Kaleidoscope of Flavors and Colors

Leading flavor and color manufacturers offer insight into current and upcoming flavor and color trends and the opportunities and challenges they offer bakers and snack producers.

Romy Schafer, Associate Editor

Fifty years ago, most Americans were unfamiliar with spices such as Hungarian paprika and star anise and herbs like cilantro and lemongrass, unless they were part of a culture whose cuisine included these ingredients or lived in ethnically diverse neighborhoods. Today more than ever, thanks to the Internet and social media, consumers are learning more about and falling in love with flavors and foods hailing from around the world.

Manufacturers specializing in food flavors and colors are taking note of consumers’ increasingly sophisticated palettes and developing ingredients to bring new and rediscovered flavors and colors to a host of products: Snacks; baked goods; toppings; and more. In fact, according to “Global Markets for Flavors and Fragrances,” a new report from Rockville, Md.-based MarketResearch.com, a provider of global marketing intelligence products and services, the global flavor industry, which was worth $10.6 billion in 2011, is expected to grow to nearly $11.1 billion in 2012 and $14.5 billion in 2017.

What kind of flavors are consumers currently craving? Snack Food & Wholesale Bakery asked several leading flavor manufacturers about what their food processor customers are requesting. Their responses range from extra hot and bacon to exotic fruit and butter. In other words, people are no longer hesitant about giving their taste-buds a workout.

Regional appeal

When it comes to international cuisine, more consumers are going regional. “Mediterranean and ‘Italian’ are now blanket statements,” says Zachary Otto, food scientist at St. Francis, Wis.-based Wixon, which offers more than 7,000 flavor systems. “People want northern Italian or Sicilian. They’re looking for [food from] very specific regions. When people are looking for Indian food, they either going to say Northern Indian or Southern Indian. They’re very distinct in what they’re looking for, so you’re doing a lot more specificity when it comes to developing snack seasoning based on the regions that people are looking for.”

Dafne Diez de Medina PhD, vice president innovation, research and development at Innova, a Lombard, Ill.-based maker of customized meat and savory flavors for food applications, says too that Innova is seeing more demand for specificity. “It’s going more now into [specific] regions—the authenticity of the flavor,” she explains. “Before, people wanted generic Latin American. Now, they’re looking for Peruvian. That’s definitely a trend.”

Some like it hotter

“People are looking for hotter and hotter and hotter [flavors],” says Otto. “Some of the national burger chains are trying to offer really hot seasonings and toppings.”

Most spicy food lovers are well-acquainted with hot peppers, particularly jalapenos and chipotles, which have found their way into a variety of dishes and prepared foods. Now, the ghost pepper—reportedly the world’s hottest pepper—is gaining popularity among those looking for foods that deliver even more heat.

“It’s still in its infancy, but it’s starting to gain some notoriety because it’s so hot,” says Otto. Available as a dehydrated powder, ghost pepper could be used to add zip to chips, beef sticks and other snacks. [For more on spicy chip trends, see “Not a Chip off the Old Block,” page 38.]

Aleppo, a moderately hot pepper from the Middle East, is also turning up in more recipes. Flavor systems such as Wixon’s new aleppo pepper and honey seasoning, which is designed for topical meat applications, are sure to appeal to consumers looking for robust flavor without overwhelming heat.

Otto adds that Wixon has also seen sriracha, a hot Thai sauce made with chili pepper paste, being used more. “We’ve seen it on meat, on potato chips, on mashed potatoes,” he explains. “Sriracha is becoming kind of a foodie’s ketchup. There are a lot of different applications for it.”
Diez de Medina has been working on hotter and spicier jerky flavors lately. “A lot of chili flavors, like habanero,” she explains. “We have a full line of chili flavors.”

**Not just for breakfast**

And as mentioned earlier, bacon has also been making headlines lately, but not for its role as eggs’ sidekick. Bacon is appearing in everything from potato chips and popcorn to ice sundaes and sandwich spreads. “Bacon is everywhere,” admits Meredith Bishop, principal development scientist for Spicetec Flavors & Seasonings, Omaha, Neb. “We do a lot of concept work with bacon. We just showed bacon on a donut. We put bacon on a donut on the glaze and married it with a chipotle. It tasted really good.”

Bishop acknowledges that bacon enthusiasts aren’t likely to find bacon donuts at large donut chains. “These types of flavors usually come from small mom-and-pop stores,” she explains. “Someone gets the idea or it’s picked up by one of the food shows, and then you’ve got something that people are looking at.”

Not only is bacon everywhere, but it also makes everything better, says Tracy Schrepfer, research and development manager at QualiTech Food Ingredients, Chaska, Minn., which develops customized particulates and inclusions for food technologists and marketers. Its products typically are used in muffins, batters, batter mixes, cookies, bagels, scones, sweet bread, brownies, chips and snacks and as donut toppings.

“Bacon is a way to introduce salt into a sweet application,” she explains. “Consumers like that it adds richness. If you add that fatty, salty characteristic, you’re developing a much more complex food product that consumers find satisfying.”

QualiTech offers a kosher, parêvé bacon inclusion with a much reduced sodium content than real bacon, no trans-fat and an adjustable flavor intensity, says Schrepfer. Current popular bacon flavor profiles are applewood, maple-cured and hickory smoked.

**Smokin’ flavors**

Bacon isn’t the only product being smoked these days. Otto says Wixon has seen a lot in the realm of smoked. “Smoked paprika is becoming very popular, though it’s not mainstream yet,” he says. “It’s like chipotle, but it’s not spicy, so you get the color of a deep paprika and the background smoke notes that come from when they actually smoke the pepper. It’s got a really nice, earthy, smoky note to it.”

Otto says barbecue sauces and South American Latin Fusion cuisine commonly have smoky notes to them. “Mainstream America isn’t quite ready for über hot, but they like smoky,” Otto says. “Chipotle is hotter than most people like, but if you can get the earthy tones of the chipotle without the heat from the jalapeno. We’re seeing it in some barbecue and Latin American sauces. It could go on chips, which I haven’t seen yet. Right now, it’s used mostly for meat and sauce applications.”

Another emerging smoky-related trend is smoked salts. “The caramel flavor in our [Caramel & Sea Salt] bits can be enhanced with a hint of smoke notes to provide a 3D flavor profile (sweet, savory and salt),” says Schrepfer.

**Savory, salty and sweet**

Caramel sea salt was one of several new flavors introduced by QualiTech within the past year. Some of them include sweet potato; toasted coconut; olive oil; maple brown sugar; pizzazz barbecue sauce; coffee/ espresso; pumpkin; French toast; orange Dreamsicle; honey; and exotic fruits (tart cherry, lemon grass, hibiscus, acai, pomegranate, mango and guava).

“We are getting a lot of requests for savory and sweet and salty flavors,” says Schrepfer. “The savory flavors hit the trend of flavors from around the world. Many consumers are traveling more and want to take those flavors home with them. The sweet flavors follow the trend of back-to-basics indulgence.”

She explains that the company observes the caramel sea salt flavor profile emerging in coffee shops and translated it into an inclusion that could be used in muffins. Finished applications that work well with this flavor profile also include breads, muffins, cakes, bagels, tortilla chips, breading, biscuits, waffles, donuts, cereal and pretzels.

Meanwhile, Philadelphia-based David Michael & Co., which offers more than 40,000 flavors, stabilizers and natural colors, recently introduced a flavor based on speculoos cookies, a popular treat in Belgium and The Netherlands. The flavor captures the cookies’ caramelized cinnamon and brown sugar notes, making it suitable for such applications as cereal bars, confections, puddings and more.

**Fruity and creamy**

Like QualiTech, David Michael & Co. introduced a number of fruit flavors this past year based on exotic fruits such as snake fruit, which has a sweet/acidic flavor and the consistency of apples; monster fruit, whose flavor resembles a combination of pineapple, jackfruit, banana and mango; plumcot (a cross between plums and apricots); finger lime (a subtropical citrus fruit); and cloudberry (round, golden yellow berries with a distinctive tart flavor). According to Kelly DeFusco, senior food technologist, bakery and cereal project leader, many of these flavors translate well into baked goods, such as cookies.

Photo courtesy of Qualitech

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pies, cereal bars, muffins and crackers, as well as fillings.

DeFusco adds that many of the company’s customers are also requesting indulgent flavors like S’mores, red velvet, chocolate (variety), vanilla (variety), chocolate peanut butter and chocolate marshmallow.

SensoryEffects Flavor Systems, a Defiance, Ohio-based maker of lipid-based flavor chips has introduced a number of fruit and cream flavors—blackberry, coconut, mango, cheesecake and cream—as well as molasses and honey. According to research and development manager Becky Fogoreski, the new flavors are being used “primarily in breads and cookies, although they would work in a number of different baked goods, such as muffins and waffles.”

She adds that flavor combinations such as peaches and cream, blueberry and yogurt, strawberry and banana and raspberry and cheesecake also continue to be popular.

Bishop says that, when it comes to baked goods, she’s seeing more interest in butter and crème flavors, which food producers are using to replace fat and sugar content in their products.

Demand for products made with superfruits—pomegranate, cranberries, acai berries and blueberries—is prompting some bakers and snack producers to incorporate the real thing into their goods, depending on the application.

Blueberries continue to be a popular choice for a variety of reasons: Their fruity flavor pairs well with mint, floral, chocolate and citrus. They’re loaded with antioxidants, vitamin C, manganese, dietary fiber and other nutrients. They’re available year-round in diverse formats, including whole, fresh, frozen, dried and pureed. They can be used in a host of products, including baked goods, bars, granolas, biscotti, pancake mixes and ice cream cones. Lastly, they’re blue—a color that’s popular with consumers.

**Colors galore**

Flavor is only half of the story when it comes to successful food applications. If a product looks unappetizing or has an unusual color, chances are it won’t get the nod from its target market. Consider the fate of green ketchup and pink butter.

“Colors are used in breads, muffins, cake mixes, biscuits, cookies, crackers and all types of bake mixes,” says Rajesh Cherian, manager of technical support, ROHA Food Colors, St. Louis, a manufacturer of natural and synthetic colors for a variety of industries, including food and beverage. “The snack food industry uses colors for topical application and also within the base, which is fried, baked or extruded. Colors also go into inclusions, sprinkles, colored sugars, seasoning blends, fruit fillings, cream fillings, cheese powders, icing and fat coatings, which are widely used with baked goods and the snack food industry.”

Cherian says bakers generally use a variety of yellow shades in their products. “Turmeric, annatto, beta carotene, riboflavin and customized blends can give a wide range of yellow to orange shades that are heat-stable,” he explains. “Demand for col-
ors in baked goods is also associated with fruit flavors like strawberry, blueberry, peach, banana, etc. Colors need to match with the flavor profile in demand.”

As for snack foods, Cherian says “consumers are enjoying the carnival of flavors within the snack food industry. Colors are in demand to match ethnic flavors—flaming red to dark blues and lemon yellows to dark greens are in demand.”

ROHA Food Colors’ recent color additions include a heat-stable red shade (a proprietary blend of exempt colors and stabilizers) and brown shades that can be used to replace caramel colors. According to Cherian, they have natural origins to cater to growing demand from the food industry for such ingredients.

Certified (synthetic/FD&C) and Exempt (natural and nature-identical colors). Certified colors consist of dyes (water-soluble colors) and lakes (water-insoluble colors). These colors are available in highly-concentrated, user-friendly forms that can be blended to obtain the complete spectrum of colors. Synthetic colors are light- and heat-stable, which makes them a preferred choice for baked goods and snack food coloring. Exempt colors are selected based on application. Heat, light, pH and interaction with other ingredients influence their shade and stability.

“While we have seen an increased demand for exempt colors, we have observed that the demand for artificial colors has not decreased,” says Cherian. “It has remained very consistent, and we expect to see that trend continue. We see many food manufacturers relying on artificial colors for their ease of use, stability, vast array of achievable color shades, and low cost in use.

“Exempt colors generally exhibit a much higher cost in use than artificial colors,” Cherian adds. “Utilizing products from natural origin to create a clean label can add costs to a manufacturer’s finished product, often driving the retail price of that product into the premium market. The majority of consumers in the U.S. are allocating only a very small portion of their food budget to premium products.”

Otto says he’s also seeing more demand for natural flavors and colors. “Between the removal of artificial flavors, colors and monosodium glutamate (MSG), we’ve seen a big push to have a lot cleaner labels,” he says. “That drives a lot of things.”

Otto notes that some artificial flavors and colors fulfill a need in the food industry.

**Natural versus artificial**

As with other food ingredients, consumers are paying more attention to the colors and flavors used in the products they buy.

“Recent food industry trends show an increased demand for healthier food with fewer ingredients and clean ingredient labels,” says Cherian. “This has increased the demand for colors from natural origin. Customers are also aware of the health impacts of colors and appreciate the supplement benefit with exempt colors.”

In the U.S., food colors are classified as

The Road From Garments To Bagels Paved With Success

Joe Pailla began his professional career when he joined father, Vito, in the garment industry. As the industry began to send work overseas, the two sought new business opportunities.

In February 1989, they opened J. P. Bagel Express in Hoboken, New Jersey, which was an immediate success. In June 1989, Joe’s brother, Jerry opened a similar business called Bagel Stop in Vernon, Connecticut. In 1990, Joe moved to South Windsor, Connecticut, to join Jerry in opening a second Bagel Stop.

Today, Joe and Jerry own the Bagel Stop Production Company that supplies a variety of baked goods to Joe and Jerry’s newer company, Between Rounds Café. Combining several marketing concepts, Between Rounds Café offer bagels, gourmet sandwiches, salads and gourmet coffee. Joe and Jerry have a total of six Between Rounds locations in two states, offer catering services for large events and are building a franchise business.

Joe recognizes that a business needs to change in order to grow. “If you are not competitive in a crowded market, you will lose customers to the next guy,” he said. “I believe our success comes from our ability to stay competitive, and the work ethic we learned from our father.”

Joe relies on International® Bakers Services (IBS) to stay competitive. “IBS is the most professional company in terms of meeting their customers’ needs,” said Joe. “They also let their customers know they are appreciated.” For their famous bagels, Between Rounds uses Blueberry Flavor, Maple Flavor, Apple Cinnamon Flavor and seasonally, International’s Pumpkin Pie Spice Blend.

If you want flavors that help you compete in a crowded market, rely on International® Bakers Services. Contact us toll-free at (800) 345-7175, by fax at (574) 297-7161, or in writing at 1902 North Sheridan Ave., South Bend, Indiana 46628. We have the flavors your customers deserve.
“They stand up to certain cooking processes and processing,” he explains. “Colors come through well if they’re an FD&C red, green, blue, yellow or whatever. However, if you’re using a natural color—a turmeric or paprika—those are very light-sensitive and have a tendency to lose their color if they’re subjected to light for too long. An artificial red color, for example, won’t do that. It definitely gives us some formulation challenges.”

QualiTech, too, is getting requests from customers for natural flavors and colors. “It seems everyone including companies and consumers are looking for alternatives to artificial ingredients,” says Schrepfer. “The health and wellness trend continues to be an area of great interest with customers.”

Diez de Medina concurs: “I would say definitely natural. That seems to continue to be the bulk of it. Again, we still get [natural and artificial]—an artificial [product] but, overall, it’s natural. And within naturals, we’re seeing more restrictions of things, like gluten-free, for example. It’s not huge, but it’s more than we used to see.”

Peter King, managing director at Spice Application Systems, a U.K.-based, global expert in the use of electrostatics to apply flavors to a wide range of snack and other food product, says natural flavors are “definitely becoming more popular. The feedback from manufacturers is that customers want to know more about the components of the food eat, and they want to know it is as natural as possible, while still tasting better than ever.”

SensoryEffects, on the other hand, is seeing an equal number of requests for natural flavors and N&A flavors and colors, says Pogoreshki. “Natural flavors are more expensive, in general, and sometimes a spray-dried flavor is the only form that will work [on an application], which also increases cost. We find that getting flavors with no allergens, even in the carriers, can be limiting.”

Spicetec Flavors & Seasonings, meanwhile, works with its customers to help them decide whether a natural or artificial flavor is best for their application. “If they can go natural and artificial, of course, with an N&A, you’ve got a little bit more liberty as to what ingredients you can use,” says Bishop. “You can get a truer flavor, but I think a little more robust flavor if you use an N&A. It just depends on what the customer wants and what their consumer is looking for. If you’re going toward a Whole Foods-type of consumer, you’ve got to have natural all the way. But if you’re going toward a consumer, say, in a foodservice outlet, they’re not looking at the label, so you can go artificial.”

Cost considerations
Not surprisingly, natural ingredients, including flavors and colors, are often more expensive than artificial ingredients. Factors affecting their
cost include provenance, availability, usage level and demand.

“Certified colors are made by chemical processing,” explains Cherian. “The cost and availability is steady for a long period of time. The increase in basic raw material cost is the only factor affecting the cost of colors.

“In the case of colors from natural origin, the cost varies based on supply and demand. Most of the natural colors are extracted from vegetables, spices and fruits for which climatic conditions, economic changes in the growing areas [and so on] can also influence the availability of raw materials for the color extraction. Recently, some of the exempt colors are finding value-added use as nutritional supplements in the nutraceutical industry, which has increased demand.”

Schreper also notes that natural colors are not as process-tolerant (pH, light and heat stability) as artificial colors, while natural flavors normally are not as concentrated as artificial flavors, thus giving them a higher usage level.

Having to pay more for natural flavors and colors obviously impacts both food manufacturers and their customers. “It would definitely make a difference to the product developer,” Bishop says. “If the flavor is going to give me this amount of cost, where can I trim costs from other items? Do I really need that much sugar or can I trim off a penny if I add a little less of something? It makes a difference when you’re creating a formula because you may need to trim here and there, depending on what the cost of your ingredients are.”

“They are more expensive and that’s the tricky part,” says Dize de Medina about natural flavors. “Obviously, everyone wants all of it and as cheaply as possible. But I think that people who really understand and know what they’re looking for realize that there is a cost associated with it. We’re not seeing a big issue with it, but cost is always a concern.”

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What's next?

Despite the thousands of flavors and rainbow of colors already available to food manufacturers, bakers and snack makers are always interested in developing flavorful new products that meet consumers’ demands and cravings.

For Otto, “hot,” “smoke” and “chili peppers” are today’s flavor buzzwords. “Chipotle has been around for a dozen years, becoming more mainstream in the last 10-plus years,” he says. “Now, you’re seeing smoke added to a lot of things. There are just some wonderful smoke flavors out there.”

Otto adds that Peruvian orange is starting to gain momentum for Wixon. “That actually goes across the board—you can put it on a pork loin, on a burger, on chips, in a dip,” he says. “It’s very versatile. It’s a great flavor.”

These flavors play into Diez de Medina’s thoughts on upcoming flavor trends. “It’s more of this ethnicity and authentic,” she says, adding that the trend will expand into “places we haven’t heard of before. My expectation is that it’s going to happen more and faster.”

But Americans aren’t ready to abandon their culinary roots for exotic, foreign flavors. DeFusco says retro flavors and old-fashioned desserts—strawberry shortcake, apple pie, bread pudding, banana bread, red velvet cake, pineapple upside-down cake—are all back in the spotlight. And flavors based on that American staple, the pie, are becoming more prevalent, too. Crème flavors include banana, coconut and classic chocolate, while strawberry rhubarb and apple are popular fruit flavors.

King, on the other hand, looks to Europe for the next big flavor trend. He believes U.S. food manufacturer will become “greener” with their products by using stronger-tasting flavors that require less powder. “More spice manufacturers are already doing this in Europe, which is giving the end user a more environmental snack product.”

QualiTech’s Schrepfer says the next big flavor trends will be compounded traditional cooking technique flavors, in conjunction with fruit (savory and sweet type combo). She cites grilled pineapple and banana, smoked apples and so on as examples. As for color, Schrepfer anticipates “reformulated or stabilized natural colors that are more pH-, light- and heat-stable.”

Cherian agrees: “To meet consumer demands, the food color industry is working to stabilize colors for more and more processed food application. Also research and development projects have been undertaken in improving the extraction process and identifying more economic sources for colors.”

So when it comes to creating new products or tweaking existing lines to address consumers’ changing dietary needs and increasingly sophisticated palettes, bakers and snack producers will find plenty of inspiration in the food flavor and color industries. SF&WB