



# Corn Ingredients Clean Up Snack Food Aisle

Given its lengthy status as a pantry staple, the corn kernel might seem an unlikely candidate for additional innovation... but Cargill's ingredient experts continue to find new ways to get more from the time-tested product line.

With an eye toward novel processing techniques, Cargill's research teams are helping food processors develop the next generation of wholesome corn-based snacks to satisfy today's label-conscious consumers.

## Consumer-Pleasing Attributes Shine

As snack makers scrutinize their ingredient statements against the tidal wave of customer label-friendly demands, dry corn ingredients are enjoying a renaissance of sorts. Gluten- and allergen-free, and available in non-GMO and whole-grain options, corn's label-friendly appeal is evident. It also packs a nutritional punch, as the intact and intrinsic corn fiber meets the U.S. Food and Drug Administration (FDA) definition as a dietary fiber.

Cargill's dry corn ingredients offer special appeal to consumers trying to avoid chemically processed ingredients. The ingredient is produced by a chemical-free process, relying instead on mechanical means to fractionize (grind) and separate kernels into their three component parts: germ, starch and fiber.

"Everyone defines label-friendly in their own way," Keith Smith, regional technical service lead for Cargill, acknowledges. "But corn has numerous attributes that consumers often associate with label-friendliness: allergen-free, gluten-free, chemical-free, familiar."

## Fine-Tuned Fiber

As demand for these consumer-pleasing ingredients has grown, Cargill has worked to help food and beverage makers tap into corn's consumer appeal. Among the most recent innovations, the company now offers finely ground corn bran (a source of dietary fiber). Introduced at the end of 2017, Cargill's new powdered corn bran makes it possible to incorporate insoluble corn fibers in a growing list of applications, including nutrition shakes and a broader array of bars.

"It's still an insoluble fiber, but by creating a much finer corn bran particle, it's more easily suspended and mimics much of what a soluble fiber can do," explains Smith, who has extensive experience working with corn ingredients.

Because the minute fiber particles remain in suspension, the highly ground corn bran can be used to boost the fiber content of nutrition shakes, while still meeting consumer expectations for texture and mouthfeel.

"Traditional corn bran fibers quickly fall out of solution, leaving behind a gritty mouthfeel," he explains. "With our new offering, even though the fiber is insoluble, it stays in suspension – creating a pleasant, smooth mouthfeel."

As one of the few fibers that currently meets the FDA's definition of "intact and intrinsic" dietary fiber, corn bran's ability to be incorporated into a broader array of nutrition bars and shakes is a big plus. Corn bran contains 86 percent total dietary fiber.



Not only does the ingredient enable formulators to craft products that include dietary fiber, corn bran can also help with sugar reduction. Using the company's finely ground corn bran in combination with a few other ingredients, Smith has replaced as much as 25 percent of the sugar in a nutrition bar. The resulting reduced-sugar bar also qualifies as an excellent source of fiber, yet still meets customers' expectations for taste and texture. As an added bonus, corn fibers are decidedly economical – often half the cost of more expensive soluble fibers.

## Steeped in Sustainability

Processing innovations can also yield sustainability gains, a point of growing importance to many consumers. According to a recent report from The Hartman Group, about 70 percent of consumers want retailers to be more transparent in their sustainability efforts.<sup>1</sup> One way Cargill has responded to those calls is by transforming its masa flour production processes.

Masa flour is the key ingredient for tortilla chips, taco shells and similar snacks with a southwestern flair. Most corn millers rely on a water-intensive processing approach to first soak the corn in a vat of water, then use an alkaline solution to soften the kernel. This approach not only uses significant amounts of water resources, it also requires treatment and disposal of vast quantities of wastewater. Cargill developed a way to produce masa flour with sustainability in mind.

“We can create the same quality end product using a proprietary dry milled process,” Smith explains. “It uses much less water than the conventional method, with no wastewater to return to the environment.”

## The Total Package

Why use corn? Smith maintains the real question is, “Why aren't you using corn?” Corn adds a sweet flavor component that other options like potato or rice starch simply can't. It's widely available and cost competitive, not to mention versatile and easy to use.

**“Corn has so much to offer food and beverage manufacturers,” Smith continues. “We have decades of experience working with corn, so we know how it fits in a formula. It withstands all kinds of processing, and perhaps most importantly, it has label-friendly attributes that resonate with consumers. Now is truly corn's time to shine.”**

<sup>1</sup> Sustainability 2017: Connecting Benefits with Values Through Purposeful Consumption. The Hartman Group, November 2017.