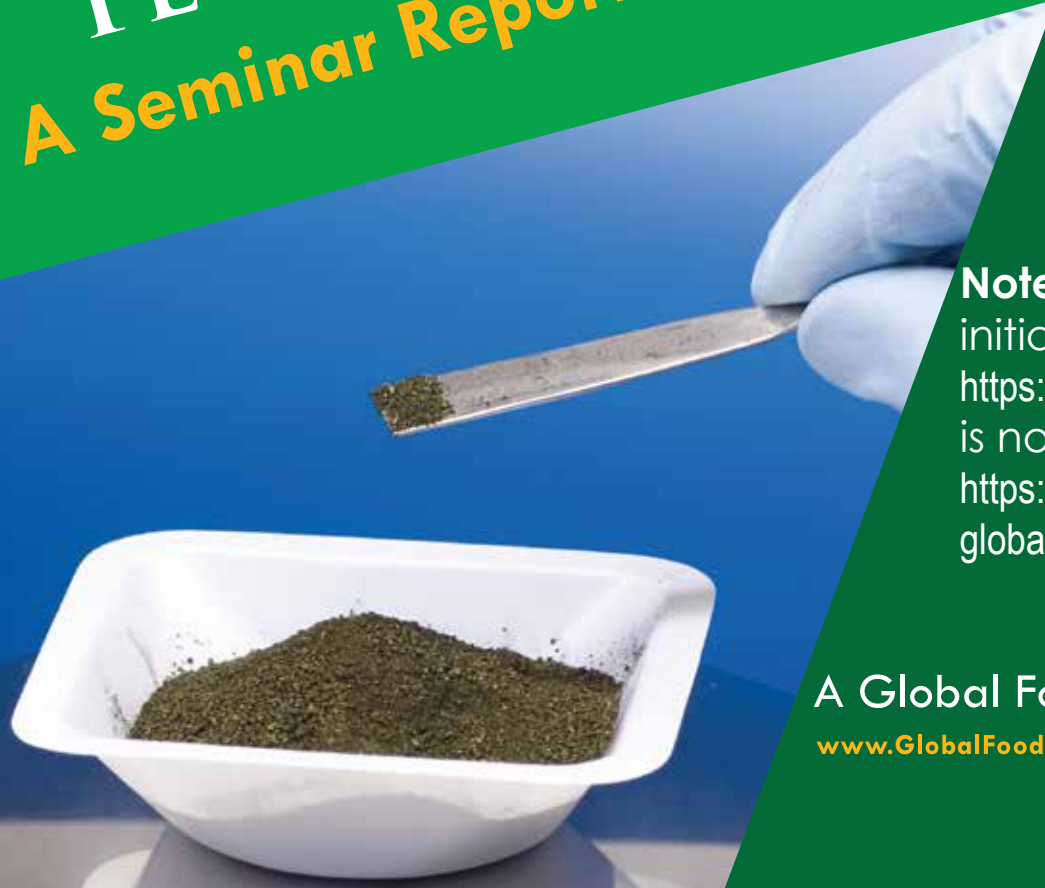


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2014 WEIGHT MANAGEMENT TECHNOLOGIES SEMINAR

A Seminar Report Sponsored by **Ingredion**



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2014 Weight Management Technologies Seminar Special Report

According to the World Health Organization, worldwide obesity has nearly doubled since 1980. In 2013, 42 million children under the age of five were overweight or obese. The U.S.-based Centers for Disease Control and Prevention notes that some of the leading causes of preventable death—cardiovascular disease, type 2 diabetes and certain cancers—are obesity-related conditions. In 2008, average medical costs for people who were obese were \$1,429 higher than those of normal weight.

Weight control is a complex challenge involving a multi-pronged approach, including food availability, nutritional education and lifestyle, among many others.

On September 30, 2014, Global Food Forums, Inc.'s Weight Management Technologies Seminar was held with the

purpose of focusing specifically on formulation issues involved in the development of satiety and reduced-calorie foods.

Individual speakers discussed consumer and product trends, the regulatory environment and nutritional issues. The keynote speaker and other food scientists presented information on strategic approaches to weight management product development; reduction of caloric sweeteners, and of calories, in general; satiety enhancement; and non-traditional food ingredients.

Most presentations and/or adapted versions are available free, online at <http://GlobalFoodForums.com/2014-Weight-Management/Store>. This report will be available in digital format on GFF's Store page, as well.

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An Insider's Perspective to Weight Management Product Development

Weight management may seem like one of those topics that everyone is talking about—but no one is doing anything about—and that actually makes it a wide area of opportunity. Leading brands in the packaged food and supplement industries have been actively pursuing a variety of strategies to create a pipeline of new products to expand this market. A lot of focus is on products that promote satiety, manage weight and enhance metabolism, noted Scott Martling, Associate Director, R&D, for the International Food Network, Inc.

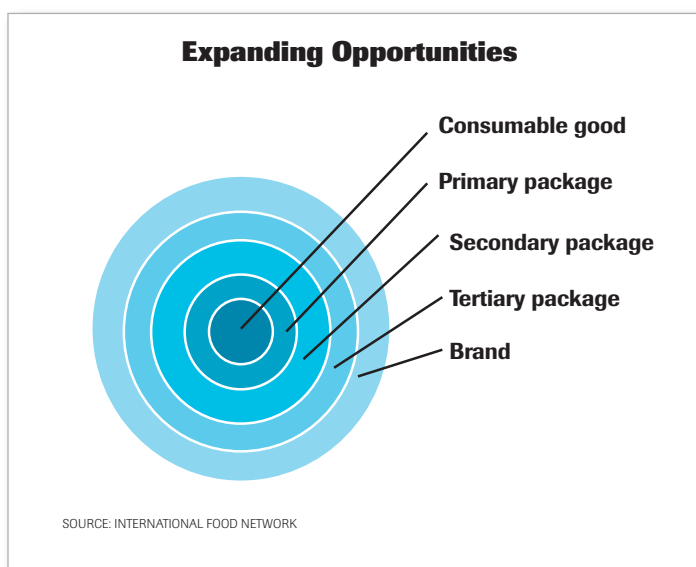
However, products are only a part of the weight management equation. In addition to food consumption, factors affecting weight management for consumers include fuller schedules and reduced time for physical activity. Also, not everyone has the same weight management goals. Weight loss and maintenance are common; in sports nutrition, often the goal is to gain weight.

Weight management systems, such as Nutrisystem®, Weight Watchers®, Jenny Craig®, Cross-Fit® and bariatric surgery have tried to be more than just products or sole solutions, as they come with training and community support. While all food products are not a weight management system, most consumable goods come with a primary package, secondary package, tertiary packages and a brand—which are all space for, and a way to communicate, tremendous amounts of information to help consumers, said Martling.

While developing products, often there are many conflicting considerations. These include not only consumers' weight management goals; specific retailers require compliance to their own policies, such as clean labels, shelflife minimums and price points. Consumers look at labels for such things as "free-from" claims, recognizable ingredients, organic and non-GMO claims. Nutritional content is more scrutinized by consumers than ever, with focus on calories, fat, protein, carbohydrates, sugar, fiber and sodium. Perceived value is also important in regards to size, quality and delivery.

Expanding opportunities can be found by looking at the daily consumption cycle. "There are key behavior cues in what consumers do; when they do it; which products they do it with; and why they do it a certain way. The product development goal is to insert something into the cycle that improves consumers' lives," explained Martling.

These opportunities include the concept of multiple eating occasions per day. Snacking is occurring at many times between all meals, at all times of day and evening. "While many strategies are available to meet consumer requirements, focusing on calorie



■ Looking at key consumer behaviors—such as what they do, when they do it, which products they do it with, and why they do it that way—can present opportunities to insert new products that improve consumers' lives.

reduction per serving has the broadest application in food and some supplements," added Martling.

To achieve these desired results, multiple options should be evaluated, such as reducing fat, sugar or other carbohydrates; or simply reducing serving size (if this is an option). Increasing fiber and protein promotes satiety and also helps in fat reduction of many foods.

Cost in product development is also an important consideration, but it can be managed. For example, in sugar reduction, natural high-intensity sweeteners are more expensive than sugar. However, if sweetness is 200 times greater than sugar, the use level is such that both cost and sweetness can be matched—with reduced sugar and calories. This practice can be applied across formulations, from beverages to cookies. Reducing sugar and fat—and increasing complex carbohydrates and/or protein—reduces calories, reminded Martling.

Sugar reduction has other challenges, too, as sugar in foods also impacts color, body, texture and shelflife. There are specific strategies for all of these challenges, depending on products. And, while sugar reduction may be the right strategy for one product, others may go with reducing fat or serving size.

The future promises vast opportunities, not only for weight management, but also as the conventional and natural worlds of food merge.

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Effective Marketing of Nutrition and Dietary Foods and Beverages in the Regulatory World

In regards to weight-loss products, the two agencies for regulatory enforcement are the FDA, for governance of the food label and labeling; and the FTC, for food advertising. Other players include private plaintiffs, State Attorneys General, National Advertising Division (NAD) and Center for Science in the Public Interest (CSPI).

Two common claims include nutrient content claims and structure/function claims, which are discussed here.

“Nutrient content claims, expressly or by implication, characterize the level of one or more of the nutrients required in nutrition labeling. The Federal Food, Drug, and Cosmetic Act (FFDCA) deems a food misbranded for bearing a nutrient content claim, unless FDA has issued a regulation authorizing the claim, and the claim is made consistent with the regulation,” explained Steven B. Steinborn, J.D., Partner, Hogan Lovells US LLP, in his presentation on weigh management marketing regulations.

Nutrient content claims include terms such as “high,” “rich in” or “excellent source of,” which are allowed when a nutrient is present at a minimum of 20% of the daily value per serving. “Good source of,” “contains” and “provides” can be stated, if between 10-19% of the daily value is contained per serving. Other nutrient content claims include “more,” “added,” “high potency,” “free,” “without,” “low,” “very low,” “light,” “less” and other terms—all with their required criteria.

Relative claims are nutrient content claims that compare the level of a nutrient in one food with that of another food, and they include “light,” “reduced,” “less,” “fewer,” “more” and others. The claim must identify the percent decrease or increase of a nutrient from the reference food. The claim must disclose the level of the nutrient in the product and in the reference food (“regular product contains 12g fat and this product contains 9g fat”). “Relative claims require significant label real estate,” added Steinborn.

Structure/function claims relate to the role of a nutrient on the normal function of the body, not of a disease condition. “Supports memory” could be an acceptable structure/function claim; however, “lowers cholesterol” would not be acceptable. (See chart “Structure/Function Claim Examples.”)

Advertising regulations cover claims both express and implied in advertisements. Unintended claims account for most false advertising cases, often citing omission of facts.

Structure/Function Claim Examples

| Acceptable | Not Acceptable |
|--|---|
| Maintains healthy cholesterol for people with normal cholesterol | Lowers cholesterol |
| Supports memory | Reduces memory loss in elderly |
| Provides energy | Natural stimulant to prevent drowsiness |

SOURCE: HOGAN LOVELLS

■ Structure/function claims relate the use of a substance to a normal body function. The claim cannot relate the substance to treatment or cure of any disease.

“False advertising arises from unsupported, objective claims. The level of proof required is suggested by the claim,” added Steinborn. “The research must have been evaluated and conducted in an objective manner by qualified persons, using procedures acceptable in the profession that yield accurate and reliable results.”

The FTC has aggressively enforced false advertising claims for novel ingredients and weight-loss supplements, including green coffee bean and açai berry. Targeted statements have included “burn fat,” “increase metabolism” and “suppress appetite.” Over the past 10 years and 82 cases, USD\$107 million in restitution has been paid to consumers for these types of claims. The FTC considers the weight-loss category a “red flag” group of claims, and it is possible that there could be spill-over to conventional or nutritional foods, Steinborn cautioned.

Some tips for providing credible scientific evidence include following sound scientific procedures. Also, the study population should match the target advertising audience. Self-reporting diary approaches can suffer from lack of reliability. And, nutrition counseling for only the test group can skew results. It is optimal to use the advertised product in the clinical study. Also, the claim should focus on the typical or average results found in a study, not on outliers.

A dynamic regulatory environment is heightening the scrutiny on nutrition and health claims. Both large and small companies are potential targets. The painfully exacting assessment of the science sets the high bar for proof, and the consequences of getting it wrong can be severe, finished Steinborn.

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Sugar Reduction: How to Formulate with Less Sugar While Maintaining Sugar-like Properties

The sensation of taste is complicated and is influenced by the other senses. However, one approach to sugar reduction is to start with natural, high-potency sweeteners, together with bulking ingredients.

Bulking agents compensate for some of the missing functional properties of sugar. “And, by adding cross-modal correspondences, a reduced-sugar food can be made even sweeter-tasting yet,” explained Alex Woo, Ph.D., CEO of W2O Food Innovation.

Natural, high-potency sweeteners, like stevia extract, can be combined with the natural, non-caloric bulk sweetener erythritol. Blending each at low-usage levels can achieve maximum sweetness with minimal off-flavors and with less cost.

Stevia is non-caloric and some 300 times sweeter than sugar. For example, when used at 0.02% in beverages, the sweetness is equivalent to about 6% sugar (sucrose). It is most commonly labeled as “stevia extract.”

Erythritol is a non-caloric and cost-effective bulk sweetener. It is found in fruits and vegetables; is made by fermentation; and has the highest digestive tolerance among all polyols. It is practically non-caloric and is 65% as sweet as sugar, said Woo. He also noted that it has a 3.5% limit in beverages in the U.S. and is approved for use at Good Manufacturing Practice (GMP) levels in many countries. It is labeled as “erythritol.”

In addition to sweetness, sugar also enhances the perception of flavor and improves mouthfeel. In bakery, dairy and confectionary applications, sugar contributes to flavor and appearance through Maillard browning reactions and also as part of fermentation processes. It can promote a shiny appearance to food surfaces. Sugar also contributes to texture and viscosity, and it affects freezing, melting, gelation, aeration, emulsion, water binding, crystallization, surface tension, film formation and weight/volume. Therefore, sugar can be challenging to replace, Woo explained. Bulking agents can be helpful.

Inulin is one of the most versatile natural bulking agents available. Found in nature, inulin is often extracted from chicory root. Inulin has prebiotic fiber activity and is low-calorie. It is labeled as “inulin” or “chicory root fiber.”

Cross-modal correspondences are how the brain processes information from different senses to form multi-sensory experiences in daily life. Examples include smell’s impact on taste; trigeminal sensations on taste; sight on taste; and sound on taste. With smell and taste, cross-modal associations involve interaction between olfaction and gustation. That is, retro-nasal “sweet” aroma (smell) in the nose increases the sweet perception in the mouth (taste), said Woo.



■ An example of trigeminal and taste cross-modal association occurs with carbonation. Carbonation is a trigeminal pain agent that reduces sweetness perception and makes artificial, high-potency sweetener taste more like sugar. Cold water makes stevia seem significantly more potent. Drinking hot water prior to eating makes dark chocolate taste sweeter.

By using molecular biology to “trick” taste buds, fresh tomato aroma can make tomatoes taste sweeter; sugar distillate enhances beverage sweetness; tea essence enhances sweetness in tea; and vanilla—below or above aroma threshold—enhances the perception of sweetness among U.S. consumers. Curiously, vanilla was found to enhance saltiness perception in Japan, possibly due to prior association on many savory Japanese foods formulated with vanilla.

Vision also affects sweetness. More rounded shapes tend to associate with sweeter stimuli. Round chocolate has been found to taste sweeter than square, all else being equal. Gazing at a round shape can make beer or a 0.3% sugar solution taste sweeter.

Color also affects perceived sweetness. Strawberry *mousse* was found to be more liked and 10% sweeter when served on a white plate than a black plate. Hot chocolate was found to taste sweeter in a dark cream cup than in a white or red cup.

Sounds can also exert profound roles in flavor perception. Twinkling, higher pitches enhance sweetness in toffee, and lower tones emphasize bitterness. Higher-frequency sounds pair well with sweet wine.

Sugar can be reduced in food using natural, high-potency and natural, non-/low-caloric bulk sweeteners. Food can be made even sweeter using simple cross-modal correspondences.

“The taste physiology of today is the food ingredient of tomorrow,” closed Woo.

Alex Woo, Ph.D., CEO, W2O Food Innovation, Alex.Woo123@gmail.com, 425-985-8168, @AlexWoo_W2O, W2OFoodInnovation.com

Reduced-Calorie Foods: Sensorial Shortcomings and Emerging Solutions

Optimization is needed to overcome flaws in aroma, taste, texture and mouthfeel of foods reduced in calories, fat, sugar and/or sodium. Perception is a multisensory integration process occurring in the orbitofrontal cortex of the brain. When perceiving a food, the senses of taste, smell, vision, hearing and touch are all integrated into one response to all stimuli.

“Cross-modal sensory enhancement is a strategy to compensate for flavor perceptions impacted by the reduction of sugar, fat or salt,” explained Rianne Ruijschop, Ph.D., Group Leader, Food Structure and Stability for NIZO food research.

Fat has an effect on flavor release, with flavors lingering significantly longer in the mouth for higher-fat products than for those lower in fat. The temporal profile of flavor release is an important quality indicator for sensory perception. It is beneficial for some sensations to linger, such as creaminess. However, lingering off-flavors are undesirable.

Sensory elements, such as rancidity or the off-flavors associated with some of the stevia-based sweeteners, are still perceived well after the positive aroma system has been depleted. This is the result from the olfactory system being extremely sensitive to off-flavor compounds.

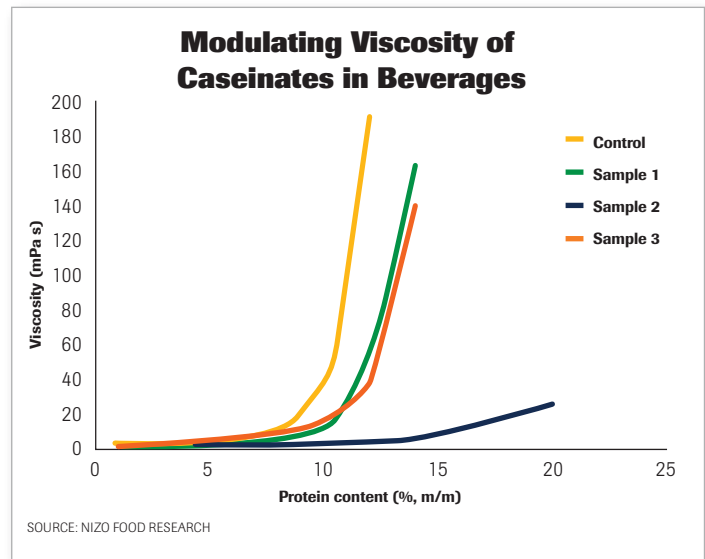
“In sweet products, sugar gives early sweetness, while sweetness is delayed when using stevia. First-generation stevia had a lingering, licorice aftertaste. Optimized stevia-based systems have now improved aftertaste but still lack the early sweetness of sugar,” Ruijschop informed the audience.

Aroma cross-modal sensory enhancement can help overcome flavor issues. In work at NIZO, various aromas have been tested, along with a test-taste solution given by a Gustometer (a unique tool which mimics the release of tastants during food consumption). Trained panelists assessed the sweetness intensity of a taste solution with and without an accompanying aroma. Natural apple aromas were found to increase sweetness by 20%. Ripeness-associated esters in apples were found to enhance the sweetness response.

Olfactoscan technology has enabled the screening of taste-enhancing aromas. This work can lead to non-labeled (i.e., clean label) ways to enhance flavors (taste and aroma)—possibly through raw material selection, processing or fermentation technologies.

Another approach to altering taste perception is pulsation of tastants. “Humans are more attuned to changes or contrast than to constant signals. When tastants are delivered at a varying (pulsed) concentration, they are perceived as 15-30% more intense. This effect has been proven for sweetness and salty tastes, in model systems as well as in real products” said Ruijschop.

Creaminess enhancers are often used in low-fat products. Time-release of these enhancers may boost their efficacy.



■ Caseinates can be tailored to provide readily dispersible ingredients, giving low viscosity at high concentration. In high-protein beverages, aggregation, gelation and separation can be controlled with these specialized caseinates.

Creaminess-enhancing flavors function by taking advantage of learned associations between higher-fat products and their aroma.

Sensory triggers that help regulate food intake can be identified using an olfactometer, a unique tool which mimics the release of flavor during food consumption. This information can be used for both increasing and decreasing satiety.

Altering mouthfeel is another approach to enhance sensory attributes of reduced-fat or -calorie foods. Through ingredient interactions, modifications, emulsion technology and matrix structuring, mouthfeel can be modulated to alter and improve taste and aroma perception.



■ Creaminess-enhancing flavors function by taking advantage of learned associations between higher-fat products and their aroma.

By enhancing the water-binding capacity of casein micelles, they were found to have excellent fat-replacer properties.

Understanding casein micelle behavior has led to an improved-quality ice cream through use of high-pressure treatment of the ice cream mix. Low-fat ice creams lack mouthfeel and show fast melting behavior. A protein network is created that enhances mouthfeel and slows melt-down.

In another tactic, enzymatically modified, starch-based ingredients from potato have also been used as creaminess-enhancers. They form distinct domains in yogurt microstructure, explained Ruijschop.

Protein fortification can lead to texture and sensory defects. High protein levels in beverages can promote aggregation, gelation and separation. Tailored protein ingredients are available that can provide solutions. For example, caseinates can be easily created to provide readily dispersible ingredients that give low viscosity at very high concentration, concluded Ruijschop.

Rianne Ruijschop, Ph.D., Group Leader, Food Structure and Stability, NIZO food research, Rianne.Ruijschop@nizo.com, www.NIZO.com

Insights into Non-traditional Ingredients for Weight Management

“The greatest obstacle to discovery is not ignorance; it is the illusion of knowledge,” began Kantha Shelke, Ph.D., Corvus Blue, as she quoted Daniel Boorstin.

The point being food companies’ belief of what they know about weight management may actually prevent them from exploring the plethora of bioactive ingredients waiting to be discovered. Most people today learn about food through media. What is heard is a blur of information and confusing bits and pieces of science about probiotics, hunger control, energy, nutrition, protein, low glycemic, fiber and many other messages, she noted. The physiology of body weight regulation is also complicated by factors such as physical activity, diet, smoking, stress, chemical exposure, genetic factors, hormones, cytokines and nutrigenomics.

“But,” Shelke went on to

say, “key areas of focus in weight loss should be increasing fat-burn-ing/basal metabolic rate; regulating blood sugar and insulin; modulating appetite/craving/fullness; inhibiting carbohydrate and fat absorption; and inhibiting inflammation.”

Americans do not always consume the healthiest diets, because even though they might like to do so, products with satiety claims are often not palpable, and there is low consumer confidence in them. Protein-enriched foods may satisfy hunger but are often bland and not always tasty. Consumers generally think if something is “good for you,” it must taste awful, she added.

The food- and hunger-management conundrum is that people do not always eat when they are hungry. People do not stop when they are full, because foods just do not satisfy. Many eat because they simply want to, or because they can. It is often “mindless eating.”

Shelke explained some basics of ingredient selection for weight management products. Ingredient attributes include, in order of priority: taste, results, regulatory status, form and effects, stability and functionality. A key consideration is the simple, unambiguous message the ingredient gives to a consumer. Another is the ingredient effectiveness: Are there perceptible results? Dieting robs pleasure; people should not always feel like they are dieting. Some non-traditional ingredients (that have been in food for centuries) have the potential to reduce hunger, modulate sugar metabolism, reduce inflammation, modulate fat metabolism, boost metabolism, increase post-renal absorption and block

- Many common ingredients affect craving and fullness. Ingredient choice must consider taste, results, regulatory status, form and effects, stability and functionality.

| Ingredients for Appetite Modulation | |
|-------------------------------------|---|
| Key Players | Proteins (whey and soy, other plant-based proteins), <i>Hoodia gordonii</i> , almonds, amla (<i>Phyllanthus emblica</i>), caiapo (sweet potato), glucomannan (konjac), green tea polyphenols, fenugreek (<i>Trigonella foenum-graecum</i>) fiber, hydrocolloids and gums, beta-glucans, fructo-oligosaccharides |
| Label Benefits | Plant-derived • Historic/folkloric caché • Clean label implications • Consumers “get it” Value plant-derived materials & bioactives over pharma and fabricated additives |
| Physiological Benefits | Perceptible effects that can also be measured Cholecystokinin stimulators/appetite suppressants The “second meal effect” Cardiovascular benefits, brain/cognition health, mood-enhancing effects |
| Pros & Cons | Credible, demonstrated and perceptible Few and benign side effects, if any Satiates and curbs cravings Generally applicable across mainstream consumers Most are allergen-free and available in organic, kosher and halal formats Many fit the gluten-free demand TASTE: resonance with modern lifestyles; how to formulate; cost; dosage |
| SOURCE: CORVUS BLUE | |

absorption. These include coffee, tea, ginger, CLA, cayenne, konjac and salacia.

Just because an ingredient is an energy booster does not make it a silver bullet. These components are synergistic with diet and exercise. They also vary in level of bioactive components, depending on crop variety and effect of processing. Market challenges of weight management ingredients include poor understanding of ingredient suitability; conflicting information from suppliers; confusing nomenclature; lack of transparency regarding source and processing, production and supply; dosage and cost; label implications; target audience perceptions; and purity, standardization and efficacy.

R&D's desired characteristics for weight management ingredients would be completeness, good taste and texture, fortification or synergistic properties, clean label, complementary use, robustness, non-intrusiveness, allergen-free, affordability, versatility and to be compelling, advised Shelke. She went on to offer a five-step plan to a weight management product:

1. Start with the end in mind: Always aim to delight with great taste.
2. Select multi-faceted ingredients, whenever possible.
3. Check for interactions with other ingredients.
4. Blend culinary creativity with science-backed evidence.
5. For best results, exceed expectations by addressing as many market needs and trends as possible.

Messages to consumers are confusing. "For example, is your chocolate product a treat or a medicine?" asked Shelke. "Culinary or folklore history is often more convincing than science," she added.

People do not know or cannot express what they want, but they can say what they like when they see it, touch it, taste it or feel it. People are now beginning to associate healthful diets as cheaper than going to doctors.

Kantha Shelke, Ph.D., Corvus Blue, kantha@corvusblue.net, 312-951-5810, @kantha

Formulating for Increased Satiety

Formulating foods that provide extended satiety for consumers is challenging, due to elements such as manufacturing feasibility, a product's sensory properties and ingredient costs. A few tips for using satiety-enhancing ingredients in baked goods and



snacks were offered by Elizabeth Arndt, Ph.D., a Research Fellow originally with ConAgra Foods.

Food factors that affect satiety include a food's composition and serving size, and its ingredients' properties. Increasing the work needed to eat or chew food by manipulating its density or particle size can also increase satiety. Other methods investigated have been to lower caloric density; the use of sensory aspects to influence satiety, such as highly flavored, bland or textured food; increasing protein; reducing serving size; and increasing the viscosity of food in the digestive tract, which slows the rate of digestion.

Top food sources of calories among Americans, according to "National Health and Nutrition Examination Survey" (NHANES), 2005-2006, include a number of grain-based foods, like desserts, breads, pizza, pasta, tortillas and chips. The 2010 Dietary Guidelines recommended making half of grains consumed whole grains or 48g/day. Fiber is a nutrient of concern, in that Americans eat

■ As the percent of whole grain is increased in pizza dough, increased water levels and reduced mix times are needed in a properly developed dough.

Example Formulas: Pizza Dough with Whole Grain for Lower Caloric Density

| Ingredient | 0% Whole Wheat (g) | 25% Whole Wheat (g) | 51% Whole Wheat (g) | 100% Whole Wheat (g) |
|-------------------|--------------------|---------------------|---------------------|----------------------|
| Wheat flour | 750 | 562 | 368 | 0 |
| Whole wheat flour | 0 | 188 | 382 | 750 |
| Water | 412 | 431 | 450 | 480 |
| Yeast, instant | 7 | 7 | 7 | 7 |
| Vegetable oil | 30 | 30 | 30 | 30 |
| Salt | 15 | 15 | 15 | 15 |
| Sugar | 23 | 23 | 23 | 23 |

SOURCE: ELIZABETH ARNDT, PH.D., ORIGINALLY WITH CONAGRA FOODS, PRESENTATION "FORMULATING FOR INCREASED SATIETY"

only 15% of the recommended amount of whole grains and only 40% of recommended fiber.

“Whole grains are the secret ingredient for increasing satiety,” said Arndt. Dietary recommendations are to consume six, 1oz grain servings daily. Examples of a serving include one slice of bread, one cup of ready-to-eat cereal, and one half cup of cooked rice, pasta or cereal, advised Arndt.

Moderate evidence exists showing that adults who eat more whole grains, especially those high in dietary fiber, have lower body weight. Strong evidence exists that eating patterns low in caloric density improve weight loss and maintenance.

Whole-grain ingredients are lower in caloric density due to their higher fiber, minerals and ash levels. When whole grains are used in dough formulas, generally more water is required. Soluble fiber, like beta-glucan in certain grains, such as oats and barley, can have mild fat-mimetic properties. In pizza crust, muffins and cookies with whole grain, increased water levels are also required, and dough shows reduced mix times.

As an example of what has been introduced into the marketplace, one special high-fiber barley with 30% fiber is a source of a whole-grain, high-fiber barley flour with increased water-absorption requirements, a lower Glycemic Index and increased viscous properties. This flour can be used for its functionality or nutritional improvement, and it contributes to a clean label, as well.

Arndt ran through a series of formulas looking at the results when caloric density, water content and levels of other components are altered.

In one study, subjects were significantly less hungry when they consumed the specialty high-fiber barley vs. when whole-wheat or refined rice were used as an ingredient source. The study used hot breakfast cereal and granola mid-morning snacks as test foods on 47 subjects. The servings provided 72% DV of fiber in a 2,000-calorie-per-day diet. Satiety parameters were assessed using modified Visual Analog Scale (VAS) before and after breakfast, snack and lunch. Lunch was *ad libitum* smorgasbord. Although there were no differences in the calories consumed at lunch among treatments, whole-grain, high-fiber barley significantly reduced hunger before lunch.

In summary, whole-grain intake has been correlated with weight maintenance. In general, whole-grain ingredients absorb

more liquid and have higher fiber content compared with their refined-grain counterparts, helping to lower caloric density in foods. Soluble fiber in whole grains, such as barley, oats and rye, may help increase satiety by slowing the rate of digestion.

Elizabeth Arndt, Ph.D., a Research Fellow originally with ConAgra Foods

Making a Successful Connection: Current Consumer Mindsets & Weight Management

Do not dismiss what’s happened in the past decade as a shallow trend, warned David Sprinkle, Publisher and Research Director, Packaged Facts, at the beginning of his presentation. All signs, he said, point to a future in which healthy eating is the destination, and consumers are the ones in the driver’s seat.

“Even though we hear it all the time, I really do think there’s a massive revolution underway, and it’s slowly but surely shaping everything about the food industry, particularly the packaged food industry, into what it needs to become,” Sprinkle went on to say.

To provide a sense of what’s happening with the weight management sector, Sprinkle reported findings from a recent Packaged Facts study on “Weight Management: U.S. Consumer Mindsets” (www.packagedfacts.com/Weight-Management-Consumer-8351387). The report presents “Simmons National Consumer Study” (NCS) data which shows that people concerned with their diet comprise 42.4% of the population, and there are two distinct groups within: those watching their diet to lose weight (28.7%); and those watching their diet to maintain weight (13.7%).

- Those who watch their diet are more likely to be early advocates of new products, and the web is a driving force behind how they hear about them.

Those Who Watch Their Diet Are Quick to Try New Products

| | % of All Adults | Lose Weight | Maintain Weight |
|---|-----------------|-------------|-----------------|
| | | Index | |
| Like to try out new food products | 52.6 | 113 | 113 |
| Usually first among my friends to try new food products | 20.5 | 108 | 117 |
| Usually am quick to try a new nutritional product | 21.5 | 128 | 145 |
| Pay attention to ratings/reviews posted online | 19.9 | 128 | 124 |
| Am more likely to purchase products I see used/recommended by friends on social media sites | 12.3 | 126 | 113 |

SOURCE: PACKAGED FACTS, BASED ON EXPERIAN MARKETING SERVICES, FALL 2013. SIMMONS NCS ADULT STUDY 12-MONTH. © 2014. EXPERIAN INFORMATION SOLUTIONS, INC. ALL RIGHTS RESERVED.



That’s a demographic of about 100 million U.S. adults, and the largest subset within that group are non-Hispanic white women, who are 49% more likely to be watching their weight than the average American adult. Conversely, minority populations are about 50% less likely to be watching their diet compared to the national average. Other groups of note regarding weight management demographics and mindsets are those aged 55+, college grads and people with household incomes above USD\$100,000—all of whom are more likely to fall into the “maintain weight” subset.

In addition, Packaged Facts surveyed adults to find out if consumers follow a specific plan. When asked if their eating patterns are healthy, 48% of adults agreed. Some 62% of that group said they’re doing so to lose weight and have a diet plan.

“So, for your product to be successful, it’s important to communicate to consumers that it’s part of their regular diet plan and strategy,” Sprinkle said.

Success in the future will also “depend on how well you tie products into larger healthy living and eating contexts,” Sprinkle said. This is because there is a lot of overlap between those concerned with their weight and those concerned with food allergies, certain “bad” ingredients and current/future medical conditions.

For example, consumers who watch their diet due to food allergies or intolerances are far more likely to look for foods that are high in fiber or protein, or are fortified with vitamins/minerals/nutrients. This group are also prime purchasers of foods that are natural, organic, non-GMO, local and seasonal.

Meanwhile, those who are looking to maintain their weight and currently have medical conditions; fear future medical conditions;

and/or closely watch their ingredient intake tend to disproportionately seek out whole-grain foods and products labeled “natural.”

Though consumers with current medical conditions and those who watch ingredients closely still like to see low-/no-salt, -sugar and -fat on labels, the focus on negative ingredients is starting to wane. Sprinkle called this trend “accentuating the positive,” and it has already made considerable impact.

For example, Datassential data for menu offerings in the U.S. from 2009 to 2013 generally show positive terms on the ascendency, and negative claims posting more modest growth or losing steam.

Among the big gainers in menu prevalence were “all natural” (85.3%) and “grass fed” (266.7%). Similarly, the use of terms like organic, antioxidant and omega have all grown by more than 40%, while whole-grain and multi-grain claims exceeded 24% growth.

In terms of food avoidances, in contrast, former buzzwords, like low-fat (-5.9%) and low-carb (-27.3%), dropped in menu prevalence, and low-calorie and cholesterol-free remained roughly the same. The explosion on menus of the negative claim, “gluten-free,” (up 550%) is the notable exception to the general trend.

“Consumers are increasingly in tune with the positive nutritional attributes of our foods—and, while things like low-fat, low-sugar and low-salt certainly remain important, especially among certain groups of consumers—those claims need to appear in an overall context of a food you can feel good about eating and that also tastes good,” Sprinkle said.

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