

Market Matters

China Strives to Reach Milk Self-Sufficiency Goals

China's dairy supply chain has been undergoing a seismic transformation for more than a decade under a masterplan developed by government and industry to industrialize dairy farming, consolidate and vertically-integrate processing, and strictly regulate dairy products and their marketing. The impetus behind this revolution dates to the 2008 melamine scandal, which led many Chinese consumers to lose trust in locally produced dairy products.

The modernization of dairy farms to rebuild the safety and quality of the local milk supply has been China's largest and longest-running undertaking to overhaul the industry. Using intensive U.S.-style systems under corporate ownership, this decades-long initiative has injected capital, know-how, and technology into the farming sector to build a strong foundation for milk production.

China's herd declined 50% in 2015 and 2016 in a culling program designed to improve quality and reliability of the milk supply. Milk collections in China grew slightly between 2017 and 2019, as the industry rapidly transitioned to larger farms. One estimate showed that in 2014, 20% of all cows were housed on farms with 1,000 head or more. By 2019, 40% of cows were on these large farms, and that share is expected to reach 55% in 2024.

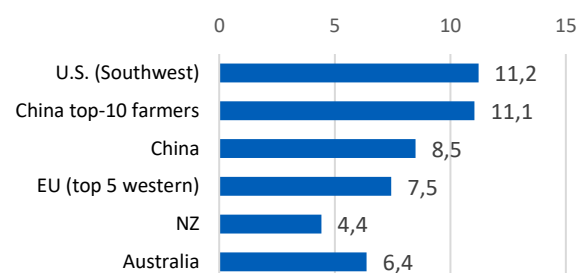
Corporate farms driving growth

Publicly listed corporate dairy farming companies have led China's expansion of large-scale farms, including China Youran Dairy Group (Youran) and Modern Dairy. These companies are generally tied by long-term partnerships, and in some cases, by part ownership of major processors.

Youran is the largest corporate farm and supplier to Yili, with an estimated 376,000 head in December 2021. Yili founded the company in 1984, went public in 2021, and is listed on the Hong Kong stock exchange. Its June 2021, public offering documents show the group is both a milk producer and major feed supplier. The feed side of its business generated 41% of Youran's 2020 revenues, which totaled 11.8 billion renminbi, or about \$1.87 billion (U.S.)

Modern is partly owned by Mengniu, and according to Modern's 2021 interim financial statements, had a herd of

Annual average 2021 milk per cow, metric tons



Source: USDA, BOABC, Eurostat, Dairy NZ, Dairy Australia

252,000 head, of which 135,000 were milking cows, scattered across 26 farms, each with a capacity of about 10,000 head. Modern has since acquired two other farming companies, Fuyuan and Zhongyuan, which bolstered its total herd to near 350,000. Its financial statements in 2021 stated its ambition to grow to 500,000 cows by 2025.

China has several other corporate farming groups, some publicly listed. The Beijing Orient Agribusiness Consultant (BOABC) group reported the results of a survey that showed the top-10 producers in 2022 had an estimated total herd of 1.51 million animals producing 8.5 billion kilograms, or 18.7 billion pounds, of milk, accounting for 23% of national milk production in 2021.

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Did You Know?

In 2017, the Chinese government expressed a dairy industry goal of becoming 70% milk self-sufficient by 2020, and it later reported it had achieved 66% self-sufficiency.

The highest portion of China's large-farm development has occurred in northern Inner Mongolia.

Farms that will eventually house 10,000 cows or more make up 63% of the 206 projects that *Holstein International* magazine is currently monitoring.



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Hoogwegt Forecast.

	U.S. Average Prices			EU Average Prices			Oceania Average Prices		
	\$/ton	\$/lb	Trend	\$/ton	\$/lb	Trend	\$/ton	\$/lb	Trend
SMP	4.080	1,85	Stable	4.600	2,09	Firm	4.700	2,13	Firm
FCMP/WMP	4.740	2,15	Firm	5.550	2,52	Stable	4.750	2,15	Stable
Butter	6.505	2,95	Stable	7.750	3,52	Firm	7.000	3,18	Stable
Cheddar	4.410	2,00	Stable	6.490	2,94	Firm	6.500	2,95	Stable
SWP	1700	0,77	Stable	1.500	0,68	Stable			
Lactose	992	0,45	Stable						

U.S. prices stated ex-works/including expected CWT subsidy where applicable; world prices stated FOB main port; EUR/USD: this week \$1,102

→ Future growth of large farms will continue at a rapid pace. A monitoring project by *Holstein International* magazine, which tracks the development of 206 large farm projects, reported that announced projects at the end of 2020 would include the addition of 2.5 million cows in the next few years. Of this, farms with a planned 1.35 million animals were operating by the end of 2020 and are expected to continue to fill their barns through 2023.

The importation of young stock is critical to the Chinese development plan. According to customs data, China imported 361,000 head of live cattle in 2021, about 50% of which were estimated to be heifers for breeding. China's new dairy farms also rely heavily on imported feed, as China does not have enough domestic production to supply these farms.

The future goal of government is to achieve a high level of self-sufficiency in dairy products. In the five-year plan launched in December 2021, the Ministry of Agriculture and Rural Affairs laid out its goals for the sector, which included the roles of different regions in achieving stable milk production, including further development of domestic feed production in the western regions of China.

Bring it Home

Challenges to Building the Herd

The dislocation caused by COVID-19 to China's dairy supply chain and market did not disrupt the development of large farms. In fact, it appears the pandemic has only spurred the dairy sector to deliver more quickly on its plans.

China's National Bureau of Statistics reported 7% growth in milk production to 36.8 billion kilograms, or 81.1 billion pounds, in 2021. Production growth should continue in 2022, albeit at a slower rate. Large-scale farms provided the engine for last year's production gain, growing output by an estimated 20% and increasing cow numbers by 18% compared to 2020 levels.

World Comment

Tight global milk production: It rarely happens that all major dairy exporting regions see negative production numbers at the same time. Also South-America is showing red numbers, but this is also driven by the high figures of last year. The USDA made some pretty big corrections on US production that changed the expectation of a fast US rebound. Eastern-Europe has managed to increase production driven by higher farmgate prices. However, West-European farmers face structural problems that prevents them from investing and increasing their output. Driven by the Ukrainian-Russian war, prices for food and energy started rising while people were hoping for easing prices. All in all, most forecasters decreased their expected milk production for the Northern Hemisphere. SMP and butter seems to be the best valorization, although this highly depends on the energy costs. Not all producers face the same energy costs when producing SMP, due to different medium and longer term energy contracts. From a demand perspective rising prices may be an issue, but unlike 2014, alternatives for dairy are also expensive. Middle East and South East Asian mostly bought hand to mouth. China is facing Omicron outbreak issues and is not expecting to import more than H1 2021.

The rising cost of feed is a major challenge to the business model of China's corporate farms. The combination of strong growth in demand for drinking milk in 2020 and 2021 and rising feed costs pushed milk prices to record-highs. To stabilize production for their supply partners and cover the elevated cost of feed, major dairy companies have stated that milk prices will likely remain above 4 yuan per kilogram of milk, or \$28 (U.S.) per 100 pounds, for much of 2022.

The ongoing development and maturity of large farms and improvements in per cow yields will likely continue to drive growth in China's milk output. However, major challenges exist to managing large-scale operations while maintaining yields – let alone improving productivity. The compelling journey, which all players in global dairy trade should watch, is how well China's new farms operate, how milk growth balances with the country's dairy demand, and what it will all mean for the country's ongoing requirements for imported dairy ingredients.



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