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Sourcing ancient grains closer to North America



Teff, which originated in Ethiopia, shows promise as a drought-resistant crop in North America. Photo: Adobestock

Ancient grains are appearing in more food items on North American retail shelves. They are being grown in more fields in the continent as well. While millet and sorghum already have a history in U.S. agriculture, quinoa, which originated in South America, and teff, which originated in Ethiopia, look to have a future in North America.

“Quinoa and teff definitely have moved from being an imported product to being a domestically grown and sourced item,” said Tom Andringa, head of sales and business development for Western Foods, Woodland, California, U.S.

Five years ago, almost all quinoa came from South America, he said. Then farmers in Canada and the Northwest Plains of the United States began growing the gluten-free ancient grain that has a high protein content. Today, Western Foods sources some quinoa varieties from Bolivia

and Peru, but “the bulk of the quinoa we use is domestic or out of Canada,” Andringa said.

The increase in supply has brought down the price point for ancient grains, he said.

Quinoa originated among the Incas in Peru and Bolivia. The recent turbulence in quinoa prices was covered in a report “The quinoa boom goes bust in the Andes” written by Emma McDonnell, a PhD candidate at Indiana University, as part of her doctoral dissertation. Farmers in South America sold quinoa for less than 25¢ a pound in 2000. During a quinoa boom from 2011 to 2014, prices rose as high as \$4 a pound and Peru’s national production more than doubled. By late 2014, however, prices were down to 60¢ a pound.

Quinoa farming is better suited for a cooler climate, such as that in the Andes mountains and perhaps the Canadian plains. Ardent Mills, Denver, works with growers in Saskatchewan, Manitoba and Alberta through its “Great Plains Quinoa” program.

“Our Great Plains Quinoa program continues to build momentum, largely driven by the supply assurance and predictable pricing that comes from growing in North America,” said Don Trouba, senior director, go-to market for The Annex by Ardent Mills, which develops specialty grains and other plant-based ingredients. “Since the launch of our program in 2017, we’ve continued our efforts by building relationships with universities and breeders, as well as growers, to further develop different varieties and ensure availability of quality products for any application.”

Research from Ardent Mills shows the number of retail products with quinoa in the United States grew 23% in 2016. Ardent Mills’ proprietary research from Nielsen Scantrack, XAOC shows a 72% average annual growth rate for products with quinoa since 2012.

Donna Reiser, marketing communications manager, Bay State Milling Co., Quincy, Massachusetts, U.S., cited Mintel data showing 255 new product introductions in North America containing quinoa in the past 12 months. The products varied from baby food to bakery items, cereal, snacks, bars, pasta and meat substitutes.

“Items containing quinoa, both whole grain and flour, are now mainstream items for shoppers,” she said.

The end-user customers of The Andersons, Maumee, Ohio, U.S., are seeking ancient grains with strong nutritional profiles, making quinoa an ideal ingredient, said Andy Vollmar, director, food ingredients and specialty ingredients for The Andersons.

“In an attempt to differentiate themselves in the marketplace, companies are beginning to incorporate new forms of quinoa into their products,” he said. “For example, we are seeing quinoa puffs and flakes used in dry mixes, granolas, cereals and protein bars.”

Quinoa may be found in a variety of foods from dry and heat-and-eat side dishes to snack crackers, bars, cereals and bread, said Tim Devey, director of marketing for Panhandle Milling, Phoenix, Arizona, U.S.

“Quinoa is getting front-of-pack billing more often, particularly in snack foods,” he said.

Teff is appearing in more snack products like crackers and even in brownie mixes, Devey said.

TEFF’S DROUGHT RESISTANCE

Teff, which has a high degree of calcium, originated in Ethiopia, but Andringa said Western Foods is sourcing it in the United States, including Nevada.

The University of Nevada, Reno, is testing teff, believing it will grow in the arid climate there and seeking to improve its drought tolerance even more. The high-elevation growing areas around Reno may receive just over 7 inches of rain per year, said John C. Cushman, PhD, a professor of biochemistry at the university.

“It’s a dual-purpose crop,” he said of teff. “You get this high-value, nutritional desirable grain (for human consumption), and then you have the grass that can be harvested as forage or fodder, just like alfalfa.”

Teff could be an alternative crop to alfalfa, which does not have the grain for human consumption that teff has, he said.

Through the project, which is supported by the Nevada Agriculture Experiment Station and began in 2015, teff has been grown on as many as 700 acres, Cushman said.

“Expansion is certainly driven by market forces,” he said. “There continues to be a really high demand for (teff). So I think there’s room for this market to grow and diversify.”

FAMILIAR TO U.S. FARMERS

U.S. farmers already have experience growing sorghum and millet.

“While all ancient grains have grown in popularity in the past five years and now appeal to a mainstream audience, quinoa has been the shining star,” Trouba said. “In terms of what’s next, we see both sorghum and millet beginning to proliferate. Both ancient grains are grown domestically and offer supply assurance and cost-effective pricing compared to some of the other ancient grains.”

Mark Stavro, senior director of marketing for Bunge North America, St. Louis, Missouri, U.S., said, “According to The Hartman Group, we’re seeing that amaranth and millet are being adopted by consumers now, and sorghum and teff will follow. We also anticipate a diversified future of ancient grains, from sprouted to puffed to stone ground.”

Bunge offers sorghum masa for tortillas and is working on masa forms of millet and amaranth, he said.

Archer Daniels Midland Co., Chicago, Illinois, U.S., considers sorghum to be an ancient grain because historically it was grown in Africa and it has remained largely unchanged for several hundred years, said Tess Brensing, research and development and technical product manager

“It has gained increasing prevalence in the U.S. because of its drought tolerance, agronomic efficiency and use in food, feed and industrial applications,” she said. “The phenotype of sorghum varies dramatically, ranging from short to very tall plants and seed coats spanning white, yellow, red and black. This variety has made it possible to adapt sorghum for specific uses, from brooms to syrup to flour, optimizing the plant characteristics of the application.”

ADM’s Harvest Pearl sorghum flour has distinctive traits.

“The variety of colors of sorghum — spanning white, yellow, red and black — translate to differences in flavor and appearance,” Brensing said. “Because of this, ADM has specifically selected varieties that are very white in appearance and neutral in flavor, which makes it easier to incorporate into a wider variety of products to meet whole grain and multigrain demands.”

Sorghum may work in multigrain blends in bread and is suitable for use in gluten-free crackers and snacks, she said. ADM also offers a range of what the company calls “heritage grains”: quinoa, amaranth, teff, millet, buckwheat, spelt and farro.

Bay State Milling expanded in ancient grains last year by acquiring CleanDirt Farm, an organic and conventional millet sourcing and processing operation in Sterling, Colorado, U.S. CleanDirt Farm had been part of the Bay State Milling supply chain for over 10 years.

“If you take into consideration its health benefits, mild flavor profile and the current trend toward plant-based products, millet is beginning to share the same success as quinoa,” Reiser said. “As U.S. manufacturers and consumers discover millet’s versatility, applications have expanded to include millet as a component in the form of flour, inclusions and toppings.”

Mintel data show 123 new product introductions in North America with millet as an ingredient in the past 12 months.

“Millet is a great companion grain, rounding out the flavor of ancient grain blends,” Reiser said. “However, don’t be fooled by its blend-ability. It has the capacity to stand on its own as proven by the popularity of introductions such as millet burgers and millet tots.”

Bunge

