Oats in high demand for milk production

Some companies reporting 50% or more year-on-year growth for oat milk brands

by David McKee

In recent years, plant-based milk substitutes have gained prominence in supermarket coolers and on coffee shop menus. Within this category, oat milk has been accounting for nearly all sales increases with some companies reporting 50% or more year-on-year growth for their brands, even as demand for longer-established almond milk and soy milk has plateaued.

One to two billion liters could be the current annual sales level, though precise industry data is tightly held.

The trend toward oat milk is driven by its appeal to vegans and the lactose intolerant, as well as to consumers worried about the climate change impact of large dairy herds.

Oats require just a fraction of the water needed for almonds and avoid the health concerns surrounding soy-based foods. Tastiness, low sugar content, creamy texture and frothiness have helped oat milk surpass cow's milk as the main choice for lattes in many coffee shops.

Farmers and oat millers in the Canadian prairie provinces count among the chief beneficiaries of the boom in oat-based beverages. Most of the handful of large, specialized oat milling companies have been running their plants at full capacity to meet this new source of demand. New processing lines are being added.

One source estimates that a tonne of milled oats, equivalent to 1.7 tonnes of raw oats, is needed per 3,500 liters of oat milk. Consequently, growers in Saskatchewan, Manitoba and Alberta have been able to sell a higher share of their crop at a premium as food grade oats.

North American integration

Canada accounts for 85% of North American oat production. In 2022, its crop came in at 4.6 million tonnes after drought limited the 2021 harvest to 2.6 million tonnes. The 2022 total was the most since 2007, and vaulted Canada past Russia as the world's No. 1 oat producing country.

The United States and Canada function as a single highly integrated oat market. Canadian oat millers send over 80% of their output of groats, flakes and oat flour to the United States for use by the food processing industry not just as a breakfast food but as ingredients in a wide range of food products.

Unlike most other cereals, oat milling is done primarily in the production zones to remove the hull, which is 40% of the weight and has little commercial value.

The rule of thumb in oat milling is 60% yield of oat products from uncleaned, field-run ("dirty") oats.

One longtime mill manager said, "mill output is 45% whole groats and 45% steel cut oats, depending on the design and efficiency of the plant. Oat flour is 5% to 15% of the output. Since flour is the lowest value product, the goal is always to minimize oat flour."

"Oat hulls are the primary byproduct," he add-

ed. "About 10% is burned as biofuel or pelleted for home fireplaces; 20% are used for poultry bedding, since oat hulls are highly absorbent; and the remaining 70% of the hulls are used for fiber content in animal feed, mainly for cattle with some also used in hog rations. The hulls are a low-density, high volume and low-priced product, making it difficult to ship them long distances. They are mainly used by small, local livestock operators near the oat mills."

Industry structure

Until this year, there had been only six major oat milling plants in Canada. Richardson Milling Ltd., a subsidiary of Richardson International Ltd., Canada's largest domestically owned agribusiness company, is the leader with ownership of three plants having a combined daily output capacity of 21,400 cwts (1,100 tonnes).

Richardson International also ranks as one of the top global oat millers thanks to its purchase in 2013 of the 6,400-cwt oat mill in South Sioux City, Nebraska, US, at about the same time it bought the three mills in Canada. In 2017, the company acquired European Oat Milling in Bedford, UK, the second largest oat miller in Europe, since renamed Richardson Milling.

The No. 2 Canadian player is Grain Millers Canada Corp., with a plant in Yorkton, Saskatchewan, that has added new processing lines within the last five years. Its US parent company, Grain Millers, Inc., also has a large oat mill in Iowa and a third facility in Eugene, Oregon, US.

A joint venture between a pair of Chilean and Mexican food companies purchased the single plant of Canadian Oats Milling Ltd. in Edmonton 11 years ago. Most of its output is exported.

In recent years, the majority of Mexico's oat imports have come from Canada with the exception of 2022 due to the 2021 drought year, said Shawna Mathieson, executive director of the Prairie Oat Growers Association (POGA). In a phone call she noted, "Oat exports from Canada to Mexico have more than tripled between 2015 and 2020, in part thanks to POGA's marketing efforts."

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Mathieson also observed that Canada is the world's largest oat exporting country. Even with a doubling of exports in the last 10 years to 550,000 tonnes, Australia is still a distant No. 2, according to USDA data.

PepsiCo, through its subsidiary Quaker Foods North America, is a major player in the oat market in both Canada and the United States. Its 100-year-old 4,000-cwt mill in Petersborough, Ontario, Canada, is the only large one operating outside the Prairies, while its 20,000-cwt mill in Cedar Rapids, Iowa, US, has the capacity to process most of the US crop.

Burgeoning food grade oat demand has led to construction of two new milling facilities by newcomers to the sector. Privately-held Canadian company Paterson GlobalFoods (PGF) has launched a subsidiary called O Foods Ltd. that is building a plant designed and manufactured by Switzerland-based Bühler. At 250,000 tonnes annual output capacity, it will be Canada's largest oat mill. Its greenfield site is at the junction of major rail lines outside of Winnipeg where PGF is headquartered. Completion is set for the end of 2022.

Regina-based multinational AGT Food and Ingredient Inc. also announced a 2022 expansion of its Aberdeen, Saskatchewan, operation that will include an oat milling line to complement its strong position in sourcing and trading of pulses on three continents. The company has subsidiaries in Australia and Turkey.

Production of enzyme-based, concentrated slurries

Prairie Oat Growers Association

from food grade oats is an intermediary step between primary milling and the final processing and packaging of retail oat milk and derivative products like ice cream, yogurt and frozen desserts.

Earth's Own Food Co. operates two concentrated slurry factories in Quebec City and in Burnaby, British Columbia, just outside Vancouver where it is headquartered. Tellingly, the 25-year-old company originally was named Soyaworld Inc., but rebranded itself in 2011 to broaden its focus to a wider assortment of lactose-free milk substitutes.

Natura Foods is another major dairy alternative brand that has built its own oat concentrate processing plant in Quebec.

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Raw oats and feed

Millers contract directly with farmers for much of their raw oat supply but also buy from nearby grain elevators, who are adept at mixing high grade with lower grade grain that just meets the food grade quality specifications of the mills at the lowest cost.

According to POGA, there are 10,000 oat growers in Canada, 90% of whom are in western Canada. Other sources suggest that the difference between seeded and harvested area indicates that 10% to 15% of their crop that does not make the quality grade, typically because it is too light. These oats are used for on farm feeding of cattle or other livestock. Mostly they are threshed but some are cut as silage.

Sources estimate that 30% of oats overall go to feed use. Though as a component in compound feed the applications are limited, raw and processed oats have unique markets.

Within the industry the term "racehorse oats" simply denotes the grain as fed to all horses. Owners are

An aerial view of the Grain Millers Canada Corp. oat mill in Yorkton, Saskatchewan.

Grain Millers Canada Corp. oat mill in Yorkton, Saskatchewan

known to be picky about the visual appeal of the oats they buy, often paying a significant premium to get the whitest and shiniest grain.

Much of Canada's exportation of raw oats are to states in the southeastern US like Kentucky and Arkansas where there is a large equine population. Quality oats grown in Finland and Sweden long have been a supply origin to the region as well.

Bird seed is another niche export market for oats, particularly for one or two smaller millers on the Prairies. A high proportion of households in the Caribbean, Central America and Mexico keep parrots. Groats constitute a big part of the blends made by bird seed suppliers in the region.

Secular decline

Today's buoyant scenario stands in contrast to the decades-long secular decline in US oat production, perhaps the most remarkable drop for any American grain crop in the past century. From 1960 to 1964, the first years for which USDA data is readily available, the average US harvest was 14.5 million tonnes. During the last half-decade the crop has averaged 790,000 tonnes, just over 5% of what it was over 50 years ago.

USDA oat data for Canada is only available since 1980. Average Canadian production has been 28% higher on average since 2018 versus the 1980 to 1985 period. US production, on the other hand, is now just 11% of what it was in the first half of the 1980s.

Randy Strychar, founder and director of the industry consultancy OatInformation, pointed to a couple of reasons for the overall decline: "No horses and the US farm bill. Government support payments are favorable to corn, soybean and wheat growers. Machinery has replaced the use of horses in agriculture."

Oatly Group

No discussion of oat-based beverages is complete without a mention of Oatly Group AB, whose quirky advertising appealing to younger generations has been imitated by most competing brands. Beginning in the early 1990s, the Swedish company began developing the production technology for oat-based beverages in Scandinavia. Sales accelerated with the dairy alternative beverage boom and the company set out to globalize its Oatly brand. State-owned China Resources Co. Ltd. took a major ownership share for a strategic move into the Middle Kingdom.

Oatly Group AB's initial public offering on New York's Nasdaq Exchange in May 2021 provided $1.4 billion in capital to underwrite its ambitious expansion plans. The company's market valuation subsequently reached $13 billion before its share price fell by over 90% to the current levels.

Nevertheless, the demand created by Oatly and other new entrants has led in part to construction in 2022 of new Bühler oat mills in Sweden and Finland, with the latter well-positioned to supply China with food grade raw material via a direct rail connection.

Oatly's lack of profitability notwithstanding, the current oat milk phenomenon still constitutes a "game changer" in the words of one industry veteran, putting a floor under the long-term decline in global oat production and promising a steady rise in high value food use of oats. WG

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