy products, dips and dressings, salads, soups, frozen entrées, and beverages and to suggest applications such as toppings for pizzas and add-ins to egg dishes like omelets. The company's vegetable products are increasingly being included in meal kits as well.

### Popular Beverage Is Now an On-Trend Flavor

**Kalsec** took a creative turn with its booth theme for this year's food expo, designing it to look like a friendly neighborhood pub, complete with pub fare product concepts formulated with the company's beer type flavors.

The main draw to the booth was the pulled pork slider made with *Porter Beer Type Flavor*. The barbecue sauce that the meat was mixed into was formulated with some of the beer flavors, too. Crunchy snacks such as pretzels were coated with seasoning blends made with

some of the beer type flavors.

The flavors are made from Kalsec hop oils, which Gary Augustine, executive director of market development, says are used in the brewing industry. With beer-flavored food products trending, Kalsec used the hop oils to develop the line of beer style flavors to give manufacturers heat-stable and alcohol-free beer flavors for use in sauces, soups, snack foods, meats, and more. The line features five varieties—*IPA*, *Lemon Shandy*, *Porter*, *Pumpkin Spice*, and *Wheat*—developed using Kalsec experts' extensive knowledge of beer's sensory attributes.

While the beer style flavor line was a major focus at IFT18, Augustine also pointed out Kalsec's increasing work in the area of heat management. He says that there is a desire for more specificity in heat ingredients, and to help manufacturers learn more, Kalsec put together a report, *Spicing Up the Food Industry*. The

report highlights trends in product introductions that feature a hot or spicy ingredient and some of the trending flavors. Kalsec's lines of capsicums, *HeatSync Heat Systems*, and *Specialty Peppers* flavors are available to manufacturers looking to add various layers or intensities of heat and spice to food and beverage applications.

### New Almond Powder Now Available

*Almond Protein Powder* from **Blue Diamond Almonds Global Ingredients Division** made its debut at IFT18, and it represents the company's entry into the functional ingredients sector. The nutrient-dense powder is easy to incorporate into products such as smoothies, shakes, and bars due to its fine texture. There's no need for manufacturers to use flavor masking ingredients with the almond protein powder since it has a neutral flavor.

To show attendees how the almond



Photo courtesy of Blue Diamond Almonds Ingredients Division

protein powder stacked up against other plant-based protein powders, Blue Diamond Almonds hosted a taste test challenge where samples of smoothies made with various plant-based protein powders, including the new almond protein powder, were available for comparison. Attendees also had the chance to enjoy product concepts made with the almond protein powder and other almond ingredients courtesy of Abel Ramos, a research chef with Charlie Baggs Culinary Innovations. *Chocolate Brownies* made with *High Protein Almond Flour*, *Candied Almond French Macarons* made with *High Protein Almond Flour*, and *Rajin Cajun Potato Chips* made with *Blue Diamond Almond Oil* showed the versatility of almond ingredients.

### Cold Brew Coffee Flavor Goes Beyond Beverages

Cold brew coffee is hot. **Virginia Dare** developed a cold brew coffee concentrate that lets food and beverage manufacturers add this trendy flavor to products.

At its booth, the company served three product concepts made with the concentrate. The *Nitro Cold Brew Coffee* used the cold brew coffee concentrate pressurized with nitrogen and served black on tap. The process gives the coffee a creamy and silky mouthfeel. There was also a caramel-flavored version to sample.

The cold brew coffee concentrate is a perfect flavor for ready-to-drink beverage applications, from still, sparkling, and nitro to nutritional and alcohol. It also gives the smooth coffee flavor to non-beverage applications such as bakery goods, bars, and frozen dairy and frozen dairy alternative products.

Virginia Dare showcased the cold brew coffee concentrate in ice cream. The company worked with Brooklyn, New York-based Blue Marble Ice Cream to develop the *Cold Brew Coffee Ice Cream* product concept distributed at the booth. For additional layers of flavor in frozen desserts, try pairing the cold brew coffee concentrate with Virginia Dare flavor combinations and top notes such as vanilla bean honey, maple browned butter, and cardamom-spiced mocha.

### Creative Almond-Based Concepts

There were 10,589 new products with almonds introduced globally in 2017, according to data from Innova Market Insights as cited by the **Almond Board of California**. Rob Corliss, chef with All Things Epicurean, shared his expertise on developing food and beverage products of all types with almonds and almond ingredients. Several trendy product concepts showcased the taste and textures of different forms of almonds.

While bars and nut clusters are typical, almost expected, applications for almonds, Corliss found ways to add interest to them by exploiting the taste and textural attributes of almond ingredients in combination with other flavorful ingredients. *Spiced Apple Maple Almond Clusters* featured three types of almond forms—whole, slivered, and sliced—along with green apple chips, dried orange peel granules, and pepitas. Maple syrup and clover honey added sweetness while turmeric, urfa chile flakes, cayenne pepper, pink peppercorns, and Maldron sea salt seasoned the clusters. Like the clusters, the

*Mocha Goji Almond Crunch Bar*, a pressed bar that was more soft than crunchy, was formulated with three almond forms—whole, slivered, and creamy butter. Goji berries and golden raisins added fruity flavor while espresso powder, unsweetened cocoa powder, bittersweet chocolate chips, and cacao nibs gave the bars a deep-roasted, chocolatey flavor.

Almond milk and almond butter are alternatives to traditional milk and peanut butter. Lovely floral notes from elderflower syrup and orange blossom water flavored unsweetened almond milk while moringa powder, a nutritional supplement made from a vitamin- and mineral-rich plant, lent a slight earthy flavor to the *Moringa Almond Refresher* beverage concept. Almond butter is a tasty treat on its own, but add in the savory blend of ingredients and you get Corliss's take on an everything bagel. Blend chopped almonds along with a mixture of poppy seeds, minced dried garlic, white sesame seeds, caraway seeds, and onion powder into creamy almond butter and voilà, *Everything Almond Butter Spread*.

The final product concept captured the flavors and beautiful aromas of lavender and rose in a light and airy snack bite. *Lavender Rose Almond Crispers* had layers of textures from sliced almonds, chopped almonds, dried quinoa, chia seeds, and small pieces of freeze-dried strawberries. Sweetness came from maple syrup, clover honey, and a hint of vanilla extract. Dried and crushed rose hips and dried and crushed lavender were used in small amounts that allowed the unique flavors to come through without overpowering the other ingredients.

### Enhancing Flavor With Vinegar Ingredients

*Ssamjang Short Ribs*, *Fresh Georgia Peach and Orange Peel Shrub*, and *Hatch Green Chili Grilled Cheese* were a few of the flavorful product concepts served by **Mizkan America**. These and others featured naturally derived ingredients from the company's lines of vinegars, chile peppers, and spirit reductions. The product concepts show how a little acid from vinegar perks up the palate,



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Photo courtesy of Mizkan America

chile peppers add subtle heat, and denatured spirits add interest to common applications.

The short ribs, for example, were coated with a gochujang sauce made

with *Mizkan Red Jalapeño Puree* and garnished with red jalapeños quick pickled in *Mizkan Organic Rice Vinegar*. The fruits and chile pepper used in the peach and orange peel shrub and *Charred Grapefruit & Spicy Jalapeño Paloma Shrub* were steeped in *Mizkan Organic Apple Cider Vinegar* for three days before being blended with other ingredients to make the refreshing beverages. A hatch green chili jam was paired with apple cider vinegar-marinated carnitas in layers of creamy melted Mexican cheese in the grilled cheese sandwich. The culinary team at Mizkan took the dessert concepts to flavorful levels. The *Tipsy Vanilla Moonshine Cherries over Griddled Pound Cake* featured several components that worked together to create what quickly became a favorite among visitors to the booth. Cherries were

steeped in vanilla and Mizkan Denatured Moonshine for five days and then cooked to reduce. This was spooned over griddled pound cake slices and topped with a Mascarpone whipped cream infused with *Mizkan Angostura Bitters*. The garnish was an orange gastrique with orange rind pickled in apple cider vinegar, honey, and orange juice.

### Don't Call Vanilla Plain

Visiting the booths of flavoring manufacturers is a great opportunity to learn about the latest flavor trends and what is coming down the pipeline. Vanilla is a well-established and much-enjoyed flavor in many markets and cuisines.

**Tastepoint by IFF** showed how to elevate the elegant floral and creamy flavors of vanilla to new flavor levels. One example was the *Smoky Vanilla Salmon Jerky* product concept, which featured *Natural Flavor Smoky Vanilla Type*. Another was the *Vanilla Cardamom Cold Brew Coffee Flavored Sparkling Beverage*. It was formulated with *Natural Vanilla Flavor WONF* and *Natural Cardamom Flavor WONF*. Cold brew coffee and cold brew coffee-flavored beverages and foods are a big trend. Tastepoint by IFF has a *Natural Cold Brew Coffee Flavor WONF* for manufacturers looking to add the trendy flavor to formulations. The company also used some of its vanilla flavors in *Vanilla Soft Serve Custard with Calamansi Lime Caramel Sauce* and in a shortbread cookie.

### Chickpea Protein: Not Just for Hummus

*Artesa* chickpea protein concentrate from **Nutriati** delivers taste, texture, and functionality attributes that are similar to dairy protein while also serving up the nutritional benefits plant protein provides. After several years of development work, Nutriati has teamed with **PLT Health Solutions** to bring *Artesa*, which is billed as the first chickpea protein concentrate available on a commercial scale, to market. PLT will handle the sales and marketing for *Artesa*.

At IFT18, Nutriati chief innovation officer Michael Spinelli said the company has developed a unique manufacturing technology that allows it

## Sampling the Expo

• A proprietary technology converts fruits and vegetables into dry, crystallized colors in red and purple shades. These naturally sourced colors from **California Natural Color (San Joaquin Valley Concentrates)** are carrier-free, have fast solubility, are less dusty, and contribute zero calories to a finished product, according to the company. Some of the colors are *Crystal Grenache Shade* derived from purple carrot, *Crystal Zinfandel Shade* from Rubired grape and purple carrot, and *Crystal Purple Sweet Potato* from purple sweet potato.

• A protease from the cardoon flower, a type of purple thistle (the enzyme is often referred to as thistle rennet), has been used to make Spanish and Portuguese cheeses for more than 2,000 years. **Enzyme Development Corp.**'s thistle rennet ingredient is called *Cynzime*, and the company had its experts on hand to provide more information about the enzyme. One key point is that *Cynzime* clots or hydrolyzes alpha, beta, kappa, and gamma caseins, whereas microbial-derived rennet tends to clot only kappa casein.

• Charlie Baggs, president and executive chef of Charlie Baggs Culinary Innovations, highlighted **Morton Salt** ingredients in several product concepts that had attendees

lining up around the booth. A crowd favorite was the Philly shredded beef on a toasted pretzel bun topped with fried onions and pickled cherry pepper cheese sauce. The Morton Salt ingredients used in the sandwich were *Top Flake Coarse (Kosher)*, *White Pretzel Salt*, and *Dendritic Salt*.

• IFT18 was held during National Blueberry Month—the perfect time for attendees to celebrate with the **U.S. Highbush Blueberry Council**. Blueberries and blueberry ingredients offer flavor, color, and texture in whatever product they are used in, whether it's a blueberry-studded muffin or a sauce for a meat entrée. The representatives from the council provided extensive information about all types of blueberries—whole, juice, purée, concentrate, preparations, canned, frozen, and dried. Looking for product development inspiration? They had information on that, too, for both sweet and savory applications. Another bit of news that the council shared is that starting this year manufacturers can feature the new Real Blueberries Seal on their products, letting consumers know that they are getting real highbush blueberries or real blueberry coproducts such as purées, juices, and concentrates.





to provide a chickpea protein ingredient with superior sensory characteristics, including what he describes as a clean, mild taste and aroma as well as an appealing white color. *Artesa* has a minimum protein content of 60% and fiber content of 14%. It's also a source of essential minerals and contains less than 1% oil, which contributes to its stability in product formulations.

One of *Artesa* protein concentrate's distinguishing characteristics is its small, uniform particle size. In beverages, this enhances its dispersibility and reduces sedimentation; in bakery applications, the small particle size reduces viscosity. The chickpea protein also has high water-binding capacity and foaming and emulsification properties that contribute to processing efficiency, shelf-life extension, and product quality.

Given the growing popularity of chickpea-based snacks, members of the Nutriati and PLT teams are confident that the time is right for the chickpea protein ingredient. Nutriati has an integrated supply chain in place, sourced entirely from North American growers. Chickpeas are a value-added crop with a low carbon footprint, requiring less use of chemical fertilizers, water, and pesticides than many other crops, Spinelli says, adding that chickpea acreage has been doubling since the late 2000s.

At IFT18, product prototypes formulated with *Artesa* protein concentrate included a protein chocolate chip cookie; 2X protein hummus; gluten-free hummus crackers; and vegan, protein chai latte.

### All About Eggs

People who love eggs already know how tasty and versatile they are across all eating dayparts—everything from scrambled eggs on toast for breakfast to a bowl of seasoned grains and vegetables topped with an egg over easy for dinner.

Eggs are also rich in macronutrients and micronutrients, something that experts with the **American Egg Board** are emphasizing.

For one thing, eggs are a source of high-quality protein. They also contain riboflavin and selenium as well as the antioxidants lutein and zeaxanthin. Choline is another important nutrient found in eggs, as is vitamin D. In fact, expert Shelly McKee, a special adviser to the American Egg Board, says that eggs are one of the few foods that naturally contain vitamin D.

The 2015–2020 *Dietary Guidelines* includes details about eggs being a nutrient-rich source of high-quality protein and no longer lists a daily cholesterol limit of 300 mg. This opens up the opportunity to promote eggs as part of a healthy

meal plan to U.S. Department of Agriculture programs such as the National School Lunch Program and School Breakfast Program, according to McKee.

In addition to the abundance of nutrients that eggs offer, there are also 20 or so functional properties of eggs, according to the American Egg

## Clean, Green, and Lean continued...



Photo courtesy of American Egg Board

Board. These include tenderization, emulsification, flavor, aeration, browning/color, humectancy, leavening, and more. Some of these functionalities

were demonstrated in three product concepts served at the organization's booth. *Asiago Rosemary Cloud Bread* was made with egg whites and egg yolks, *French Macaron Cookies* featured liquid egg whites in the cookie and liquid egg yolk in the filling, and *Mexican Chocolate Biscotti* contained liquid whole eggs and liquid egg whites.

### A New Stevia Star

Stevia supplier **PureCircle** put its new *Starleaf* stevia variety, which has 20 times the sugar-like content of standard stevia leaf varieties, in the spotlight at IFT18. Specifically, *Starleaf* stevia plants contain more of the stevia glycoside Reb M, which is present in only limited quantities in traditional stevia plants.

PureCircle is producing Reb M both directly from the *Starleaf* stevia plant as well as via a new process that involves adding an enzyme to purified stevia leaf extract to promote maturation of Reb

M. With its expanded production capability, the company reports that it can now supply enough Reb M to sweeten about 500 million cases of zero-calorie carbonated soft drinks.

The stevia business has evolved rapidly, says Sidd Purkayastha, PureCircle vice president, business development and regulatory affairs. Just a decade or so ago, only one stevia ingredient, Reb A, was available. Now with the availability of Reb M and other glycosides, product formulators have many more options.

### True-to-Nature Vanillin

IFT18 visitors to **Solvay**'s booth had the opportunity to sample a range of delicious concepts, from hot-off-the-griddle, home-style waffles to appetizing cookies, all of which featured *Rhovani US NAT*, the latest addition to the company's portfolio of high-quality natural and functional vanillin-based solutions.



*RhovaniL US NAT* is a highly pure, naturally sourced ingredient that is easy to use and serves as a one-for-one drop-in replacement for synthetic vanillin. It delivers high-intensity flavor and typical vanillin notes for an improved taste experience across a wide variety of applications, including chocolate, confectionery, bakery, and beverages.

The ingredient better positions U.S. food and beverage manufacturers to deliver on-trend natural and clean label products without compromising on consumer appeal. It also boasts a non-GM and allergen-free profile, in addition to being kosher and halal certified.

“Helping our customers overcome their formulation, or even reformulation, challenges to offer tasty natural products that consumers love is a key priority for us,” commented Edouard Janssen, senior vice president and general manager, Solvay Aroma Performance, Americas. “The launch of *RhovaniL US NAT* is the latest example of our continued investment in, and commitment to, expanding our natural vanillin offering. Like other ingredients in our growing portfolio, *RhovaniL US NAT* promises consistent quality and supply and the highest purity and safety, supported by our long-standing expertise in vanillin and ethyl-vanillin production.”

#### Non-GM Food Enzymes

In response to its latest customer market research, **Amano Enzyme USA** introduced an entire line of non-GM food enzymes at IFT18. The line encompasses the larger part of the company’s enzymes, including proteases and lipases, already used in a wide variety of food and beverage products, including dairy, seasonings, alcoholic drinks, and bread.

Highlighted at the company’s booth were eHVP enzymes for adding richness to soups, broths, and stews and EMC enzymes for increasing savory characteristics in a variety of cheese flavors.

According to Ken Iritani, vice president, technical services, the new ingredient line was a response to

customers’ needs and the growing non-GMO trend. “A majority of the respondents to our recent market survey indicated that the availability of non-GMO food enzymes is important, and many feel it will drive innovation in the marketplace.

“In order to qualify for our non-GMO portfolio,” he added, “the enzymes must meet the following three criteria: the organisms used to produce the enzymes are non-genetically engineered; the fermentation media used is Identity Protected (IP) non-GMO; the carriers used are also Identity Protected (IP) non-GMO.”

#### Sweet Brown Flavorings

From the fusion of its two core businesses—extraction of raw materials and flavor creation—**PROVA**’s signature revolves around four major specialties: vanilla, cocoa, coffee, and gourmet notes.

Recognizing the need for organic flavor solutions, **PROVA** was one of the first European flavor houses to create a comprehensive and original portfolio of products that are both organic and Fair Trade Certified. The flavor range reflects the company’s expertise in technology and formulation and is available in powder and liquid form to fully meet market demands for naturalness, traceability, and sustainable development.

Among the vanilla alternatives **PROVA** offers is *Provarom*, a portfolio of compound vanilla flavors that includes natural, WONF, natural and artificial, and synthetic. Each offers different vanilla flavor profiles, tailored to a market’s cultural specificities and legislation.

#### Clean Label Antimicrobials

Among the ingredients that **Hawkins**, a leading manufacturer of lactate-based technologies, featured at its IFT18 booth was *e(Lm)inate V*, a liquid vinegar that is certified organic, proven to control pathogens, and clean label friendly.

*e(Lm)inate V* is part of an antimicrobial product line, which includes *e(Lm)inate VL* (vinegar, potassium lactate) and *e(Lm)inate LAD* (potassium lactate,

potassium acetate, and sodium diacetate). The liquids offer lower usage levels, greater pathogen control, cleaner flavor, and proven performance.

**Hawkins** partnered with industry, academia, government, and independent laboratories to test and prove the efficacy of the *e(Lm)inate* line. In addition to offering better mixing than dry products, the liquids provide cost savings due to lower labor costs, warehouse space reduction, lower waste disposal costs, reduced energy, and the elimination of protective equipment due to the absence of dusting effect.

For applications in which liquids are not an option, **Hawkins** also makes available *e(Lm)inate V-Dry* (vinegar antimicrobial).

#### Enzyme Design for Manufacture

**Biocatalysts** invited visitors to explore its expertise in cost-effectively developing novel enzymes using a wide range of capabilities.

The company’s commercially focused approach to developing bespoke enzyme products from concept to routine manufacture enables it to mitigate risks through its “Design for Manufacture” process, which is technically and commercially robust. For example, the company’s analysis of the technical aspects of the enzyme use actual production data from the production plant rather than theoretical maxima. In addition, projects are run by a team of project managers who work with molecular biologists and fermentation scientists with many years of enzyme experience.

With 35 years of experience developing and manufacturing enzymes, **Biocatalysts** can provide capabilities for a wide range of applications. In the span of a few weeks, a small research grade sample can be provided that is suitable for proof of concept testing and can be scaled up to routine large-scale manufacture in less than 12 months.

#### Healthy Hydration

**Amelia Bay**, a leading provider of premium brewed tea, sampled the latest on-trend tea and coffee formulations at



## Clean, Green, and Lean continued...



Photo courtesy of Amelia Bay

IFT18. Citing the ongoing trend to achieve label claims such as natural, organic, or premium brewed tea, John Harper Crandall, vice president of sales at Amelia Bay, commented, “We are excited to spend time with IFT18 attendees and discuss the latest trends that are happening in the RTD beverage segment. Our premium brewed tea can help beverage manufacturers capitalize on emerging trends and create healthier beverages that consumers will love.”

As North American consumers opt for healthier alternatives to carbonated beverages, ready-to-drink tea is a favorite, for its convenience and reputation for healthful hydration. At Amelia Bay, teas are not only clean label but are easy to use versus batch steeping or using instant tea powders. They also significantly reduce batching times. Formulations are simply blended in batch tanks, pasteurized, and can be hot-filled or cold-filled for a stable finished beverage that is free of sedimentation and clouding.

### Whole Grain Ingredients

A leading manufacturer of conventional

and organic whole grain ingredients, **Grain Millers** highlighted its capabilities in corn, oats, and oat fiber and functional flours at IFT18.

All of the company’s yellow and white dry-milled corn products are Non-GMO Project Verified and certified organic. By buying directly from the farm, Grain Millers can procure whole kernel corn based on customer specifications and the desired manufacturing process. Ingredient offerings include corn grits, corn meal, corn bran, corn flour, and whole corn kernels.

The company’s oat ingredient offerings include whole oat groats, steel cut oats, rolled oats, oat bran, whole oat flour, and oat fiber. To produce superior oat ingredients, Grain Millers combines state-of-the-art systems with traditional methods, resulting in consistently performing oat ingredients derived from a supply chain that is monitored from field selection through growing, storage, and milling.

Grain Millers pioneered a process to create the industry’s first organic and conventional line of chemical-free oat fiber. The line can enhance dietary fiber

claims, clean up labels, and provide functional benefits, all while meeting the FDA’s dietary fiber regulations. In addition, the company’s oat hydrocolloid and other unique functional flours can be developed to deliver specific functionalities.

### Nutrition and Function

Formulated from sweet whey produced from large-scale cheese operations in California and Texas, **Hilmar Ingredients’** whey proteins are kosher and halal approved, non-GM, and EU conforming. At IFT18, the company featured two product concepts: *Cappuccino Nutrition Bars* made with three types of whey, and a low-fat, low-sugar *Vanilla Sport Recovery Shake* formulated with *Hilmar 9400 WPI*.

Hilmar Ingredients has more than 150 formulations for using its whey protein in food and beverage systems, including expertise in ethnic foods and beverages such as noodles, baked goods, and cultured dairy products that give a nutritional boost; nutrient-rich foods that provide more nutrition per calorie; foods and beverages formulated for women’s health needs; super foods for kids that comply with stringent school and regulatory standards; and ingredient alternatives where whey proteins can be used to replace eggs, gums, and stabilizers.

Within the whey protein concentrate line, Hilmar offers specialty proteins, including lactose-free, high gelling, and alpha-lactalbumin enriched. The Hilmar whey protein hydrolysate line includes several levels of hydrolysis for options in flavor, texture improvement, and nutritional value. The line of whey protein isolates includes proteins for clear beverages, dry mix, and low pH formulations.

### Single-Source Capabilities

Global ingredient distributor and value-added service provider **Univar** gave visitors to IFT18 the inside track on its latest offerings, which include proactive product development, single-source distribution capabilities, and a new e-commerce digital platform, MyUnivar.com.



The company's food distribution capabilities allow it to partner with customers and suppliers to provide a single-source channel of expertise—from market and trend research to product formulation, development, and marketing. The company's global team of technical specialists also helps customers and suppliers be more sustainable by meeting needs that range from clean label to non-GMO to bringing the farm closer to the table.

Through its e-commerce digital platform, MyUnivar.com, the company offers customers information at their fingertips, such as two-click reordering and round-the-clock access to product data sheets, safety data sheets, and more. Under development is a similar ecosystem for strategic suppliers, which will allow them to conveniently and easily access information.

### Reinventing the Taste of Dairy

Mouth-watering demonstrations of a variety of concept foods were showcased by **Edlong** as a way to demonstrate how the company helps food innovators rethink their use of dairy and dairy-free flavors to meet formulation goals and commercialize products.

By adding authentic taste profiles to plant-based formulations, healthier products can be created with reductions in sugar, salt, and fat—providing indulgence without sacrificing taste. “Our expertise is the taste of dairy, but we deliver flexibility with dairy-free flavors that offer powerful product development tools for our customers,” says chief commercial officer Beth Warren.

As part of a series of interactive seminars on clean label and dairy-free innovations, Edlong featured tastings of *Vegan “Speculoos-Style” Ice Cream* and



Photo courtesy of Edlong

## Clean, Green, and Lean continued...

*Cookie Stick and Savory Kale and Artichoke Dip.* Other concept foods that highlighted new ideas in dips, beverages, and snacks included *Gouda Pancake Bites; Balsamic & Feta, Peruvian, and Buffalo Blue Cottage Cheese Dips; Vegan Cardamom Cold Brew Latte;* and *Chicago Popcorn Mix.*

With the demand for better-for-you, dairy-free/vegan, and indulgent foods and beverages on the rise, Edlong launched a new website to provide a more engaging user experience and educate visitors on how the company can meet their product development objectives. An expanded resource library provides a variety of assets, including vital educational information about global food and beverage trends, inspiring application ideas, and Edlong's expertise with dairy and dairy-free flavors.

### Next Generation of Soybean Cooking Oils

The U.S. soy industry continues to develop soybean varieties with enhanced traits to meet the nutritional and functional needs of food product developers and foodservice professionals. These include high oleic soybeans used to produce high oleic soybean oil and enzymatically interesterified high oleic soybean shortening with benefits such as increased fry life, extended shelf life, high heat stability, and an improved fat profile. The supply of high oleic soybean oil is expected to reach 9 billion pounds by 2027, up from 220 million pounds in 2017, according to **QUALISOY**. The growth in supply is expected, in part, because of recent approval for global use of high oleic soybean oil, according to the organization.

QUALISOY, an independent, third-party collaboration that promotes the development of and builds the market for the latest soybean traits, highlighted some of the advancements made in the high oleic soybean industry and invited attendees to meet with experts involved with developing the enhanced-trait soybeans and ingredients made from

them, and the farmers who grow these soybeans. QUALISOY experts were on hand to discuss the results of functionality and sensory tests of high oleic soybean oil and enzymatically interesterified high oleic soybean shortening used in frying and baking applications. One frying evaluation showed that high oleic soybean oil outperformed a number of high-stability oils. Other studies evaluated the oxidative stability and texture of icings, cookies, and cakes made with partially hydrogenated oil shortening and PHO alternatives (high oleic soybean oil, high oleic canola oil, conventional soybean, conventional canola, and palm bakery shortenings). Of all the PHO alternatives used, the shelf life and texture of products made with the high oleic soybean oil shortening were the most comparable to products made with PHO shortening.

### Reduce Sodium, Not Taste

Israel-based **Salt of the Earth** has been producing sustainable quality sea salt solutions for the global food industry since 1922. At IFT 18, the company showcased its *Mediterranean Umami* in several concept foods, including a flavorful barbecue sauce with reduced sodium and sugar.

*Mediterranean Umami* is highly soluble, kosher, halal, and contains no artificial ingredients or MSG. It provides a simple way to include a clean label claim while complying with the global agenda to reduce salt in processed foods.

Since its inception, Salt of the Earth has been committed to maintaining the natural equilibrium and sustainability of the environment. The company operates according to the most current international sustainability standards, including the Global Reporting Initiative, to maintain a minimal ecological footprint, ethical practices, and social justice policies.

### Antioxidants Are Plant Based

**Camlin Fine Sciences** featured its *NaSure* line of plant-based antioxidants



Photo courtesy of QUALISOY

at its booth. The offerings were recently expanded to include acerola and green tea natural ingredients. The line of naturally derived ingredients designed to improve the shelf-life of food products is now available in more than 30 blends.

*NaSure* is an easy-to-use ingredient solution, offering superior oxidation protection due to its unique phenolic compound composition. Applications for *NaSure* include processed meats, poultry, seafood, baked goods, fats, oils, cereal, sauces, dressings, seasonings, snacks, and nuts. To find the best formula for each application, Camlin Fine Sciences uses its application lab to run tests on different formulations for products.

"Our products are tailor-made to allow customers greater control over their product," said Jennifer Igou, general manager at Camlin Fine Sciences. "By adding ingredients to our *NaSure* brand, customers will have even more options now to fit their exact needs." **FT**

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