

Health & Wellness

Shine in Vegas

As some consumers continue to demand that manufacturers develop food and beverage products that provide additional nutrition benefits, suppliers at the Food Expo provided ingredients and prototypes to help manufacturers meet this challenge.

There is no question that overall wellness is at the forefront of consumer trends. This was evident on the 2012 IFT Food Expo show floor with ingredients and applications focusing on myriad health concerns, including weight, immunity, heart health, digestion, and bone and joint health. Here is a look at some of the creative applications and ingredient innovations that were on display.

Proteins


Innova Market Insights, Duiven, the Netherlands (phone +31-26-319-0650, www.innovadatabase.com), highlighted various food industry trends, including “Surge in Demand for Protein,” at its Taste the Trend Pavilion. According to the market research firm, the hunt for protein alternatives is gathering pace. Intellectual property development and patent activity are on the rise. Innova found that the United States accounted for more than 40% of recent alternative protein patent activity from 1980 to 2011. This was evident in the variety of sources for protein ingredients on the show floor, from dairy to vegetable-based proteins.

U.S. Dairy Export Council, Arlington, Va. (phone 703-528-3049, www.innovatewithdairy.com, www.USDEC.org), unveiled

on-trend prototypes that provided solutions for healthy snacking, simple labels, reduced sodium, and achieving high-protein diets. *Protein Powered Hummus* was made with milk protein concentrate and had 5 g of protein. *Dairy Protein Jerky Snack* was a chewy snack made with whey protein and whole milk and dried and shaped to resemble beef jerky. *Dairy Mineral Thirst Quencher* dairy-based rehydration beverage contained minerals from milk permeate and potassium, which is important for regulating fluid balance. *Wellness Wafer*, formulated with whey protein crisps, provided 5 g of protein. Using whey permeate helped to reduce sodium levels, with 80% less sodium than a similar cracker.

Greek yogurt from Glanbia Nutritionals, Fitchburg, Wis. (phone 608-316-8500, www.glanbianutritionals.com), was fortified with *OptiSol™ 1022*, a functional milk protein concentrate that creates thicker yogurt viscosity while boosting protein. The company won the 2012 IFT Food Expo Innovation Award for its *OptiSol 2000*, a milk protein concentrate that can reduce sugar usage up to 50% in food applications such as baked and chewy granola bars and cereal clusters. The ingredient contributes protein to the formulation and enables the addition of other

desirable nutrients such as fiber.

 To learn more about Glanbia's products, watch a video on the company filmed at the 2012 IFT Food Expo available at <http://live.ift.org/videos>.

A low-fat creamy tomato basil soup was made with *Grande Yogurt Powder* and *Grande Bravo* functional whey protein from Grande Custom Ingredients Group, Lomira, Wis. (phone 800-772-3210, www.grandecig.com). The company also offers *Grande WPCrisps®* whey protein crisps and *Grande Ultra®* whey protein isolate.

IdaPro milk protein concentrates and milk protein isolates from Idaho Milk Products, Jerome, Idaho (phone 208-644-2882, www.idahomilkproducts.com), contain native whey proteins and micellar casein in the same unaltered ratio as naturally occurring in milk. These fast- and slow-digesting proteins are ideal for lasting satiety in sports nutrition and weight management applications.

An energy shot with 12 g of whey protein isolate and caffeine, lemon iced tea with 11 g of whey protein isolate, and *Citrus Splash* with 17 g of whey protein isolate demonstrated whey protein fortification in clear beverages from Hilmar Ingredients, Hilmar, Calif. (phone 209-667-6076, www.hilmaringredients.com). »»



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Increase the amounts of protein and calcium in dips and spreads like hummus by using milk protein concentrate.
Photo courtesy of U.S. Dairy Export Council

A protein powerhouse, eggs set the standard for protein levels among ingredients with the highest PDCAA score. American Egg Board, Park Ridge, Ill. (phone 847-296-7043, www.aeb.org), promoted egg ingredients, which contain a high level of essential amino acids in a readily bioavailable form. This availability and digestibility is an important factor especially when formulating for seniors, active adults, teens, and athletes who rely on a protein boost to maintain muscle function.

ADM, Decatur, Ill. (phone 800-637-5843, www.adm.com), launched *Clarisoy™ 150*, the first extension to the *Clarisoy™* ingredient line. The ingredient is a clean-tasting isolated soy protein specially processed for use in beverage systems with a pH of less than 4.0 with cloud systems or beverages neutralized to a pH of 7.0 or greater. These qualities of the ingredient allow for greater use of soy protein in mildly flavored neutral beverages such as meal replacement and weight management products. The ingredient enables beverage manufacturers to formulate with up to 10 g of protein per serving. Attendees sampled *Harmony Soy milk* made with *Clarisoy 150* and *Fruit and Veggie Jive*, a nutritional beverage made with *Clarisoy 100* transparent soy protein. *Clarisoy 100*, launched at the 2011 IFT Food Expo, is a transparent, isolated soy protein for 100%

soluble protein fortification in beverage applications with a pH less than 4.0.

Protein Snack Crisps from Roquette, Keokuk, Iowa (phone 319-524-5757, www.roquette.com), featured *Nutralys®* pea protein. The ingredient was also featured in a dairy-free tropical cream-flavored beverage along with the company's *Nutriose®* soluble fiber.

A collagen peptide, *Peptan™*, from Rousselot Inc., Mukwonago, Wis. (phone 888-455-3556, www.rousselot.com), consists of hydrolysates of native collagen from fish, pig, and bovine. Adults need 10 g of collagen peptides per day to get the beneficial effects on joint, bone, and skin health.

Milk protein concentrates and isolates from Ingredia Inc., Wapakoneta, Ohio (phone 419-738-4060, www.idi-ingredients.com), are high in protein (60–87% dry basis). Soluble milk protein isolates have a stable protein composition and no by-products. Whey protein concentrates allow for protein enrichment without added fat.

Gelita USA Inc., Sergeant Bluff, Iowa (phone 712-943-5516, www.gelita.com), highlighted gelatin, collagen, and collagen peptides. The company's collagen peptide range includes *Verisol®* to help improve moisture balance in skin, *Fortigel®* to stimulate the growth of new joint cartilage cells, and *Vitarcal®* for calorie management.

Dietary Fiber

Dietary fiber was featured in products benefiting weight management, immunity, digestion, and heart health. ADM/Matsutani LLC, Itasca, Ill. (phone 217-451-4377, www.fibersol.com), showed its *Fibersol®* line of ingredients in several prototypes. *Dark Fudge-coated Peanut Butter Wafer Bar* contained *Fibersol-2* corn soluble fiber and ADM's soy protein isolate in the filling. It had 5 g of fiber and 3 g of protein per serving. *Light Vanilla Frozen Dairy Dessert with Caramel-flavored Sauce* contained *Fibersol-HS* to reduce sugar, improve mouthfeel, and deliver fiber. *Peach-flavored Effervescent Energy Beverage Mix* featured *Fibersol-2 AG* to deliver 4 g of fiber while *Cranberry Almond Crisp Bar* featured *Fibersol-LQ* as part of the corn

syrup in the binding system of the bar.

Ingredient Inc., Westchester, Ill. (phone 708-551-2600, www.ingrediention.com), highlighted its *Nutrition Worth Eating™* portfolio of soluble fibers, resistant starches, calcified mineral source, and whole-grain corn flour that provide nutritional enhancement but don't affect the taste and texture of foods. *High-fiber, Reduced-sugar Blueberry Muffin* helped maintain healthy blood sugar levels and supported weight management thanks to *Hi-maize® 260* resistant starch for its dietary fiber and *Enliten®* reb A stevia. *Bone Health Almond Milk* featured *NutraFlora®* prebiotic soluble fiber for enhanced calcium absorption and *Aquamini®* calcified mineral source.

SunOpta Ingredients Group, Chelmsford, Mass. (phone 781-276-5141, www.sunopta.com/ingredients), expanded its portfolio of value-added ingredients to include rice fiber, cellulose fiber, and a specialty starch designed for use in yogurt and other dairy foods. *SunOpta® Rice Fiber 310*, a gluten-free ingredient, provides more than 90% of dietary fiber with a smooth texture and bland flavor. Rice fiber is made from rice bran and does not exceed 50% of total dietary fiber. *SunOpta Cellulose Fiber 310* retains moisture, which helps to optimize yields and control costs.

Sensible snacking solutions were on display by Grain Processing Corp., Muscatine, Iowa (phone 563-264-4265, www.grainprocessing.com). *TruBran®* corn bran was featured in a tasty, kid-friendly pizza snack. *TruBran* is a natural, insoluble dietary fiber that can easily boost fiber levels without sacrificing taste. Portioned-controlled dessert bites with grown-up appeal were also available.

Sensus America Inc., Lawrenceville, N.J. (phone 646-452-6143, www.sensus.us), featured *Frutalose® SF75* in brownies. The ingredient, derived from chicory root fiber, is a low-calorie, all-natural sweetener that reduces sugar in sweet baked goods, dairy, and cereal bars. It also provides a consumer-friendly way to replace less-desirable ingredients. It is a clinically proven

prebiotic, shown to support digestive health and weight management.

Tate & Lyle, Hoffman Estates, Ill. (phone 847-396-7500, www.tateand-lyle.com), offered *Chocolatey Indulgence*, a brownie topped with salted caramel sauce. It had less sugar and calories than the full-sugar version thanks to *Promitor*TM soluble corn fiber and *Krystar*[®] crystalline fructose. The sauce was sweetened with *Splenda*[®] sucralose. The company's *Rebalance*TM formulation service helps manufacturers reformulate for less fat, sugar, calories, and sodium without compromising taste. *Black Raspberry Greek-style Frozen Yogurt* featured a blend of *Krystar* and *Purefruit*TM monk fruit extract, and *Promitor*. The amount of sugar was cut in half and the prototype had a 23% calorie reduction compared to a full-sugar, Greek-style frozen yogurt in the market.

Nexira Inc., Somerville, N.J. (phone 908-707-9400, www.nexira.com), introduced *Fibregum Crystal*TM, a highly purified acacia gum with enhanced properties for exceptional performance in clear beverages and functional foods. *Fibregum*TM is an all-natural and GMO-free source of soluble dietary fiber with a guaranteed minimum of 90% on a dry weight basis.

J. Rettenmaier USA LP, Schoolcraft, Mich. (phone 269-679-2340, www.jrsusa.com), introduced *Vitacel*[®] corn fiber. It is rich in antioxidants, naturally produced for a clean label, and highly effective for extruded snacks. It has a total dietary fiber content of 65–70% (dry basis) and antioxidant activity more than 240 micromoles TE/g. *Vitacel* soy fiber is a new ingredient that is gluten-free, made from non-GMO soy hulls, and naturally produced for a clean label.

Children's Nutrition

Demonstrating how it can help food and beverage manufacturers, restaurant and foodservice operators, and school nutrition experts develop products that address the nutritional needs of children, Cargill, Wayzata, Minn. (phone 952-742-9246, www.cargill.com/food), offered up great tasting, kid-friendly products that contain less sodium, calories, and fat, and

more whole grains, fiber, and protein. *Chicken Quesadillas*, featured the *SodiumSense*TM sodium reduction system for 25% less sodium than traditional chicken quesadillas. *Reduced-fat Mini Burgers* featured *Prosante*[®] textured soy flour, *MaizeWise*[®] whole-grain corn, and Horizon Milling's *WheatSelect*[®] white whole-wheat flour. *Blueberry Snack Bars with Yogurt-flavored Drizzle* featured *Wilbur*[®] Y248 yogurt-flavored confectionery coating, Horizon Milling's *WheatSelect*, *CitriTex*[®] stabilizer blend, and *Oliggo-Fiber*[®] inulin. The bars met the 30/10/30 rule (30% or less calories from fat; 10% or less calories from saturated fat; at least 30% less sugar by weight) for school nutrition programs, and offered whole-grain nutrition benefits, as well as "good source of fiber" and "low-fat" claims.

Vitamins and Minerals

BASF Nutrition & Health, Florham Park, N.J. (phone 973-245-6000, www.newtrition.basf.com), showcased its portfolio of health ingredients in prototypes relevant for today's consumer. *Energy Drink* featured caffeine, B vitamins, and carotenoids. *Heart-healthy Ginger Crisps* contained omega-3 fatty acids and vitamin D. *Good-For-You Gummies* featured phytoosterols and lycopene. *Coconut Water* and *Toning Shots* both contained *Tonalin*[®] for body composition.

Convenient, on-the-go food and beverage prototypes from Fortitech Inc., Schenectady, N.Y. (phone 518-372-5155, www.fortitech.com), offered manufacturers cutting-edge ideas. *PowerCap*[®] provided nutrients, flavors, colors, stabilizers, and sweeteners in one complete powdered solution. Housed in a compartment within a cap that fits the top of any regular-size water bottle, the premix can be released into a beverage at will. Nutrients are dispensed in an intact state, which increases shelf-life and eliminates the need for overages, preservatives, and additives. Other prototypes included *Fizzy Slimming Effervescent Tablet* formulated with nutrients such as B-vitamins, chromium, and L-carnitine; *Single Serve Hangover Helpers* gelatin shots formulated



A flavored vitamin and mineral premix is contained in the bottle cap, which fits standard-size water bottles. Consumers shake the bottle of water to release the premix resulting in a fortified beverage.

Photo courtesy of Fortitech Inc.

with B-vitamins, magnesium, and potassium; and *Bursting Bits Cherry Confectionery* candy that "crackled" in the mouth and is fortified with 18 nutrients.

DSM Nutritional Products, Parsippany, N.J. (phone 800-526-0189, www.unlimitednutrition-na.dsm.com), launched *Total Premix Partnership*, a new value proposition that offers DSM's market knowledge, research and development expertise, high-quality nutritional ingredients, and blending capabilities to manufacturers. The company showcased its abilities by developing several prototypes. *NRG* energy beverage supplement was fortified with vitamins, caffeine, taurine, L-tyrosine, and D-glucuronolactone. *Smart & Sexy* cognition and beauty drink contained *life'sDHA*[®] omega-3 for brain health, *HydraBella*TM *Beauty Blend* for optimal skin hydration (with *FloraGLO*[®] lutein), *Optisharp*[®] zeaxanthin, and

vitamins C and E for collagen synthesis. *Chill Out* tea was formulated with L-theanine, which relieves stress and anxiety while enhancing mood, *Teavigo*[®] epigallocatechin gallate (EGCG) from green tea, a protective antioxidant, and B vitamins to help support energy and cognitive function.

Watson Inc., West Haven, Conn. (phone 203-932-3000, www.watson-inc.com), offered *Mocha Cappuccino Granita* with vitamins that promote eye health, including a premix of lutein, vitamin A, vitamin C, niacin, vitamin B-6, vitamin B-12, and pantothenic acid. *Green Apple Granita* was fortified with a B-vitamin premix.

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Pomegranate Margarita was fortified with an antioxidant premix, which utilized *Watson Clear-E*[™] and *BetaClear*[™].

Three prototypes from The Wright Group, Crowley, La. (phone 337-783-3096, www.thewrightgroup.net), satisfied the appetites of attendees.

Whole-grain Pizza showcased *SuperCoat*[®] omega-3 and *SuperCoat*[®] *Bake Stable* vitamin C. *Fruit-flavored Immunity Drink* highlighted the company's liquid blend capacity and nutritional premixes. *Strawberry-flavored Energy Punch* contained an energy nutritional premix with a customized blend of L-taurine, glucuronolactone, and inositol.

Innophos, Cranbury, N.J. (phone 609-495-2495, www.innophos.com), offered *Lemon Iced Tea* with *VersaCal Clear*[®]. The soluble form of calcium phosphate provides excellent solubility and enhanced taste to tea beverage applications.

ICL Performance Products LP, St. Louis, Mo. (phone 800-244-6169, www.icl-perfproductslp.com), sampled popcorn salted with *Salona*[™] low-sodium sea salt derived from the Dead Sea in Israel. It allows for a 25–50% replacement of sodium chloride so manufacturers can meet consumers' dietary and taste demands. *Mag-nificent*[®] supplies magnesium to support the formation of bone and teeth by assisting

with the absorption of calcium and phosphorus. *Cal-Sistent*[®] offers a calcium content of 38% and delivers calcium-to-phosphorus ratios equivalent to those found in human bones, without altering the key characteristics of consumers' favorite foods and beverages.

Paving the way for increased vitamin and mineral absorption and bioavailability, Helios-Sunbio Corp., Bloomington, Ind. (phone 505-982-8836, www.HeliosCORP.net), highlighted *TransportC-PLUS*, the next-generation high-absorption vitamin C for beverages and dairy. It increases the absorption and transport of vitamin C by diminishing the oxidative stress of the vitamin

when entering into the blood stream and helps move more vitamin C through the body over a longer period of time. The company also showcased *NC-518* calcium, which supports bone health.

Botanicals, Extracts, and Fruits

To celebrate its 35th Anniversary, BI Nutraceuticals, Long Beach, Calif. (phone 310-669-2101, www.binutraceuticals.com), sampled *Sparkling Green Tea*. Green tea contains catechins, the most abundant of which is EGCG that has been shown to promote weight management and overall health. In addition to the tea, brownies and applesauce made with chia were served. Chia seeds deliver the highest levels of total omega-3 fatty acids by weight of any common food, provide a complete vegan source of protein, have more fiber than common grains, contain no gluten or cholesterol, and provide nutrients, vitamins, minerals, antioxidants, and essential amino acids.

Transforming natural ingredients into sweet desserts, Naturex, South Hackensack, N.J. (phone 201-440-5000, www.naturex.com), featured three *Pates de Fruits* that demonstrated the variety of textures that can be created by *NAT textur*[™] ingredients. The treats also included fruit flavors from the *Hinotes*[®] line of ingredients and

some functional botanical extracts from the *NAT healthy*[™] line of ingredients. The company showcased *DietGum*, a prototype developed with Fertin Pharma. It contained 400 mg of *Svetol*[®] green coffee bean extract. *Passionfruit Jellies* contained guarana extract, jambu extract, and passionfruit *Hinotes*. The *NAT F&V*[™] line of ingredients includes a variety of fruit and vegetable powders that can upgrade the flavor and enhance the nutritional profile of food and beverage products. Naturex also launched *VegeBrite*[™] concentrates of fruits and vegetables.

Solazyme Roquette Nutritionals LLC, San Francisco, Calif. (phone 650-243-5500, www.srnnutritionals.com), introduced *Almage*[™] microalgae-derived lipid, protein, and fiber ingredients. The company showcased two consumer prototypes: a chocolate chip cookie made with *Almage HL* whole algalin flour and a green tea made with *Almage HP* whole algalin protein. The ingredients also contain micronutrients such as lutein and phospholipids.

A new, patented botanical extract derived from controlled cultivation of *Sceletium tortuosum* herb, *Zembrin*[®] from PL Thomas & Co. Inc., Morristown, N.J. (phone 973-984-0900, www.plthomas.com), helps promote calm and combat stress. *RhodiLife*[™], derived from *Rhodiola rosea*, supports healthy biological responses necessary for healthy immune, cardiovascular, and endocrine systems. It supports sustained energy, physical performance, and an increased capacity to handle stress and support mood.

BioGlance, Barcelona, Spain (phone +34-934-006-100, www.bioglance.com, www.fagomine.com), highlighted *Fagopure*[®] D-fagomine, which helps to maintain healthy blood sugar levels and also has a gut protective effect. It is a naturally occurring glucose analog. A study published in the *British Journal of Nutrition* showed that D-fagomine may be used as a dietary ingredient to reduce the health risks associated with an excessive intake of fast-digestible carbohydrates, or an excess of potentially pathogenic bacteria.

Sensus, Wauconda, Ill. (phone



A probiotic ingredient can survive processing and inclusion in shelf-stable foods thanks to a protective layer. Photo courtesy of Geneden Biotech

847-487-1011, www.synergytaste.com), offered natural extracts, flavor essences, and concentrates. Its production facility incorporates technologies to limit the loss of flavor and aroma volatiles from herbs, botanicals, fruits, and vegetables. The company's essences and extracts were featured in various prototypes. *Caipirinha* contained cachaca and lime flavors, *Brazilian Orange Caipirinha* contained tangerine and lime juice concentrates, and *Rooibos Lavender Tea Marshmallows* contained lavender flavor and natural rooibos essence.

A first-time IFT Food Expo exhibitor, LycoRed Corp., Orange, N.J. (phone 866-592-6733, www.lycored.com), showcased its *Lyc-O-Mato* tomato lycopene extract in potato chips. It can be used for color and flavor enhancement. *Lyc-O-Beta 1% CWS* is a natural beta carotene used as a coloring. Manufactured by fermentation of the naturally occurring *Blakeslea trispora zygomycete*, the ingredient is available in a wide range of colors, from light yellow to deep orange.

Fruits with high antioxidant content were on display throughout the show. POM Wonderful, Los Angeles, Calif. (phone 310-966-5800, www.pomwonderful.com), highlighted the health-promoting benefits of pomegranates. The company grows, harvests, processes, and ships pomegranates and pomegranate ingredients worldwide. *POM Wonderful* 100% pomegranate juice and *POMx*

contain antioxidants punicalagin, anthocyanins, and ellagic acid.

Blueberries are packed with vitamin C and dietary fiber, are an excellent source of manganese, and contain anthocyanins. They also offer functional perks of great taste, convenience, and versatility.

The U.S. Highbush Blueberry Council, San Mateo, Calif. (phone 650-340-8568, www.blueberry.org), consists of growers and packers in North and South America who market their blueberries in the U.S.

Immunity

Biothera, the Immune Health Co., Eagan, Minn. (phone 651-675-0300, www.wellmune.com), offers *Wellmune WGP*, a natural beta 1,3/1,6 gluco polysaccharide that is clinically proven to prime key immune cells that keep the body healthy. A clinical study published in the *British Journal of Nutrition* showed that *Wellmune* prevented suppression of the immune system that normally occurs after intense exercise. Another study published in *Nutrition* showed that fourth-year medical students taking *Wellmune* for 90 days reported fewer days of cold and flu symptoms than those who consumed the placebo.

Geneden Biotech Inc., Mayfield Heights, Ohio (phone 866-777-0825, www.genedenlabs.com), announced that its probiotic *GenedenBC30*[®] is used in Uncle Wally's[®] new *Smart Portion Muffin Tops*. The ingredient is a patented natural probiotic that has been shown to support both the immune and digestive systems.

Geneden's probiotic delivery system is different—it is an ingredient that is consumed in a variety of foods and beverages such as breads and muffins, nutrition bars, yogurt, protein powder, and chocolate. *GenedenBC30* is a high-survival probiotic. It has a naturally occurring layer of organic material that protects the genetic core of the bacteria. This protective layer provides the probiotic with the ability to survive the extreme temperatures involved in food and beverage manufacturing processes, shelf life, stomach acids, and intestinal bile.

Nuts

California Walnut Board, Folsom, Calif. (phone 916-932-7070, www.walnuts.org), highlighted its latest innovative formulas. Attendees sampled *Orange-glazed Walnuts*, *Cheddar Cheese and Walnut Crackers*, *Walnut-Cardamom Cake*, and *Turkish Style "Kibbeh" Meatballs*. Not only was the versatility of walnuts highlighted, but also the health benefits. Walnuts contain the highest amount of alpha-linolenic acid (ALA). In addition to providing 2.5 g of ALA, 1 oz of walnuts provides various antioxidants, 4 g of protein, 2 g of fiber, magnesium, and phosphorus. Heart health, diabetes, and weight management can all benefit from the addition of walnuts to the diet.

The benefits of almonds at breakfast were discussed by the Almond Board of California, Modesto, Calif. (phone 209-549-8262, www.almondboard.com). According to a recent study, consumers would select almonds for inclusion in cereal products because they "are nutritious," "better tasting," and "go well with other ingredients." Based on the 27% increase in almond cereal product introductions from 2010 to 2011 in North America, it appears product manufacturers are heeding consumer demand. According to the Breakfast Outlook Study conducted by Sterling-Rice Group in 2009, almonds are the most consumed nut at breakfast. Almonds outscored other nuts in two of the top three attributes consumers say they look for in breakfast products, including "is tasty and nutritious" and "fills me up until lunch."

Blue Diamond Almonds Global Ingredients Division, Sacramento, Calif. (phone 916-446-8500, www.bdingredients.com), is Blue Diamond Growers' largest business unit. This is the new name for Blue Diamond Industrial Products, reflecting its sustained double-digit yearly growth as the dominant global almond supplier. A new website is an important component of the division's enhanced profile, offering resources for food scientists and R&D professionals. **FT**

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