

## Ancient Grains: Something Old

*Ancient grains allow companies to marry flavor and nutrition in snack chips and crackers.*

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by Lucy Sutton

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Given the premium price that health-and-wellness products demand and the slow recovery from the recession, consumers need their food to work harder for the precious dollars they spend on it. Salty snack consumption is slowing, according to recent data from Mintel, Chicago, IL, but snack producers can develop a relationship between the nutritionally sound products customers need and the profit margins that keep their businesses running.

One matchmaker for this relationship is ancient grains. In the May/June 2011 issue of *Cereal Foods World*, a publication of AACC International, Suzy Badaracco of Culinary Tides, Inc., stated, “Whole grains, particularly single and ancient grains, can be used as translators to introduce global flavors to consumers in a nonthreatening way. ... [The product] can act as a gateway to introduce new flavors and foods to consumers. It is a bridge to new food experiences — the interpreter or translator if you will.”

Salty snacks can be a convenient vehicle for ancient grains, a group of cereals and pseudocereals that have remained relatively unchanged by modern plant breeding, according to Mike Veal, vice-president of marketing, ConAgra Mills, Omaha, NE, which offers amaranth, millet, quinoa, sorghum and teff as flours and in multigrain blends. Other grains and seeds widely covered by the ancient grains umbrella include buckwheat, chia, farro, Kamut, montina, spelt and triticale, and some consider rice and sesame to be ancient grains as well.

Mr. Veal said that consumer interest in the company’s grain offerings has been increasing. “This is being driven by a number of factors, including growing interest in better-for-you products as well as continued retail introductions of whole-grain and multigrain products that are entering the mainstream,” he noted. (For more on working with whole grains, see “[Practical Matters](#).”)

Such products include salty snacks. “We’re seeing multigrain tortilla chips that use quinoa or brown rice flour and a mix of other ancient grains to boost the nutrition profile and change the flavors, and probably even behavior during production,” said Cynthia Harriman, director of food and nutrition strategies, Whole Grains Council, Boston, MA.

Although the trend toward ancient grains is just now starting to become more mainstream, it has been building for some time. In March 2008, Frost & Sullivan, San Antonio, TX, released a report: “The Super Grain Trend: A Modern Twist to Ancient Produce,” in which author Natasha Telles cited the rise of the health and wellness trend from 2003 to 2008 as causing the “rediscovery of these highly nutritious grains.” Ms. Telles went on to say, “One of the most

promising application sectors is the baked foods segment, with these grains being used in breads and rolls, pastas, tortillas and snack bars.” Today, we can add snack chips and crackers to that growing list.

## THE COURTSHIP.

Snack manufacturers are attracted to ancient grains for a variety of reasons. Mary Waldner, chairman and co-founder, Mary’s Gone Crackers, Gridley, CA, was diagnosed with celiac disease in 1994, so she turned to ancient grains to produce gluten-free products for others like her. The company started with crackers and expanded to gluten-free pretzel sticks and cookies. “I wanted to make things healthy, though, and using whole grains and seeds is certainly part of that,” she said. “The ancient grains add great nutrition as well.”

A joint venture between two Japanese companies, TH Foods, Inc., Loves Park, IL, specializes in rice crackers with its Crunchmasterbrand and also includes quinoa and amaranth in its Multi-Seed and Multi-Grain crackers, as well as the recently introduced 7 Ancient Grains crackers.

“Rice, as one of the ancient grains, has been incorporated in our product since 1991,” said Jim Garsow, director of marketing, TH Foods, Inc. “As you look at reasons why we use ancient grains, originally it was because of the unique crunch and the low fat and the great sesame taste that we included in the rice crackers as an alternative to wheat crackers. Now the gluten-free position and great nutritional profile are adding greatly to the product appeal.”

Shearer’s Foods, Brewster, OH, includes ancient grains in two varieties of its Tangos tortilla chip line: Fire Roasted Veggie and Multigrain & Flaxseed. “The wonderful thing about ancient grains is that each one of the components brings a nutrient-rich solution that is more impactful to the overall formulation than just corn,” said Paul Smith, director of product solutions, Shearer’s Foods.

That richness of nutrients is a key driver in product innovation with ancient grains. “Quinoa is an interesting grain or seed, if you will, from a nutritional standpoint,” said Craig Bair, PhD, president, Food Solutions, Inc., Greensboro, NC. “Not only is quinoa very proteinaceous (high in protein), but the protein it supplies is complete protein, meaning that it includes all nine essential amino acids. Not only is quinoa’s amino acid profile well balanced, making it a good choice for vegans concerned about adequate protein intake, but quinoa is especially well-endowed with the amino acid lysine, which is essential for tissue growth and repair.”

“Amaranth, another whole grain, is really high in protein, and it’s also high in vitamin E,” Ms. Harriman said. “Its protein contains lysine, which is an amino acid missing or negligible in most of the other whole grains, so that’s really appealing.”

Flavor provides another area of attraction. “Quinoa has a unique flavor by itself,” Dr. Bair said. “Upon processing, particularly heating, it develops desirable toasted-roasted-type flavor notes.”

TH Foods conducted several concept and sensory screenings, among 3,933 consumers — both primary grocery shoppers and Lifestyle of Health and Sustainability (LOHAS) or Naturalite

consumers — with the Natural Marketing Institute, before launching its 7 Ancient Grains crackers. “We felt very confident. Not only was the concept screen score higher in terms of purchase interest, but also the sensory scores were as high as our current products,” Mr. Garsow said. “We do sensory testing as well with several different universities to validate the flavor or sensory scores — not just the flavor but texture and other sensory aspects.”

## THE BETROTHAL.

Once snack producers decide to go with ancient grains, they must figure out the grains’ relationship with the other ingredients in the formulation.

“I think one of the biggest challenges is optimizing the total amount and ratios of the grains that are added to various product bases,” Dr. Bair said. “It’s interesting to see how much of these beneficial grains you can actually get into the product and still have a great-tasting, cost-effective product, as well as providing optimal organoleptic properties in the finished product.

“For example, when ancient grains are incorporated into tortilla chips, the amount and ratio of the grains added have an effect on the integrity of the chip,” he continued. “Basically, you need to determine the threshold at which you can add the grains so there are no issues, such as excessive breakage when the product is shipped from the manufacturing plant throughout the US to stores. There’s nothing more frustrating than opening a bag of broken chips, especially when you’re using them for dipping purposes.”

The key, Ms. Harriman said, is to start slowly, the same way manufacturers did when they first experimented with whole grains in their formulations. “I can absolutely envision companies that are doing baby-step products right now to move their consumers forward to a greater appreciation and understanding of ancient grains,” she said. Such products can be nutritionally satisfying and also might meet the needs of the gluten-free marketplace, she added.

TH Foods uses ancient grains to complement the rice base of its Crunchmaster crackers. “We’ve been using lots of grains like sorghum, amaranth and quinoa and several others like millet and flax that offer not only different nutritional profiles but also great visual appeal and great multigrain tastes,” Mr. Garsow said. “With our technology, the flavors get incorporated and blended very well, so these grains are very complementary.”

For the most part, equipment used for whole-wheat formulations can be adapted to products made with ancient grain flours. Because Mary’s Gone Crackers’ products are made using ancient grains in their whole form instead of flour, the company had to begin from scratch in developing the production line. “We have proprietary equipment — one piece that we had to invent ourselves,” Ms. Waldner said. “We had to be very creative; it took us some time to figure that out.”

Another area of trial and error is in the flavor profiles of the chip and cracker products since whole grains can tend to have some off notes, particularly as it relates to bitterness. “I love to get a little bit of sweetener in there by using evaporated cane juice or my favorite: honey,” Dr. Bair said. “Incorporating honey provides a more smoother, more rounded flavor profile, as it helps

mask some of the bitter notes associated with whole grains.”

Formulators can also add some ingredients to boost flavor and nutrition. “In the case of the Fire Roasted Veggie, [ancient grains are] riding alongside vegetables,” Mr. Smith said. “The vegetable chips have a one-third cup serving of vegetables per 1-oz serving of tortilla chips, and that’s not counting the things like the nutrients that are found in the ancient grains.”

#### HAPPILY EVER AFTER.

Once the formulation is established and the marriage between flavor and nutrition blossoms, companies must keep the product strong in the marketplace. “The ultimate goal of any product that you develop is repeat business,” Dr. Bair said. “You can make a product, create the best marketing plan and throw a lot of marketing dollars for promotion, and you’ll get trial. But you know what? If the flavor and other product characteristics aren’t optimized, or it doesn’t deliver on what you’re trying to sell on that bag, you’re not going to get repeat business, and it’s going to die.”

One key element to this repeat business is price, which can be a tricky problem since the ancient grains tend to be more expensive than traditional processed grains. For its Tangos chips, Shearer’s Foods produces a bag that’s slightly smaller than those of regular tortilla chips but with a price point that’s comparable to that of traditional products. “Really that’s the goal: price points that are affordable, that make it easy for the shopper to pick up and try,” Mr. Smith said. He added that the Tangos that contain ancient grains have a strong sales history, proving that the strategy is working.

Another strategy, which Mary’s Gone Crackers adopted, is to position the snack as a premium product, worth the extra money consumers will pay. “I think people understand a couple of things: one is that they’re getting more in a box of our crackers than they would in a box of white flour crackers, and also the taste is just so much better that people are willing to pay more for a real whole food product,” Ms. Waldner said. “Ten of our crackers really fill you up, and I don’t think that would be the case with a refined white flour cracker.”

When it comes to product labeling, companies have to be careful about what health claims they make. “But with nutrient content claims, you have a little bit more leeway, as long as you’re not misleading the consumer,” Dr. Bair said. “The labeling rules and regulations plainly state, ‘You shall not mislead the consumer.’ You can say a lot of things without misleading them yet still give them good information. But you don’t go as far as making health claims, which the Food and Drug Administration regulates very closely.”

This past March at Natural Products Expo West, Ms. Harriman said, ancient grains were being touted as perfect for the modern lifestyle. “‘Ancient grains on the go,’ ‘Ancient grains for your busy life,’ because there’s so much protein,” she said. “They really are a phenomenal fuel source. So they’re great for athletes and people who are constantly moving. They’re a really amazing substitute for traditional animal proteins in different meals.”

TH Foods has seen success with its products containing these specialty grains in mainstream

grocery stores, without calling them ancient grains on the packaging, according to Mr. Garsow. “Seeing that kind of growth and that kind of success has been a clear indicator that ancient grains are certainly a trend that could have some strong staying power,” he said.

According to sales data from SPINS, Schaumburg, IL, products made with rice and alternative grains currently account for only 3% of the total cracker and crispbread category. However, this segment has grown by double-digit rates over the past five years (see the chart on Page 32). Mr. Garsow predicted that in the next several years, this segment will grow to represent more than 10% of the category.

“People are just finding these things again, so there’s this romance to old crops that are high protein and high in nutrition but then using them in the snack form,” Mr. Smith said. “That’s where you can capture an underlying value in a snack food that wouldn’t typically be found there.”