



The next generation of gluten-free bakery solutions

Gluten-free bakery products have flooded the market over the past decade.¹ Unfortunately, the taste and texture of these breads, cakes and muffins were often disappointing for consumers. Gluten imparts unique and hard-to-replicate properties in baked goods, such as crumb texture and chewiness, and helps retain moisture. There is no simple replacement for this unique protein.

Cargill food scientists, have spent years in the research and development (R&D) lab studying gluten alternatives. They've developed label-friendly solutions that help food manufacturers make products with more consumer-friendly textures and flavors. They've also developed ingredient solutions that deliver products with improved nutrition and are acceptable on the label, both of which are on the minds of today's consumers. What Cargill experts have learned is sparking the next generation of gluten-free baked goods.

Baking tastier gluten-free bread using corn and ancient grains

According to Cargill food scientist Matt Gennrich, baking desirable bread is the biggest challenge in a gluten-free bakery. "It's hard to make a product that tastes familiar, and has desirable volume and crumb." The lab has explored the use of corn flour in gluten-free baking mixes, as well ancient grains. "Consumers are becoming more comfortable with ancient grains such as quinoa, sorghum, millet and amaranth."

Because these ancient grains may impart an undesirable flavor, Cargill experts suggest using a blend catered to the specific application. Gluten-free blends may also include label-friendly corn starch and rice flour.

Cleaning up the gluten-free bakery label

Bakers once relied on finely granulated flours coupled with modified food starches and gums to avoid grittiness and maintain a desirable texture in gluten-free bakery products. But inclusion of these starches and gums may dissuade consumers who are looking for more familiar ingredients. Cargill has developed a robust selection of plant-derived starches and texturizers which can satisfy consumers while maintaining product quality. Gluten-free native starches such as maize, tapioca and potato, and Custom Texturizing Systems, help bakers solve common formulation challenges and produce a consumer-friendly label.

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Gluten-free sales trends

The gluten-free market has enjoyed an impressive annual growth rate of 35 percent over the five-year period ending in 2015, according to Packaged Facts.¹ Sales in 2015 reached \$1.6 billion. Continued growth is expected, but at a more moderate pace. Analysts predict the gluten-free market will reach \$2 billion in sales in 2020.

Baking party-perfect cakes and muffins

Some bakeries were able to create consumer-pleasing gluten-free cookies, but struggled to produce cakes and muffins without a coarse texture. According to Gennrich, bakers may never be able to match a high-ratio wheat-based cake, but they can produce a gluten-free cake worthy of a celebration. “The key is to find the right ratio of starches,” he explains. “At Cargill R&D, we analyzed the gelatinization of typical wheat-containing cakes and tried to match that in a non-wheat environment.” Further research has shown that using blends of label-friendly tapioca and native corn starches can help bakers deliver fine-textured, gluten-free cakes and muffins.

Boosting nutrition in gluten-free baked goods

Early gluten-free bakery products were sometimes loaded with ingredients that today’s health conscious consumers may try to avoid, such as sugars, fats and highly refined grains. And rarely did they provide any added nutrition. Cargill scientists have developed ways to boost the nutrient profile of gluten-free baked goods without impacting flavor or texture. This includes using whole grains such as ancient grains and corn flour, and boosting the protein content using pea and soy protein. Oliggo-Fiber® chicory root fiber can boost baked goods’ fiber content, provide additional health benefits associated with increased dietary fiber, and also help meet sugar-reduction goals.

Avoiding allergens at the bakery

Some consumers are looking to avoid more than just wheat/gluten when shopping for bakery products. Other major allergens, such as egg and soy, are also on their minds. Specially formulated starch blends and Texturizing Systems can often be used to mimic the function of eggs in baked goods. Cargill’s canola lecithin offers the same functionality as soy lecithin, but doesn’t have to be declared as a major food allergen in the US. It is also non-GMO and may be used in organic products.²



Sources

¹ Packaged Facts, *Gluten-Free Foods in the U.S. 6th Edition*

² Under certain circumstances per 7 CFR §205.606