

The Future of Confectionery Ingredients

Ace-K, honey make inroads as sweeteners; gums and nuts play supporting roles.

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Smooth and stable

Confections have always been as much about art as they have been about sweetness. So with appearance and texture as critical features, ingredients have to perform. "Gums are used extensively in confectionery items to improve emulsion, elasticity, texture and mouth feel," says Monica Prendergast, senior food scientist for [Gum Technology Corp.](#), Tucson, Ariz. "They also are used in icings, specifically to prevent sugar 'bloom' and cracking."

Since cost is a consideration in confections, Gum Technology developed a stabilizer that's a blend of gum arabic and cellulose gum, Coyote Brand Stabilizer AC-0112 (a combination of both a specialty xanthan gum and a specialty guar gum). "It is an excellent stabilizer for icings and fondants, especially when replacing tragacanth, which tends to be very expensive," says Prendergast.

Confections today also compete for consumers' attention in a conflict-ridden environment of rising obesity and type 2 diabetes. That has left many confection lovers hungry for alternatives to delights traditionally loaded with both sugar and fat.

"Gums can make the lives of weight-conscious consumers a little sweeter by contributing to the creation of newer versions of old favorites," Prendergast adds. "As the industry promotes more items lower in sugar and fat, gums are helpful in improving the mouthfeel and texture, which tend to be missing in these items. Moreover, though used at a very low level, gums also act as a good source of fiber."

Gums also are valuable in fulfilling technical needs for another big consumer-driven health trend: gluten-free. Gums can provide the elasticity and structure gluten normally provides. Another of Gum Tech's Coyote Brand stabilizers, ST-101, was designed to give structure and texture to gluten-free baked goods. "The addition of Stabilizer ST-101 to gluten-free flour provides a replacement for the protein strands created in gluten development," she says. "This allows risen pastry confection formulations to trap the gases from the expanding yeasts, and so re-create the cell structure of the control."

Aww, nuts!

Nuts have always been a confection staple and will continue to be so with the recent recognition of healthy fats. Almonds, rich in monounsaturated fatty acids like the ones in olive oil and avocados, also happen to be a rich source of calcium, as well as zinc and selenium.

Many of the applications for almonds call for blanched almonds, resulting in lots of almond bran created from the unused brown outer skin. [Nut-trition, Inc.](#), Hughson, Calif., developed the technology to separate, dry and size the raw almond skins into a powder or meal. This nut bran is highly nutritious and now the core of a new product that provides multiple solutions for confectioners, bakers and other food processors looking for functional ingredients.

"The big challenge today with confectionary products is they are made with highly refined ingredients," says Robert Miltner, director of sales and marketing for Nut-trition. "Almond bran allows you to replace some of those refined ingredients with a whole food ingredient that incorporates fiber and complex carbohydrates."

This ingredient easily mixes with other ingredients commonly used in confectionary products. The complex carbohydrates and fibers in almond bran include soluble fibers that have many advantages, including slowing the absorption of sugar from the confection along with other noted benefits of soluble fiber.

But almond bran is not just another fiber source. It also contains a veritable shopping list of flavonoids and other powerful phytonutrients often lacking in more common brans. "Almonds are considered heart healthy because they reduce cholesterol levels and may improve health problems related to weight control and inflammation," says Miltner. "Because many of the antioxidant and healthful benefits of the almond are due to substances found in its outer skin, these benefits are concentrated in almond bran, which is low in fat."

Continues Miltner, "Consumers worldwide understand that almonds contribute both health and taste. And based on their [favorable] attitudes toward almonds, the appeal of almond bran should be widespread." As reported in [Mintel Group's](#) Global New Retail Products Database, chocolate confectionery remains the leading category for both nut and almond introductions globally. "Consumers favor foods that contain label friendly ingredients like almond bran," Miltner adds.

Did someone say chocolate?

The more things change, the more they stay the same. Such is the bittersweet story of chocolate. While other confectionery trends seem to come and go, the desire for chocolate never seems to abate. In fact, bolstered by the evidence that chocolate is good for us as a natural source of flavonoid antioxidants, Americans can't seem to get enough.

The art of creating successful chocolate confections depends on a varied palette of ingredients. Minneapolis-based [Cargill](#), for example, offers three different chocolate lines, each with a distinct formula. They include Peter's Chocolate (an original Swiss-style milk chocolate), Wilbur's Chocolate and Veliche Chocolate, a distinct Belgian chocolate. The company also now provides Gerkens coco powders, a line of low- to high-fat cocoa powders from Holland, the Ivory Coast, Ghana, France and Brazil.

Adding to the health benefits of chocolates can be as "simple" as infusing them with functional ingredients that don't affect the taste or texture. For example, [Xan Confections Inc.](#), Irvine, Calif., was started by Susan Johnson, Kerry Johnson Anthony and Orange County chocolatier Tracey Downey to provide vegan non-dairy, gluten-free chocolates.

But to these inventive confectioners, it's not just about what is left out of the creation, but what can be added that enhances its attraction. Xan's latest innovation, the CocoXan Chocolates line, includes functional ingredients such as CoQ-10 and DHA omega-3 fatty acid, infused into dark chocolate truffles.

The CocoXan line includes: CocoBrain (tagline: "Stimulate Your Grey Matter"), which contains vegetarian DHA from [Martek Biosciences Inc.](#), Columbia, Md. along with a proprietary blend of vitamins A, C, D, and E. CocoHeart ("Keep Your Ticker Ticking") contains CoQ-10. CocoPreggers ("Happy Mommy = Healthy Baby") includes both DHA and folic acid.

And in what is perhaps the extreme edge of combining functionality with confectionery, Xan has CocoPMS, with antioxidant-rich chasteberry and bilberry that "have been used for thousands of years for their anti-inflammatory properties to alleviate PMS symptoms." The tagline for this envelope-pushing bonbon? "Un-Bitch Yourself."