

Wellness Trends Spark Ingredient Development

Healthful food ingredients highlighted at IFT19 address consumer interest in plant-based eating, digestive health, and more.



Overall wellness, clean label, and plant-based eating were three overarching trends evident at the IFT19 food expo, with many ingredient suppliers offering products to address those areas as well as a variety of micro trends. Here is an overview of some of the healthful ingredients showcased at the expo.

Plant-Based Eating Pushes Forward

Food and beverages with plant-based claims had a global growth rate of 63% between 2014 and 2018 (CAGR), according to Innova Market Insights. The growth is due largely to consumers wanting to eat healthier, but sustainability also plays a role in the interest. According to Mintel, 53% of U.S. consumers agree that plant-based foods are

better for the environment than animal-based options. While the market shows no signs of slowing down, ingredient suppliers are continuing to innovate within the plant-based ingredients sector to offer consumers creative ways to incorporate more plant-based foods and beverages in their diet.

Parabel USA announced that it has shown successful results for the functionality of its new, patent-pending milk made from water lentils. The lentil milk is similar in color to regular milk and maintains the high-quality protein and mineral benefits of Parabel's water lentil ingredient. *LENTEIN* is a complete food source free of allergens and with an amino acid profile higher in essential amino acids and branched-chain amino acids than other proteins. It is also

packed with vitamins, minerals, antioxidants, and omega-3s.

PLT Health Solutions and its Ag Tech innovation partner, Nutriati, threw a "plant-based party" where attendees could sample foods made with *Artesa* chickpea flour and *Artesa* chickpea protein. Pizza featured meatless sausage crumbles crafted with the protein and flour. A vegan soft-serve strawberry ice cream and a chickpea milk beverage boasted 8 grams of protein thanks to *Artesa* chickpea protein.

At **Ingredion's** Snack & Savor Station, attendees were treated to *Veggie Spring Rolls with Asian Cellophane Noodles* made with *HEMOCRAFT Pulse* yellow pea flour, *Vegan Cheese Spread* made with *VITESSENCE Pulse 1803* organic pea protein isolate, and *Protein Enhanced Asian Noodles* made with *VITESSENCE Pulse 1803* pea protein isolate. Ingredion also educated attendees on novel proprietary fermentation technology from Clara Foods that creates what it describes as "animal-free animal proteins." Clara Foods' proteins have the superior taste and functionality of animal proteins but with the sustainability and vegan-friendly profile of plant proteins. Whether manufacturers are looking for egg albumen for baking, clean-label antimicrobials, digestive health supplements, or pure, clean protein ingredients for food and beverage products, Clara Foods' innovative technology is designed to produce ingredients that meet consumers' preferences. The company's proprietary fermentation technology aims to reduce

Wellness Trends Spark Ingredient Development continued...

the production and environmental costs of animal proteins. Ingridion announced it would lead the Series B funding round in Clara Foods, and under the terms of the agreement, it will partner to globally distribute and market multiple protein ingredients that are traditionally found in eggs, but which Clara Foods is deriving from yeast.

Showing that anything is possible with plant proteins, starches, fibers, and whole pulse flours, **PURIS** featured *PURIS Texturized Pea Protein* and *PURIS Pea Flour* in tacos. The tacos had 20 grams of protein and were topped with lettuce, tomatoes, and vegan cheese. As plant-based meats continue to make headlines, the PURIS team has created a variety of texturized pea protein ingredients that can be used as meat replacers, meat analogues, and meat extenders. In addition, the company stressed that it continues to support farmers at the ground level. In early 2019, PURIS took a step to provide U.S. farmers with the tools to transition to regenerative and organic farming by partnering with MidWestern BioAg. In addition, PURIS representatives will attend the Organic Trade Association Hill Days Conference to meet with lobbyists, lawmakers, and food makers about the benefits of organic agriculture.

Photo courtesy of PURIS



Beyond plant proteins, plant-based eating also includes increasing consumption of fruit and vegetables for a healthier lifestyle, says Innova Market Insights.

Fruitlift from **Gat Foods** is an example of how companies are helping consumers add more fruit to their diets. *Fruitlift* is an all-natural, liquid-based ingredient composed of 90% fruit components and designed to be injected into the flour mix of puffed cereals to replace white refined sugar. It delivers a mild sweetness, with or without a fruity flavor. Gat Foods' patent-pending technology provides a customizable solution to food companies. The fruit base is offered in a choice of fruits and can be customized to fit any manufacturing process or formulated to fit any type of flour mixture. It can be injected either as a base or a coating, and the dose can be adjusted to desired sweetness levels and taste preferences, whether the cereal manufacturer is seeking a pronounced fruit flavor or to have the solution blend in with the brand's signature flavor. Food expo attendees sampled puffed cereals, including whole grain cereals made with the fruit base solution.

Soybean oil is one of the most abundant vegetable oils. According to a 2019 Food Industry Insights consumer study from United Soybean Board, 63% of consumers would be more likely to purchase U.S.-grown 100% soybean oil if it were labeled as heart healthy. The U.S. Food and Drug Administration recently authorized the use of a qualified heart health claim for oils high in oleic acid, including high oleic soybean oil. High oleic soybean oil was featured by **QUALISOY** at the show. Compared to conventional oils, high oleic soybean oil contains lower saturated fat and three times the amount of beneficial monounsaturated fatty acids for a more desirable fat profile. High oleic soybean oil may reduce the risk of coronary heart disease when replacing oils high in saturated fats.

At a special event, QUALISOY featured high oleic soybean oil in unique foods created by award-winning chef Becky Wortman. During her cooking



Photo courtesy of Gat Foods

demonstration, she showed the functional benefits of high oleic soybean oil, including its versatility across a variety of applications and its enhanced functionality, like extending shelf life and fry life. Wortman made vanilla cupcakes with whiskey buttercream frosting topped with a honey sugar powdered beignet. High oleic soybean shortening was used in both the cupcake and frosting, and the beignets were fried in high oleic soybean oil. Other foods that were made using high oleic soybean oil or shortening included roasted mushroom crostini, golden fried boudin balls, crispy crawfish hushpuppies, and cheddar biscuit buttons.

Immunity and Digestive Health

Awareness of the importance of eating for health and wellness has sparked interest in digestive and immune health. Consumers are beginning to understand that a healthy digestive system can lead to better overall health.

Kerry highlighted some of its ingredients that promise immune health benefits: *Wellmune* yeast beta-glucan and *Ganeden BC30* probiotic (*Bacillus coagulans* GBI-30, 6086). Two beverage concepts, *Collagen Cold Brew Immunity Coffee* and *Blueberry Apple Cider Vinegar Collagen + Immunity Shot*, featured *Wellmune*. A *Vegan Nacho Cheese Seasoning on Corn-based Chips* and *Probiotic Oat Milk Soft Serve Ice Cream* were formulated

Wellness Trends Spark Ingredient Development continued...

Photo courtesy of BENE0



with *Ganeden BC30*. A *Mexican Cold Brew Probiotic Protein Bar* was made with both ingredients.

Dietary fiber is another ingredient positioned for digestive and immune health. Innova Market Insights stated that a renewed interest in fiber, going beyond digestive health benefits, is driving fiber applications.

BENE0 cited a 2018 survey by Health Focus International that found that nearly seven in 10 U.S. consumers are affected by digestive issues or are concerned about digestive health. The survey also noted that one in three U.S. consumers is very or extremely interested in the gut microbiome. BENE0 featured a coffee beverage that contained chicory root fiber and the sugar *Palatinose*.

Plant-based and firmly established with clinical studies, BENE0's inulin and oligofructose naturally support digestive health as they "feed" the microbiome so that beneficial bacteria can selectively grow and support the health of their host. Scientific studies conducted on BENE0's prebiotics have shown, for the first time ever, a direct

correlation between microbiota, bowel regularity, and inner well-being. The results showed that inulin intake selectively changed three bacterial genera: *Bifidobacterium*, *Anaerostipes*, and *Bilophila*. *Bifidobacterium* and *Anaerostipes*, both known as good bacteria, support a balanced microbiota. The selectivity of BENE0's *Orafti* inulin was further demonstrated through decreased levels of *Bilophila*, a potential pathogen also related to increased gas production. The decreased levels of *Bilophila* upon inulin consumption was linked with both softer stools and reduced constipation, leading to better quality of life.

A *Better-for-You Blueberry Nut Bar* featured *Fibersol* from **ADM/Matsutani**. The ingredient functioned as a prebiotic fiber and an aid in reducing sugar. The bar was an excellent source of fiber with 28% daily value of fiber per serving. It also had a 30% reduction in sugar. A *Better-for-You Kiwi-Strawberry* beverage made with *Fibersol* had a 25% sugar reduction and a 12% daily value of fiber. The beverage had 94 calories per serving. Clinical studies have shown that *Fibersol* (maltodextrin) helps support or maintain intestinal regularity, may support gut health, helps minimize blood sugar spikes after a meal, delays hunger,

Active lifestyle is a growing area

under the overall health and wellness category.

and stimulates appetite-regulating hormones.

Roquette highlighted its fiber and pea protein ingredients. *NUTRIOSE* soluble pea fiber boosted the nutritional appeal of a margarita-flavored instant powder drink mix and a tomato salsa. *NUTRALYS S85 Plus* pea protein provided 15 grams of protein per serving to a mango protein smoothie. *NUTRALYS T705* textured pea protein boosted the protein content of veggie tacos to 7 grams per serving. The plant-based taco filling was made with textured pea protein.

Other fiber-fortified foods at the show included **J. Rettenmaier's** vegan patties and barbecue sauce with *VITACEL Oat Fiber*.

Active Lifestyles

Active lifestyle is a growing area under the overall health and wellness category. "Longer lifespans present opportunities for food and drink manufacturers to take inspiration from the beauty industry and create products that help people look and feel young," reports Mintel. "Preparing oneself for a longer, healthier lifespan is particularly relevant as consumers view health and wellness as a holistic, proactive, and ongoing pursuit." Proteins play a role in the active lifestyle category. Not only are proteins essential for muscle strength and development, they also aid in recovery after exercise and maintaining muscle mass as people age.

To showcase the nutrition, neutral flavor profile, and functionality that dairy ingredients such as milk protein, whey proteins, and whey permeate can provide, the **U.S. Dairy Export Council** developed on-the-go snack product concepts: *Calamansi Protein Gel Snacks* and *Protein-Powered Curry Hummus*. The calamansi protein gel snack was an example of an upscale, fun, and convenient snack made with high-quality whey protein isolate that can fuel the body in between meals or post-workout. One serving contained 13 grams of

whey protein. The hummus contained milk protein isolate and whey permeate. It was an example of how blending dairy proteins with vegetable-based options boosts the benefits; the addition of milk protein doubled the protein content of typical hummus and complemented the flavor and texture.

GELITA offered attendees samples of *Beauty Gummies* made with *GELITA* gelatin and *VERISOL Bioactive Collagen Peptides*. The peptides were also featured in a dark chocolate-coated raspberry yogurt protein nugget. Collagen protein comprises about 30% of the total body. Largely known for benefits to the human body, collagen is commonly associated with nutritional supplements. Protein supplementation with collagen

Wellness Trends Spark Ingredient Development continued...

Photo courtesy of U.S. Dairy Export Council



protein—generally in the form of collagen peptides—may help the body stay strong, mobile, flexible, and beautiful for longer. Research shows that *GELITA Bioactive Collagen Peptides* are optimized to maximize the stimulatory effects on specific cells in the body, and the level of stimulation is different for varying collagen peptide compositions. *GELITA* offers a diverse and versatile portfolio of bioactive collagen peptides to support bone, joint, muscle, skin, ligaments, and tendon health.

NZMP, the global dairy ingredients brand of **Fonterra**, launched two probiotic ingredients for the active lifestyle market to support growing consumer interest in general wellness. The ingredients, featuring NZMP's unique strains of *Bifidobacterium animalis subspecies lactis* HN019 (BifidoB 019) and *Lactobacillus rhamnosus* HN001 (LactoB 001), have years of clinical evidence behind them to back commonly sought-after benefits such as improved digestive health, gut comfort, and enhanced immunity. With an increase in the understanding of the link between gut and brain there is also potential for positive impacts on mental well-being. Both ingredients have traditionally been sold by NZMP to support pediatric and maternal health, but senior research scientist and nutrition program manager James Dekker said changing consumer needs make them equally relevant for

today's growing sports and active lifestyle market. "We're seeing an increasing focus on digestive health and the desire to improve immunity. These are areas which our two probiotics support. Emerging research shows a link between the gut-brain axis, which is an angle we are investigating further, especially as interest in overall well-being grows with people leading increasingly stressful and busy modern lives."

Keto-friendly and low glycemic chocolate chip cookies were made with *Bioenergy Ribose* from **Bioenergy**. The ingredient is a 5-carbon monosaccharide that regulates the body's natural energy synthesis on a cellular level with no crash, helping to regenerate lost energy in muscles and reduce muscle soreness. The ingredient also supports weight management and cardiovascular health and improves physical and athletic performance. In addition, the slight sweetness profile of *Bioenergy Ribose* allows for the replacement of 10%–15% sugar in a food product, which helps to smooth sugar-induced glucose spikes.

Peanut butter cheesecake balls dipped in chocolate featured new *RiaGev*, a combination of *Bioenergy Ribose* and vitamin B3. It is formulated to enter the salvage pathway directly to efficiently and quickly increase nicotinamide adenine dinucleotide in the body, a key cellular regulator of the aging process, and used to power

metabolism. *RiaGev* is not genetically modified. The ingredient, which is GRAS, benefits mitochondrial health and age-related cognitive health, supports the immune system, and helps to manage cholesterol.

DSM formulated product concepts with healthful ingredients for active lifestyles. Two bars, *Vitality Snack Bar* and *DSM Resilience Energy Bar*, addressed whole-body health. The *Vitality Snack Bar* contained *MEG-3* EPA/DHA, *All-Q* coenzyme Q10 for energy, and *resVida* resveratrol, an antioxidant. In the *DSM Resilience Energy Bar*, guarana functioned as a natural source of caffeine for a focused mind, B vitamins supported energy production in the entire body, and vitamin C functioned as an antioxidant. The bar had 15 grams of protein to help maintain muscle mass. Another product concept, *DSM Level Up!*, targeted eye health in adults. The beverage, which featured zeaxanthin, lutein, B vitamins, and caffeine, was positioned as a product to keep the eyes sharp and healthy while boosting focus throughout the day.

DSM also focused on children's eye health and immune health. A recent Global Health Concerns survey shared that children's eye health is one of the top health concerns among parents with children up to five years old. Parents are reporting an average of 90 minutes of screen time per day, even in the youngest demographic. *TechShield* gummies contained vitamin A, which is essential for vision; DHA, which is highly concentrated in the eye; and carotenoids lutein and zeaxanthin, which protect against damage to the retina from glare and sunlight. To benefit children's immune systems, *KIDSTIX* instant juice drink was formulated with vitamins A, C, and E and zinc.

Allulose

Sugar reduction remains a top concern for consumers. At this year's food expo, there was an increased presence of allulose demonstrating the tie-in with clean label and the innovation in reducing sugar content in foods and beverages. Allulose is especially appealing now after the FDA recently decided to

Wellness Trends Spark Ingredient Development continued...

exclude the ingredient from the total and added sugars line on the Nutrition Facts panel in the United States. **Tate & Lyle** educated attendees on allulose and showcased *DOLCIA PRIMA* allulose. The sweetener is available in syrup and crystalline forms, which offers the bulk, texture, and same clean, sweet taste of sucrose but with only 0.4 calories per gram.

Ingredient launched *ASTRAEA* allulose at the show and featured it in a plant-based *Tahitian Vanilla Coconut Frozen Dessert*. *ASTRAEA* is about 70% as sweet as sugar and offers similar functionalities such as bulking, browning, and freeze point depression.

Fermented Foods

Fermented foods answer the call for clean label foods. The fermentation process is considered more natural and less processed in consumers' minds. The interest in fermented foods is growing, which can be seen in the increased consumption of foods like kimchi, kombucha, kefir, and yogurt. Benefits believed to be associated with consumption of fermented foods include improved digestion and immunity.

A ginger lemonade with kombucha powder extract was made with **BI's** new *Organic Kombucha Powder Extract*. It offers a more convenient form to kombucha's traditional liquid format. This, along with its mild sour-sweet flavor, opens up several opportunities for the consumer-friendly ingredient to be incorporated into shelf-stable applications. With this ingredient, probiotics will need to be added separately.

Functional popcorn with *Purple Tea Powder* was another unique treat served by **BI**. *Purple Tea Powder*, a variety of the common tea leaf *Camellia sinensis*, provides 7% polyphenols, 30% fiber, and 20% protein. This nutritional powerhouse was paired with **BI's** *Lentil Protein Concentrate* to add a healthy twist to sweet and savory popcorn seasonings.

Florida Food Products launched a line of fermented juices. The new line of liquid and powdered lactic acid fermented vegetable products come in beet, carrot, onion, and mushroom. These ingredients are excellent options

to create great-tasting and on-trend flavors for a variety of functional food and beverage applications.

The centerpiece of Florida Food Products' fermented ingredient line is beet juice, which possesses a pleasing fruitiness and deep color with a reduced earthiness associated with beetroots. It is an ideal solution for food and beverage brands looking to add an attractive and memorable color and dynamic flavor to their formulation while keeping sugars low and labels clean.

Florida Food Products recently published a white paper on the health benefits of fermented beet juice. Beet juice and its inherent nitrate content have been shown to improve athletic performance through improved stamina, strength, and endurance. Through lactic acid fermentation, sugar content of the juice can be reduced from 25% to 50%, with the resulting flavor being described as refreshing and less earthy than standard beet juice. Nitrate levels are not affected by the fermentation process.

CBD

CBD is featured more at natural product shows and in supplements, but the interest from the food industry can't be denied. Incorporating CBD (cannabidiol) in product formulations is a growing trend within the plant-based,

clean label, and wellness categories. Consumers are looking at CBD for everything from pain relief and help with anxiety and depression to neurologic benefits. At the food expo, **Layn** launched a new line of CBD ingredients and served an anti-inflammatory cucumber beverage that included CBD and gotu kola extract. *Fruit of the Forest* beverage concept included CBD and rhodiola extract for anxiety relief.

The company also announced that its CBD manufacturing facility is expected to be completed in fall 2020. The facility will have the capability of processing a minimum of 5,000 tons of hemp biomass per year, which will yield 160 tons of high-purity CBD and 290 tons of full spectrum oil annually.

Layn has partnered with farmers that have been growing hemp since the passage of the Agricultural Act of 2014. With this partnership, Layn in the fall of 2019 will offer CBD products from large-scale farming operations with the ability to utilize cutting-edge cultivation techniques within both organic and conventional certified hemp. Layn will make its CBD ingredients available in several forms, including full spectrum oil, broad spectrum oil, CBD distillate, and crystallized isolate. **FT**

Linda Milo Ohr is a contributing editor for Food Technology magazine (linda.ohr@gmail.com).

Video Viewing Guide

Plant-based formulations reign at IFT19

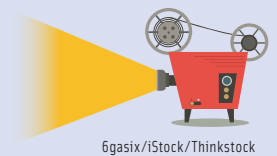
More and more consumers are gravitating toward plant-based eating. Mary Ellen Kuhn, executive editor of *Food Technology* magazine, talked with Cosucra and The Almond Board of California to learn more about plant-based formulation.

IFT19 exhibitors highlight global cuisine

Margaret Malochleb, associate editor of *Food Technology* magazine, spoke with Tastepoint by IFF and Asenzya Inc., who are responding to consumers' mounting interest in ethnic fare with their creative takes on the global food trend.

Exhibitors showcase texture and stability solutions at IFT19

Texture has always been an important consideration during product development. Kelly Hensel, senior digital editor of *Food Technology* magazine, talked with ICL Food Specialties and CP Kelco, whose innovations are bringing superior texture and stability to formulations.



6gasix/iStock/Thinkstock

View the videos at www.iftevent.org/news/news.