

DIFFERENTIATE WITH *Non-Fruit-Based* INCLUSIONS



Ingredients such as chocolate, nuts, cheese and seeds give products multi-dimensional functionality, from added nutrition to more appealing flavor.

by Ann Juttelstad, contributing editor

Consumers often look for something extra in their bakery products, and breads, rolls, crackers, cookies, muffins and bars can have a better flavor and appearance and be more nutritious with the addition of inclusions. Bakers often turn to fruits first when thinking of inclusions. Blueberries remain extremely popular for their antioxidant properties, and apple and cranberry flavors are high on consumers' lists as well.

But a whole world of ingredients ranks just as high on consumers' wishlists as fruit additions. This array of nuts, seeds, dairy ingredients, herbs and specialty items, especially chocolate, can add much-appreciated flavor and texture to bakery treats.

Chocolate, chocolate everywhere

One of the world's most popular flavors—chocolate, from white to dark—is always a consumer favorite. Bake-stable forms, which include grains, chocolate drops in a range of sizes, sticks and chunks, can add crunchy or creamy qualities to products. “Bake-stable inclusions can be made of compound or pure chocolate,” says Mark Adriaenssens, director, R&D Americas, Barry Callebaut USA, Chicago. “Mostly, they are made from pure chocolate. They are stable in baking due to the fact that they are low in fat, low in lecithin, and often a low amount of dextrose is added in bake-stable inclusions.”

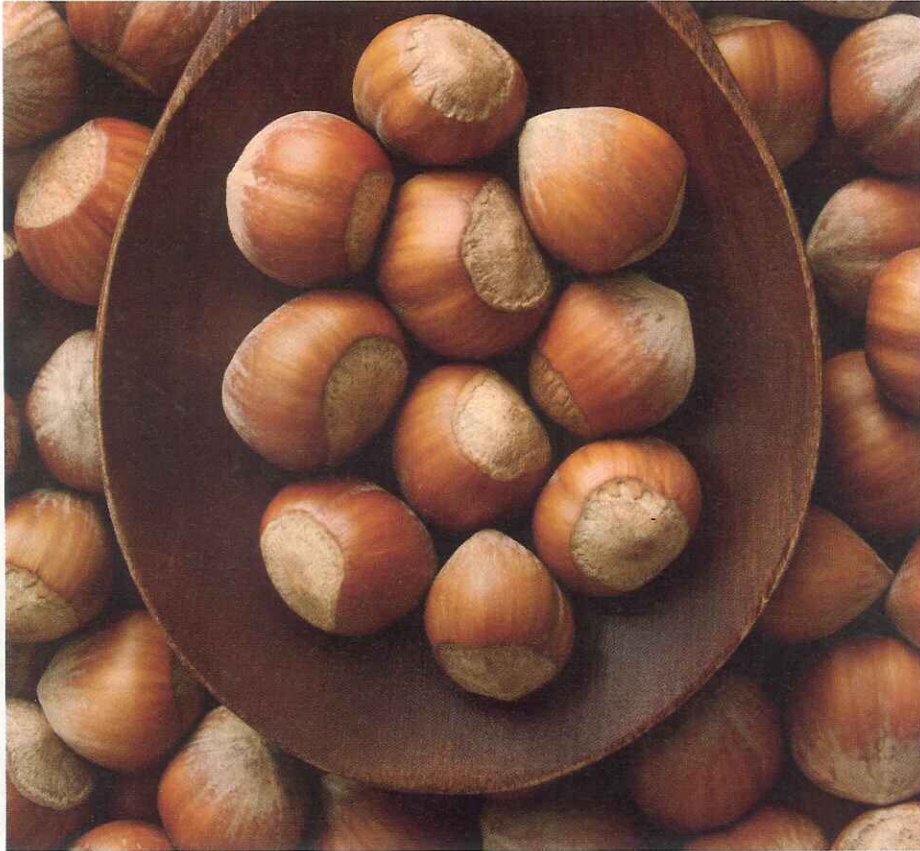
When using chocolate, it is impor-

tant to store it in the proper conditions of 70 percent relative humidity and from 55°F to 68°F (12°C to 20°C). “Most chocolate inclusions are mixed into dough just before baking,” Adriaenssens adds.

The buzz about the antioxidant properties of chocolate, as well as the ingredient's great flavor, makes it one of the top contenders as an add-in. Ingredient suppliers are developing new textures and flavors to keep up with the public's demands.

Additions for health

“People are looking for health benefits more and more in their added ingredients,” says Mike Harkins, merchandiser, Specialty Commodities Inc., Fargo, N.D. “The nutritional



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benefits of ancient grains, for example, have received a great deal of interest in both natural and conventional markets.” Quinoa, spelt, milo and buckwheat are taking center stage as consumers realize their benefits. Flax, too, is gaining ground, Harkins says. Flax is easy to add to bread or cracker formulas, is less expensive than many other ancient grains and is recognized as a good source of omega-3 fatty acids.

Spices, such as cinnamon and rosemary, can add both antioxidant functionality and flavor to a variety of baked products. And seeds, such as caraway and sesame, add texture and flavor, bringing an earthiness and sometimes ethnic flavor to baked products.

Going nuts

Nuts are an obvious addition to bakery products with their great fla-

vor and texture, as well as their visual appeal. Nuts are the go-to snack for consumers wanting to eat more healthfully, and their affinity with baked products makes them a natu-

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ral inclusion. Nuts add color, texture and flavor to sweet and savory products alike, and their presence often suggests added value to consumers.

Once relegated to super-sweet fillings or as a topping for cakes, coconut is seeing resurgence in its unsweetened form. When lightly toasted, it provides warm top notes for cakes and cookies, but bakers also are finding unsweetened coconut a go-to ingredient in items such as snack bars and meal replacements.

Despite being part of a major food recall in 2009, peanuts and peanut butter continue to be in demand as an ingredient in cookies, bars and snacks. With a great nutritional profile, peanuts also are economical. Peanut allergies, however, are on the rise, and consumers need to know not only if peanuts or peanut products (such as peanut oil or peanut flour) are in baked products, but if peanuts are used anywhere within the baking facility.

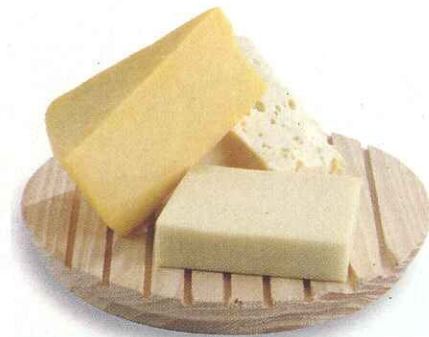
Almonds also are proving popular across the globe, due in part to high

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levels of antioxidants and fiber. According to the California Almond Board, 62 percent of Europeans choose to purchase products containing almonds.

Fairly new on the scene are hazelnuts, with their exotic flavor and

classification as a “superfood,” according to the Hazelnut Nutrition Council. Hazelnuts contain more proanthocyanidins, or antioxidants, than any other nut, as well as vitamin E and heart-healthy monounsaturated fats. Hazelnuts provide



Cheese is a favorite among consumers, according to studies. Melt is the critical factor when selecting a cheese for use with baked products, as consistency, moisture level and oil content can affect how cheese stands up to baking temperatures.

an indulgent, upscale aura to baked products and pair well with other ingredients, such as fruit, chocolate and cheese.

Say cheese

Dairy ingredients are yet another way to add flavor and value. According to a study commissioned by Dairy Management Inc.™ (DMI), 95 percent of consumers said, “I love the taste of cheese,” and 86 percent agreed that “cheese really makes a difference when it is part of the foods I eat.”

As more consumers pay attention to nutrition labels, leveraging the use of premium ingredients such as real cheese can be appealing to today’s value-conscious consumer. According to a report by market research firm Mintel, nearly all mothers, the primary shopper in most families, say they read nutrition labels at the grocery store, and one-third are looking at labels more than they did a year ago.

While many consumers are familiar with cheese, such as cheddar and mozzarella, in baked products, interest in specialty Hispanic cheeses is growing, according to Dean Sommer, cheese and food technologist, Wisconsin Center for Dairy Research at the University of Wisconsin, Madison. Cheese breads are

a staple throughout Latin America, where bakers use fresh, non-melting cheeses, such as Queso Fresco, as inclusions. As the Hispanic population in the United States continues to increase, opportunities to create cheese breads that appeal to both Hispanics and non-Hispanics abound.

Choosing a cheese with the correct melting properties is critical when formulating baked products. Using a Chihuahua or quesadilla cheese is ideal in formulations where you need stretch and flow. They are high in moisture but also have a high pH, which prevents melting.

Drier cheeses, such as Parmesan and Asiago, also work well. "These cheeses are very tasty and somewhat melt resistant, as they are low in moisture and high in salt, and are in a normal pH range of 5.1 to 5.3," Sommer says.

Processed cheeses are easier to work with, as emulsifier salts are used to make them non-melting, Sommer notes. "It is much easier to control the melt and flow properties with heat in a processed cheese, than it is with natural cheese," Sommer adds. "The use of the correct emulsifying salts can create a non-melting cheese for many applications."

Bakers need to keep in mind, however, that when used as inclusions, natural cheeses tend to cut down on product shelf life unless quickly frozen after baking.

Long-term alternative

For products that require a longer shelf life or boost of flavor, lipid-based inclusions may be the answer. Lipids can intensify the flavor, color and aroma of products while enhancing texture, mouthfeel and appearance. Sensory Effects, Defiance, Ohio, produces a wide range of fat-based inclusions that can be used in breads, muffins, bagels, waffles, flatbreads and other products. Available in a range of sizes, the inclusions are coated flavor-delivery systems that melt at a prescribed temperature,

infusing products with flavor and color. The inclusions disperse readily in dry blends and can be added to formulations without changing other baking parameters.

In the world of baking, ingredients that add flavor as well as function are becoming increasingly important.

Consumers will continue to demand multitasking ingredients in their foods, ones that provide flavor, fiber, texture and optimum nutrition.

"The breads of the future will not only be required to offer functionality," Harkins says, "they will also have to offer flavor galore." ■