

# Dairy Products China News

## Guaranteed Exclusive Analysis

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Welcome to the April issue of Dairy Products China News.

This month we cover some recent innovations such as frozen cheese and dirty coffee made with buffalo milk! These are interesting, but the most exciting opportunities in China are the genuinely strategic ones arising from profound changes in the market. Many dairy industry customers are focusing on the opportunities provided by China's changing demographics, for example, in the knowledge that the country's 60 and over age group is expected to rise from 280 million to over 400 million by 2035. The government is having to react, but retirement can be an explosive issue, as the situation in France illustrates. Nevertheless, it is key to managing the future of a society and its economy. China has yet to formally announce a change to its retirement age, currently 60 for men, 55 for women working in offices and 50 for women working in factories, but have been signs that it may well do so soon.

Another form of response is to encourage the local industry to develop solutions that keep the elderly as healthy as possible – and out of hospital of course, with the costs that implies. Given that specialised nutrition will be key for China's aging population, it may be significant that Danone has acquired the Polish business Promedica this month, a company focused on supplying feeds for patients in a homecare setting – enterals and sipfeeds. This is another sign that the group sees this category as an opportunity in many markets worldwide and may further enable its plans to build up its capabilities at its Wuxi plant, northwest of Shanghai. International businesses have seen their command of the infant nutrition category severely reduced, but specialised nutrition is an area where they retain their edge for now. How to position for this as a supplier of – say – whey fractions, or added-value formulae? Life expectancy in China is now higher than in the US (where it is held back by its healthcare system) and approaching that in Western Europe (where it is increasingly challenged by economic difficulties) – what a strategic opportunity for the dairy industry working in China.

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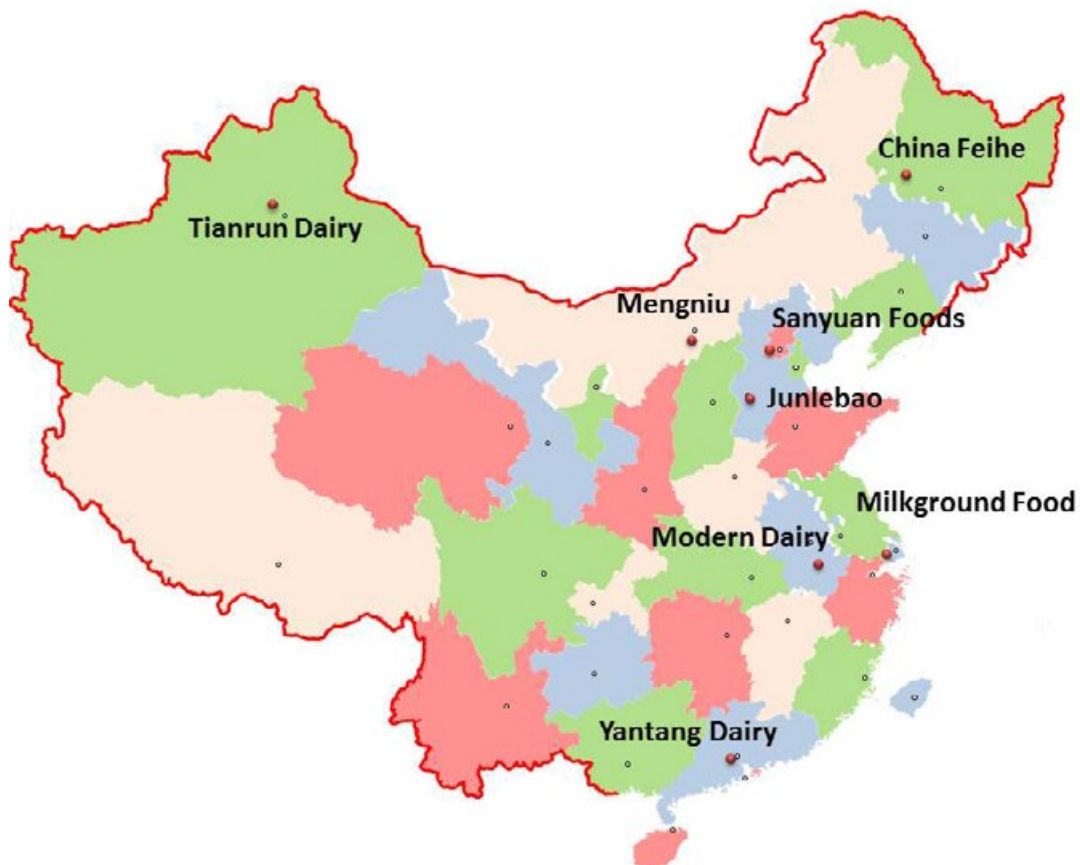
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## Headlines

- ▶ In April, 3 pre-construction environmental impact assessments for dairy farm projects were approved by the local government of Chifeng City, Inner Mongolia Autonomous Region.
- ▶ In April, 2 goat milk production projects proposed by Shaanxi Shengruzi and Fuping Milkgoat have made progress in their planning stages.
- ▶ On 24 March, Royal Group signed a project agreement with the local government of Yingdong District, Fuyang City to set up a dairy plant and farm as part of the company's expansion into Eastern China.
- ▶ On 12 April, the Ministry of Agriculture and Rural Affairs issued a Three-Year Action Plan for the Reduction and Substitution of Soybean Meal in Animal Feed, aiming to cut the proportion of soybean meal in feed from 14.5% in 2022 to less than 13% by 2025.
- ▶ On 29 March, Mengniu issued its financial report for 2022 with net profit growing by 11.6%.
- ▶ On 31 March, Tianrun Dairy posted its annual report for 2022 with net profit jumping 31.33%.
- ▶ In 2022, Milkground Food's revenue rose 7.84%, whilst its cheese business grew by 16.01%.
- ▶ On 31 March, Yantang Dairy reported net profit down 37.01% in 2022.
- ▶ In 2022, the 2 publicly listed formula producers experienced very different fortunes, as whilst Ausnutria's revenue declined 9.1%, H&H Group enjoyed 10.6% growth; both businesses complained about deteriorating market conditions, however.
- ▶ China's raw milk price has stayed low in April, after months of decline due to unstable supply and demand, but the country's economic recovery does offer some hope.

## Major Companies and Sites Mentioned in This Issue



## Market Analysis

### Three New Dairy Farm Projects in Chifeng City, Inner Mongolia

**Summary:** In April, 3 pre-construction environmental impact assessments for dairy farm projects were approved by the local government of Chifeng City, Inner Mongolia Autonomous Region.

In April, the local government of Chifeng City, Inner Mongolia Autonomous Region approved pre-construction environmental impact assessments for 3 dairy farm projects as follows.

#### 20,000 head farm project

- Construction nature: New construction
- Construction unit: The Agriculture and Animal Husbandry Bureau of Ar Horqin Banner
- Total investment: USD101.7 million (RMB700 million), 1.73% (=USD1.8 million/RMB12.1 million) of which for environmental protection
- Site area: around 186.76 ha
- Designed herd size: 20,000 high-yield dairy cows – 8,500 milking cows to produce an estimated 176,000 t/a milk
- Main construction content: 22 cattle sheds, 2 milking buildings, 1 silage silo, 2 hay barns, 1 concentrates storeroom, a waste treatment area and other supporting facilities and equipment
- Construction duration: 16 months

#### 10,000 head farm project

- Construction nature: New construction
- Construction unit: Inner Mongolia Pingyuan Animal Husbandry Co., Ltd. (founded in Dec., 2022 with a registered capital of USD7.3 million/RMB50 million)
- Total investment: USD65.4 million (RMB450 million), 2.24% (=USD1.5 million/RMB10.1 million) of which for environmental protection investment
- Location: Bahrain Left Banner
- Site area: around 65.15 ha
- Designed herd size: 10,000 dairy cows – 5,000 milking cows to produce an estimated 55,000 t/a milk
- Construction content: 13 milking cow sheds, 8 replacement heifer sheds, 2 dry cow sheds, 2 calving cow sheds, 1 milk station, 1 milking room, 1 silage silo, 2 hay barns, 1 concentrates storeroom and other supporting facilities
- Construction period: May 2023 to Dec 2024

#### 10,000 head farm & dairy processing project (phase II)

- Construction nature: Expansion
- Construction unit: Bahrain Left Banner Shenghui Animal Husbandry Co., Ltd. (founded in Jan 2021 with a registered capital of USD5.8 million/RMB40 million, in long-term supply partnership with Yili)
- Total investment: USD36.3 million (RMB250 million), 0.35% (=USD100,000/RMB880,000) of which for environmental protection
- Location: Bahrain Left Banner
- Site area: around 19.89 ha
- Designed herd size: 5,000 replacement heifers
- Main construction content: 12 cowsheds for replacement heifers, and other supporting facilities
- Construction duration: 180 days
- Project status: The overall project is to build a largescale dairy farm and a dairy product processing park, with a dairy herd of 10,000 head or above that generates USD34.9 million (RMB240 million) of annual production value. The 1<sup>st</sup> phase construction of the project has completed, which involved investment of USD21.8 million (RMB150 million) and covers 33 ha of land – 5,000 high-yield dairy cows have been introduced, including 2,600 milking cows producing 26,398 t/a milk

In 2022, there were 1.59 million cattle in Inner Mongolia Autonomous Region, an increase of 10.9% YoY; the region's milk output amounted to 7.34 million tonnes, up 9% YoY – on both counts, the region topped the national rankings. According to the *Nine Policies and Measures for Promoting the Revitalization of the Dairy Industry in the Inner Mongolia Autonomous Region*, there are targets to increase the region's dairy herd to 3.5 million head and milk production to 10 million t/a by 2025.

Meanwhile, Chifeng City has categorised Ar Horqin Banner, Bahrain Left Banner, Ongniud Banner and Yuanbaoshan District as key dairy farming areas producing high-quality milk. It has been encouraging the local dairying enterprises and farmers to import high-yielding Holsteins and use sexing embryos and frozen sexed semen to enlarge their operations. The city expects to have 400,000 cattle by the end of 2023, including 110,000 Holsteins and 290,000 dual-purpose cattle, to produce 800,000 tonnes of milk, worth approx. USD465.1 million (RMB3.2 billion).

## Updates on Shaanxi Province Goat Milk Projects

**Summary:** In April, 2 goat milk production projects proposed by Shaanxi Shenggruzi and Fuping Milkgoat have made progress in their planning stages.

In China, goat's milk has become increasingly popular, with substantial growth in production and sales in recent years. Although goat milk formula is still the key application, liquid products are becoming more important – pure and modified milk. Most of China's goat dairy businesses are concentrated in Shaanxi, Shanxi, Gansu and Shandong provinces – the largest, Shaanxi, accounts for 40% of national goat milk production and is seeing more plant added as a result.

April has seen local government approvals of the environmental impact assessments (EIA) of a proposed liquid goat dairy plant for Shaanxi Shenggruzi Dairy Co., Ltd. (Shaanxi Shenggruzi) and a proposed line expansion project for Fuping Milkgoat Dairy Co., Ltd. (Fuping Milkgoat).

### Details of Shaanxi Shenggruzi's project

- Construction nature: New construction
- Total investment: USD24.7 million (RMB170 million), 1.5% (=USD0.4 million/RMB2.6 million) of which for environmental protection
- Location: Pucheng County, Weinan City, Shaanxi Province
- Site area: 26,666.66 m<sup>2</sup>
- Main construction content: Production facilities including a raw material warehouse, a pre-treatment room, a fermentation area, a low-temperature filling room, an ambient filling room, a finished products warehouse with cold storage and an auxiliary materials warehouse, as well as supporting facilities
- Designed capacities: 220 t/d (66,000 t/a) of goat dairy products – 140 t/d (42,000 t/a) of long-life liquid milk (4 production lines) and 80 t/d (24,000 t/a) of fresh liquid milk (2 production lines)
- Working system: 96 employees, 3 shifts x 300 days per year
- Construction duration: 8 months

Shaanxi Shenggruzi was established in June 2022, with registered capital of USD8.7 million (RMB60 million). It is a wholly-owned subsidiary of Inner Mongolia Shenggruzi Dairy Co., Ltd., a newcomer in the goat milk market, also established in the same month last year.

### Details of Fuping Milkgoat's expansion project

- Construction nature: Expansion
- Total investment: USD6.6 million (RMB45.2 million), 10.3% (=USD0.7 million/RMB4.6 million) of which for environmental protection
- Location: Fuping County, Weinan City, Shaanxi Province
- Site & floor areas: 19,468 m<sup>2</sup> & 12,980 m<sup>2</sup>
- Construction plan:
  - Phase I: Add a 5,000 t/a goat milk powder and formula production line, with supporting facilities like wastewater treatment station and power room – at present, the 1<sup>st</sup> phase construction has completed and started commissioning
  - Phase II: Add a 10,000 t/a liquid goat milk production line – at present, the 2<sup>nd</sup> phase is under construction, with a factory building completed
- Working system: In all 220 people once the project is in full operation, working for 270 days per year

Fuping Milkgoat was founded in Sept. 2005 with a registered capital of USD1.5 million (RMB10 million). It produces goat WMP and formula, in its own right and as an OEM. It was originally founded by Milkgoat Goat Dairy Co., Ltd. (Milkgoat) but was spun off before Mead Johnson took over that firm in Feb. 2022 – which is now operating as Mead Johnson Dairy (Tianjin) Co., Ltd. (fully owned by Mead Johnson Pediatric Nutrition Technology (Guangzhou) Co., Ltd.) Mead Johnson took over 3 goat IMF brands at that time – "Classic Red", Chunguan" and "Meigao Beibei" – as well as multiple goat milk formula products for adults.

Now Fuping Milkgoat runs independently, 50% owned by a local entrepreneur, Ma Peng.

**TABLE I: Designed Product Capacity for Fuping Milkgoat**

Project status	Product	Capacity, t/a
Original	Goat milk WMP	200
	Goat milk formula	800
Phase I	Goat milk WMP	3,000
	Goat milk formula	2,000
Phase II	Long life goat milk	10,000

Source: Fuping Milkgoat's project EIA

## Royal Group Moves into Eastern China

**Summary:** On 24 March, Royal Group signed a project agreement with the local government of Yingdong District, Fuyang City to set up a dairy plant and farm as part of the company's expansion into Eastern China.

Royal Group Co., Ltd. (Royal Group, Stock Code: 002329) has been the leading water buffalo milk producer in China for over 20 years, with a range including fresh, UHT and fermented water buffalo milk, as well as some Holstein milk products. On 24 March, it signed an agreement with the local government of Yingdong District, Fuyang City, to build a smart dairy plant and an "ecological intelligent farm". This is a strategic move to build up its activities in eastern China.

### Dairy Products Central Plant (Phase I)

- Project plan: To establish a plant with at least 100,000 t/a product capacity, with potential to expand further if demand requires
- Location: Economic Development Zone of Yingdong District
- Total area: 8 ha (120 mu)
- Investment for the 1<sup>st</sup> phase: USD113.4 million (RMB780 million), of which USD84.3 million (RMB580 million) is allocated to fixed assets
- An "Agent construction—Leasing—Buy-back" cooperation: The local government will authorise an engineering company to complete the entire construction and lease the finished plant to the Group, which undertakes to repurchase the plant within a 6-8 year timeframe. This kind of cooperative model allows Royal Group to maximise capital investment efficiency during the

project development by enabling lower investment in the early stage of the project and leaving more funds for marketing

### Ecological Intelligent Farm

- Project plan: To build a large-scale farm with 5,000+ cows
- Location: Hongyang Village, Kouzi Town
- Total area: 73.3 ha (1,000 mu)
- Investment for the 1<sup>st</sup> phase: USD17.4 million (RMB120 million)
- Cooperation mechanism: Royal Group will set up a new husbandry company that will be joined by village-level collective companies or cooperatives in the Yingdong District with land rights and investments; the participants will receive dividends from this planned company, which will supply milk to Royal Group Anhui Dairy Co., Ltd. at a minimum price, acquire locally-produced silage feed and employ local workers where possible

Fuyang in Anhui Province is one of the key cities for economic integration in the Yangtze River Delta region. The regional markets along the Yangtze River Delta have provided good sales over the last 2 years, said the Group, which sees it as key to to implement this milestone project in East China in order to extend its brand further across the country.

China's water buffalo milk dairying is mainly concentrated in Guangxi Zhuang Autonomous Region (GZAR) and Yunnan Province. The rise of E-commerce and social media platforms has allowed water buffalo milk to become a hit niche dairy category for consumers outside these regions, valued for its

sweet and fresh taste and nutritional properties (compared to cow milk it is high in protein, calcium, vitamin A, low in cholesterol and sodium). In 2022 during the "6.18 Mid-year Shopping Festival", sales in the "water buffalo milk" category on Alibaba's online platform Tmall Supermarket jumped 200% YoY, and the category's sales on JD.com soared 74.5% YoY – vastly outperforming the dairy sector overall.

2022 was the first year of Royal Group's participation in the festival on Tmall Supermarket, the success rapidly opening up its market into the Eastern, Central and Southern regions. In H1 2022, Royal Group's sales from E-commerce platforms reached USD9.5 million (RMB65.4 million), up 168.72% YoY. The Group has talked of continuing to increase its brand awareness and competitiveness beyond its base location in Southwest China to the Yangtze River Delta region, the Greater Bay Area and Cheng-Yu District (the area between Chengdu and Chongqing) by coordinating online and offline channels.

In addition, water buffalo milk has been promoted in the Northern region as a raw material for tea drinks in recent years, and has become popular in this application. The Chinese chain Manner Coffee has used water buffalo milk for its Dirty Coffee (where it is topped up with a double espresso or ristretto) and it is used in some new-style tea drinks chains like Ah Ma Hand Made, LELECHA and HEYTEA.

At present, Royal Group has 28 dairy farms and 8 dairy plants in GZAR, Yunnan, Hunan, Guizhou and Sichuan, with a finished product capacity of 460,000 t/a in 2022 (up to 850,000 t/a when the planned plant is included).

## Governmental Direction

### China Launches Plan to Reduce Soybean Meal Use in Feed

**Summary:** On 12 April, the Ministry of Agriculture and Rural Affairs issued a Three-Year Action Plan for the Reduction and Substitution of Soybean Meal in Animal Feed, aiming to cut the proportion of soybean meal in feed from 14.5% in 2022 to less than 13% by 2025.

On 12 April, the Ministry of Agriculture and Rural Affairs (MARA) issued a Three-Year Action Plan for the Reduction and Substitution of Soybean Meal in Animal Feed, as China has been trying to reduce its heavy reliance on soybean imports amidst the looming market uncertainties around the globe, and to reduce pressure on dairy farmers that are suffering rising feed costs, a part of its effort to ensure national food security and "Reduce Cost and Increase Efficiency" across industries.

China was a net exporter of soymeal prior to 1995, became a net importer from 1995 to 1999, and then regained its net exporter status in 2000 due to temporary surpluses of soybean meal as the country ramped up its industrial feed production. However, it has been importing over 80% of soybeans used for animal feed in recent years. In 2022, the national consumption of feed for livestock and poultry was 454 million tonnes, including soybean meal at 65.8 million tonnes, down 3.2 million tonnes YoY (the proportion of soybean meal in the total also fell by 0.8% to 14.5% YoY).

The key content of the Action Plan includes general targets, technology roadmap and major tasks to achieve by 2025.

**General targets:** During the implementation of the plan to reduce / substitute soybean meal for feed use, build an initial feed resource database system, set standards for low-protein and high-quality feeds, create feed processing efficiency system and put in place supporting

policies for feed reduction and improve feed conversion efficiency.

Specific targets (by 2025) are:

- Lower the proportion of soybean meal in feed, by 0.5 percentage points each year from 2023 to 2025; so the proportion of soybean meal in feed would reduce from 14.5% in 2022 to less than 13%
- Increase protein feed resource development and utilization capacity. Complete the investigation and evaluation of available domestic protein feed resources to identify their scale
- Approve 1-2 type(s) of microbial protein products for marketing and implement pilot programmes in 20+ large- and medium-sized cities to recycle table food leftovers for feed by
- Boost quality forage supply to 98 million tonnes per year, and increase the proportion of quality forage in feed for dairy cattle to above 65% and that in beef cattle feed to above 25%

#### Technology roadmap

- Promote low protein diets and adopt precision feeding and better feed processing technology, together with the use of synthetic amino acids, enzymes and other efficient feed additives
- Uncover non-protein nitrogen sources such as microbial bacterial proteins, food leftovers, urea and non-conventional protein sources such as carcasses and blood from farm animals unfit for human consumption; and improve feed utilization by biological fermentation, high-temperature treatment and enzymolysis processes aided by enzymatic agents and nutrient metabolism control technologies

- Exploit land resources (arable land, saline-alkaline soil, beach land, grassy hills and slopes) to grow high-yielding, high-resistance and high-protein forage varieties; and increase the proportion of quality forage in cattle and sheep/goat farming

#### Major tasks

- Implement a "Foundation Building" initiative for fodder resource development
  - Study sources of speciality protein feeds in different regions to identify the country's resources
  - Systematically evaluate the nutritional value parameters and processing characteristics of the main available local protein resources, and improve the basic database of nutritional and processing parameters of feed ingredients
  - Independently develop core components for feed processing equipment, and develop and apply feed formulation software
- Implement low protein diets for livestock and poultry
  - Formulate technical specifications for the production of low-protein, low-soybean meal diets of diversity, and improve the standard system for low-protein and quality feeds.
  - Improve the technical guidelines for the safety evaluation of microbial fermented products for feed use, and support the use of synthetic biology techniques to construct strains for the production of microbial fermented products

- Launch a pilot initiative to exploit new protein feed resources
    - Scale up the production and application of microbial protein raw materials
    - Roll out pilot programmes to utilize feed from table food leftovers and animal carcasses, and support use of new protein resources for feed such as compound amino acid hydrolyzed from livestock and poultry carcasses
  - Increase grass use and reduce grain consumption
    - Continue to implement the plan of turning food crops into feed crops, and strengthen the supply capacity for quality forage like whole plant corn silage, alfalfa and oats
    - Accelerate the cultivation of new forage varieties with high yield and high quality, and improve the local supply capability of quality seeds
  - Promote efficient technology models for forage production
- Soy products used in animal feed include soybean meal, soybeans for full fat soybean meal, soybean husks (cattle as ruminants have the ability to digest fibre from soybeans or other grains such as rice) and occasionally soy protein concentrates. Acceptable alternatives to soybean meal include rapeseed meal, cottonseed meal, peanut meal, sunflower meal, distillers dried grains, palm meal, flaxmeal, sesame meal and corn processing by-products.

## Company Dynamics

### Mengniu Reports Resilient Growth in 2022

**Summary:** On 29 March, Mengniu issued its financial report for 2022 with net profit growing by 11.6%.

China Mengniu Dairy Company Ltd (Mengniu, Stock Code: HK.02319) issued its report for 2022 with key data as follows:

- Revenue: USD13.5 billion (RMB92.59 billion), up 5.1%
- Operating profit: USD788.2 million (RMB5.42 billion), up 11.6%
- Operating profit margin: 5.9%, up 40 bps, and up 160 bps for H2 2022
- Profit attributable to equity shareholders: USD770.7 million (RMB5.30 billion), up 5.5%

The market was challenging in 2022 from a macro perspective as China's total retail sales of consumer goods edged down 0.2% to USD6.39 trillion (RMB43.97 trillion). Rising inflation, surging raw materials costs, sluggish dairy sales and other market factors that spread through the year have undermined businesses to varying degrees. Nevertheless, Mengniu's

earnings remained strong as a result of product innovation and operational upgrades implemented to navigate the year.

- In channel construction, Mengniu scaled up O2O delivery services to customers: In H1 it initiated 24-hour non-stop fresh milk supply lines for community group purchases in Shanghai, a new business model that has become popular in that region (in Shanghai, Mengniu has kept warehouse, distribution and logistics departments running 24/7 to ensure in-time delivery of fresh products to retail, which was of great significance because back then the epidemic control had disrupted many food deliveries)
- In marketing, it ran promotional campaigns at large sports events like the Winter Olympic Committee, Women's Asian Cup and FIFA World Cup. Listed as among the Kantar BrandZ Most Valuable Global Brands 2022, Mengniu's value grew by 15%, the strongest growth of any Chinese dairy brand. Mengniu rose to 7<sup>th</sup> place in Rabobank's annual Global Dairy Top 20 for 2022, the only Chinese dairy company that rose up the rankings last year

**TABLE 2: Category Sales of Mengniu in 2022**

Category	Revenue, USD million	Revenue change	Share	Share change
Liquid dairy	11,518.9	3.6%	84.5%	down 2.3 percentage points
Ice cream	828.9	34.5%	6.1%	up 1.3 percentage points
Powders	583.7	-18.9%	4.2%	down 1.4 percentage points
Others	699.0	97.3%	5.2%	up 2.4 percentage points

Source: Mengniu's Financial Report for 2022

Note: Liquid dairy – fresh/UHT milk, milk beverages, yoghurt, etc. Powders – bulk milk powders and formulae. Others – mainly includes cheese products, such as its high calcium cheese stick, Arla children's cheese stick and Arla's shredded Mozzarella

## Liquid dairy:

- UHT pure milk sales were stable in 2022: millions of customised cartons of Deluxe Milk were sold during the period of the FIFA World Cup Qatar 2022, and overall ambient milk sales headed the category on the domestic E-commerce platforms. Distribution for these products covered 780,000+ stores
- Chilled products faced weaker demand last year but the company's sales still grew and it topped this segment again, for the 18<sup>th</sup> year in a row, mostly due to its continued efforts in strengthening products' healthcare attributes to meet the requirements of increasingly health-conscious consumers
- Yoyic yoghurt drinks launched a new version with O-sucrose; Mengniu Champion Everyday Fresh Yoghurt and O-Sucrose Pure Yoghurt attained double-digit growth; Mengniu's patented probiotics varieties have been applied to all fermented lines. Meanwhile, its new Just Yoghurt product packed with popping candy become a hit on E-commerce platforms in early 2022, a spur to the overall performance
- In fresh milk it released a low-fat version with 4.0g/100ml protein of its premium brand SHINY MEADOW in March; and a lower-priced low-calorie variant of Little Meadow/Xiaoxianyu, SHINY MEADOW's sub-brand, targeting young consumers. Online sales of fresh milk have grown, particularly on Pinduoduo and Meituan Maicai APPs and other new channels

**Powders:** IMF sales suffered with fewer newborn babies and other market conditions. Yashili, 76% held by Mengniu, reported revenue down by 15.7% to USD544 million (RMB3.74 billion). Bellamy's, the organic infant formula brand from Australia, missed its targets despite launching some upgraded products intended to drive sales in the year.

**Ice cream:** Sales of the 4 key brands (Suibian, Delux, Green Mood, Mengniu Ice+ and Aice) outperformed the category. Moutai Ice Cream, its cooperation with the spirits group Kweichow Moutai Co., Ltd., achieved good results, and the cooperation with Disney in launching a special LinaBell ice cream edition in the Disneyland Resort also proved successful. The division's work in distribution prioritised improving market share and distribution efficiency. It made efforts to grow in certain specific areas such as corporate group purchase, catering and tourism venues, and sales on E-commerce platforms recorded high growth, partly driven by instant service (immediate delivery, typically within 30 minutes in 1<sup>st</sup>-tier cities such as Beijing, Shanghai and Guangzhou; mainly supplied through food delivery groups like Meituan and Alibaba's Ele.me).

**Cheese:** All its cheese products were repackaged. O-Additives cheese sticks for kids and leisure cheese snacks were the main promotional items in the year. In addition, its partner Arla Foods launched products for bakery, tea drinks chains and western-style restaurants. Mengniu completed its acquisition of an additional stake in Shanghai Milkground Food Tech Co., Ltd. (Milkground Food, Stock Code: 600882), taking its stake to 181 million shares (=35.01%) at the end of last year.

## Tianrun Dairy's Annual Report for 2022

**Summary:** On 31 March, Tianrun Dairy posted its annual report for 2022 with net profit jumping 31.33%.

On 31 March, Xinjiang Tianrun Dairy Co., Ltd. (Tianrun Dairy, Stock Code: 600419) issued its report for 2022, with key data as follows:

- Revenue: USD350.2 million (RMB2.41 billion), up 14.25%
- Net profit attributable to equity shareholders: USD28.6 million (RMB196.56 million), up 31.33%
- Net profit attributable to equity shareholders of the listed company excl. extraordinary gains/losses: USD26.0 million (RMB178.74 million), up 34.05%

Tianrun Dairy pointed out that its strategy of building its plants near

the markets and its farms near the plants has made it a better integrated business and enabled its growth last year.

### Operations in 2022

#### Dairying:

- Tianrun Dairy owns 7 dairy farming subsidiaries with 18 farms and 44,000 head of cattle in total, located in Changji City, Aksu Prefecture, Kuitun City, Shawan City, Wujiaqu City in Xinjiang Uygur Autonomous Region (XUAR). The average milk yield per cow was 10.5 tonnes and its milk production was 174,300 tonnes, up 9.67%

#### Product innovation:

- There were 6 new products launched including Strawberry-

Flavoured Ice Cream With Condensed Milk, Karasu Pure Milk and O-Sucrose Altay Yoghurt; in addition there are 39 new products in the pipeline

- The applied science and technology project "Development and Application of Bacterial Strain Collection, Microbial Diversity Analysis and Products in Xinjiang Traditional Fermented Products" won the 2<sup>nd</sup> prize at the Science and Technology Awards of the China Dairy Industry Association and the 11<sup>th</sup> Golden Bridge Award from the China Technology Market Association

To date, Tianrun Dairy has 41 national patents including 7 for innovation. In 2022, its R&D investment in products and animal husbandry increased 57.74%.



### Distribution:

- Tianrun Dairy prioritised developing its position in markets outside XUAR, in neighbourhood markets and in supermarkets. In 2022, sales outside XUAR made up 43.04% of its total revenue. Its total dairy products' sales volume went up by 10.11% to 267,900 tonnes
- Tianrun Dairy supplies 764 retail stores which mainly sell its product range in China, spanning

across Fujian, Jiangsu, Shandong, Guangdong, Sichuan etc.

- Online sales campaigns were launched on Tmall.com, JD.com, Douyin and other major E-commerce platforms during festival seasons, to build brand awareness and boost sales

### Major project progress:

- In Oct. 2022, the company started construction of a new dairy plant in Dezhou City, Shandong Province – a 150,000

t/a liquid milk project due to start trial production by Q4 2023

- In H1, construction has been completed on a new dairy farm started up in Bachu County, in the southwest of the XUAR. It plans to introduce 5,000 dairy cows there; its dairy farm in Fukang (county-level) City in northern XUAR has 2,085 head in place and is due to grow to 10,000 – that site is run by Xinjiang Tianrun Beiting Animal Husbandry Co., Ltd. (Tianrun Beiting)

**TABLE 3: Tianrun Dairy's Main Business Sales in 2022**

Product	Revenue, USD million	YoY change	Gross margin, USD million	YoY change
Ambient dairy products	187.4	17.43	16.07	up 2.28 percentage points
Chilled dairy products	146.0	7.18	20.96	up 2.17 percentage points
Dairying products	13.0	49.79	10.89	down 14.02 percentage points
Other	2.7	148.53	14.64	down 6.39 percentage points

Source: Tianrun Dairy

Note: Ambient dairy products— UHT milk, milk beverages, and "Milk Beer"; Chilled dairy products Yoghurt Dairying products Raw milk and eliminating cows; Other: Cheese

**TABLE 4: Tianrun Dairy's Production and Sales in 2022**

Main products	Output, tonne	YoY change	Sales volume, tonnes	YoY change	Inventory, tonnes	YoY change
Dairy products	272,712.79	11.74%	267,913.80	10.11%	4,385.67	28.21%

Source: Tianrun Dairy

### Tianrun Dairy sets targets for 2023

- Total sales of dairy products up to 270,000 tonnes and revenue up to USD377.9 million (RMB2.6 billion).

- Use raised funds to build a 200,000 t/a dairy products processing project in Wuyi New District, Northwest Urumqi City.
- Put the newly built dairy plant in Dezhou City, Shandong Province

(Tianrun Qiyuan Dairy Co., Ltd, co-invested with Shandong Qiyuan Development Group Co., Ltd.) with 150,000 t/a liquid milk capacity into trial production by Q4 2023.

## Milkground Food Sustains Growth in 2022

**Summary:** In 2022, Milkground Food's revenue rose 7.84%, whilst its cheese business grew by 16.01%.

On 23 March, Shanghai Milkground Food Tech Co., Ltd. (Milkground Food, Stock Code: 600882) released its 2022 report, showing sustained growth in cheese.

### Key data for 2022:

- Revenue: USD701.9 million (RMB4,829 million), up 7.84%
- Net profit attributable to equity shareholders of the listed company: USD19.7 million (RMB135.4 million), down 13.32%
- Net profit attributable to equity shareholders of the listed company excl. extraordinary gains/losses: USD9.7 million (RMB66.9 million), down 45.14%

The company's increased sales came after adjusting its operational strategies last year, but disrupted logistics, rising raw material costs, intensifying competition and weakened demand affected its profitability. However, despite this, its signature cheese stick products continued to top the segment in 2022, increasing their market share.

### Cheese business performance in 2022:

#### Instant Nutrition Line (for retail sale):

- To ensure its basic chilled cheese products retained their leading position in the market, Milkground Food extended its product range in 2022 with High-calcium Organic Cheese Stick (66% cheese and 9.0g/100g protein) and Golden Packaged Fortified Pure Cow Milk Formulated Cheese Stick (55% cheese and 10 billion CFU patented probiotics)
- It also launched the ambient "Drinkable Meirixi Cheese" and "Student Miao Ambient Cheese Stick", for school children. The calcium-enriched series that was also launched in the year through online channels only is to be extended into other sales channels. These ambient products are regarded as a key growth driver for its Instant Nutrition Line business, and have boosted the market share of the company's core cheese stick products up to above 40%.

#### Home Cheese Line (for sale in bakeries and cafes):

- Here the company launched Golden Packaged Cheese Slices (60% cheese, including grass-fed milk certified by New Zealand's AsureQuality) for breakfast settings. Additionally a new sweetened flavour and a hazelnut peanut butter flavour for cheese slice were introduced
- Its Mozzarella and especially cheese slices all achieved rapid growth last year

#### Field (= foodservice)

- It retained its leading position in supply of bulk Mozzarella in to this channel, providing a customised service to some key accounts

#### 2023 Objective

Milkground noted it would stay close to the market for any signs of demand recovery and continue to concentrate on cheese business and on strengthening its distribution network and expanding its product mix.

**TABLE 5: Milkground Food Product Category Sales Split in 2022**

Category	Revenue, USD million	Share	Gross margin, USD million	Share	Gross Margin	Revenue Trend	Gross Margin Trend
Cheese	56.2	30.00%	229	95.94%	40.73%	16.01%	down 7.78 percentage points
Traded products (mainly milk powders, butter, cheese)	87.2	44.93%	5.3	2.23%	6.10%	-14.78%	up 2.20 percentage points
Liquid milk (fresh and UHT milk, and fermented milk products)	50.7	26.12%	4.4	1.83%	8.61%	-18.86%	down 5.12 percentage points
<b>Total</b>	<b>194.1</b>	<b>100.00%</b>	<b>238.7</b>	<b>100.00%</b>	<b>34.09%</b>	<b>7.80%</b>	<b>down 4.04 percentage points</b>

Source: Milkground Food's Annual Report

**TABLE 6: Milkground Food Revenue Split by Cheese Product Line in 2022**

Item	Revenue, USD million	Share	Gross margin, USD million	Share	Gross Margin Ratio	Revenue Trend	Gross Margin Trend
Instant Nutrition Line	363.3	64.61%	186.1	81.26%	51.23%	-0.55%	down 4.21 percentage points
Home Cheese Line	79	14.06%	26.6	11.64%	33.71%	54.73%	down 1.44 percentage points
Field	119.9	21.33%	16.3	7.10%	13.56%	75.60%	down 7.89 percentage points
<b>Total</b>	<b>562.2</b>	<b>100.00%</b>	<b>229</b>	<b>100.00%</b>	<b>40.73%</b>	<b>16.01%</b>	<b>down 7.78 percentage points</b>

Source: Milkground Food's Annual Report

Note: 1. Instant Nutrition Line includes cheese sticks, shredded processed cheese for adults, cheese cups for growing-up kids, etc. 2. Home Cheese Line includes Mozzarella, cheese slices, cream cheese, butter and cheese for cooking, etc. 3. Field includes Mozzarella, cheese slices, whipping cream, cheese dips, etc.

**TABLE 7: Milkground Food Primary Category Production, Sales and Inventory in 2022**

Category	Output, tonnes	Sales, tonnes	Inventory, tonnes	Trend in Output	Trend in Sales Volume	Trend in Inventory
Liquid milk	53,158.94	51,981.00	629.71	-12.16	-12.31	62.39
Cheese	70,914.64	69,817.48	3,208.58	26.64	27.95	6.9
Traded goods	-	29,395.88	10,545.48	-	-4	56.89

Source: Milkground Food's Annual Report

## Yantang Dairy's Profit Drops in 2022

**Summary:** On 31 March, Yantang Dairy reported net profit down 37.01% in 2022.

On 31 March, Guangdong Yantang Dairy Co., Ltd. (Yantang Dairy, Stock Code: 002732) published its report for 2022, with disappointing results for the year as follows:

- Revenue: USD272.5 million (RMB1.88 billion), down 5.52%
- Net profit attributable to equity shareholders: USD14.4 million (RMB99.36 million), down 37.01%
- Net profit attributable to equity shareholders excl. extraordinary gains/losses: USD12.2 million (RMB83.72 million)

Last year's weak demand, rising commodity prices and raw material costs and intensifying competition all ate into margins, stated Yantang Dairy.

- Sales and margins from the three main dairy ranges (liquid dairy, milk beverages and lactobacillus drinks) all dropped

- Sales were down in each region
  - In Guangdong Province
    - > In the Pearl River Delta Region sales fell by 6.29%, although it remains the company's key market, representing over 70% of sales
    - > In the cities and counties outside the Pearl River Delta sales were down 2.10%, representing 24.77% of sales
  - Sales outside Guangdong were down by 18.35%, but these accounted for merely 1.68% of sales – expansion to other provinces seems a distant prospect at present
- By channel, offline sales fell 9.43%; but online results rose 28.59%, rising to make up 14% of sales

### Corporate activity in 2022

#### Marketing and distribution:

- The number of its retail distributors in Macao increased to 75; 3 new company-operated stores and 3 new franchise stores opened in Guangdong.
- Promotional campaigns highlighting "differentiation + fair price" helped boost full-year growth of Xianzhi

Pasture (ESL milk), "0 sucrose and 0 fat Jianjunduo" (lactobacillus drink), fresh milk pudding, pure milk in clear sachets, and its classic yoghurt cup (made in Guangdong and packaged in characteristic Guangzhou designs)

- Jerseys Fresh and Pure Milk Combo Set and A2 Pure Milk Gift Set were launched for celebrating Chinese traditional festivals
- Yantang Dairy entered the National Key Regional Brands on JD.com during the Double 11 festival, China's most important online shopping spree; and its flagship store on Tmall.com ranked 5<sup>th</sup> among domestic dairy brands

#### Dairying:

- The company's corn spring planting area was extended to 19,000 mu (12.7 million m<sup>2</sup>), enabling stronger supply for its own dairy farms
- New farm constructions in Yangjiang City of Guangdong and Zhangye City of Gansu were completed and put into operation

#### Product launches:

- 8 new products were launched last year, including selenium-enriched fresh Jersey milk, Jerseys UHT milk, high-quality fresh and UHT A2β cow milk, 0-sucrose and 0-fat yoghurt, 0-sucrose fresh milk pudding, AD calcium lactobacillus drink and a probiotic yoghurt drink

**TABLE 8: Yantang Dairy Category Revenue in 2022**

Category	Revenue, USD million	Change	Gross Margin	Change
Liquid dairy	105.2	-2.62%	12.40%	-4.04%
Milk beverages	56.1	-15.05%	23.36%	-4.65%
Lactobacillus drinks	107.1	-2.97%	34.28%	-4.71%
Other	4.3	38.35%	31.06%	-7.63%

Source: Yantang Dairy

Note: Liquid dairy: fresh/UHT/modified/fermented milk products. Milk beverages: Products made with milk or dairy products as base materials and including juice, nutritional fortifiers, nuts, grains, etc. Other: Fresh milk pudding

**TABLE 9: Yantang Dairy Production Capacity, 2022**

Production site	Designed capacity, t/a	Actual output, tonnes	Building capacity, t/a
Flagship Factory – Guangzhou	233,800	156,044.61	0
Plant in Zhanjiang City, Guangdong	55,000	30,226.25	8,300
<b>Total</b>	<b>288,800</b>	<b>186,270.86</b>	<b>8,300</b>

Source: Yantang Dairy

**TABLE 10: Yantang Dairy Key Operating R&D Projects in 2022**

Project	Objective	Project progress
Study on the application of milk and skim cream in products	Technological and product formulation optimization	Already applied in the production
Application of performance measurement of livestock and poultry	Improve the herd's production efficiency and profitability	In the DHI (Dairy Herd Improvement) testing stage
Study on technology and application of silage industrialization	Improve silage quality and cows' milk yields	in the process verification stage

Source: Yantang Dairy

## Operation Plan for 2023

### Farm operation:

- Refine control of farm operation data and promote precision feeding, to build modern dairy farms and increase milk yields
- Upgrade the scale and technological level of its dairying operations, and increase co-operation with other farms, to guarantee a stable supply

### Forage planting:

- Promote planting of corn and other silages in and adjacent to dairy farms, for better quality and increased feed supply

### Distribution network planning:

- Accelerate penetration of the 3<sup>rd</sup> and 4<sup>th</sup>-tier cities and counties

- Step up omnichannel marketing, including opening new stores selling fresh dairy products in residential neighbourhoods, and exploit new E-commerce platforms and retailers; further integrate directly operated outlets, delivery services and live-streaming selling
- Continue to use celebrity endorsements to boost product sales
- Build brand awareness by connecting its brand to the city – for example, putting Guangzhou traditional building designs on its product packages to distinguish itself from other regional brands or national brands)

### Production management:

- Improve production technologies and introduce more advanced international quality systems
- Push digitisation of operations where possible

## 2022 Financials: Ausnutria vs. H&H Group

**Summary:** In 2022, the 2 publicly listed formula producers experienced very different fortunes, as whilst Ausnutria's revenue declined 9.1%, H&H Group enjoyed 10.6% growth; both businesses

complained about deteriorating market conditions, however.

In late March Ausnutria Dairy Corp Ltd. (Ausnutria, Stock Code: 01717.HK) and H&H Group (Stock Code: 01112.

HK) released their annual reports for 2022, according to which, Ausnutria's sales (-9.1%) and profitability slipped, while H&H Group achieved 10.6% growth in revenue.

**TABLE 11: Key Financials – Ausnutria and H&H Group – 2022 vs 2021, USD million**

Indicator	Ausnutria			H&H Group		
	2021	2022	YoY change	2021	2022	YoY change
Sales revenue	1,246.3	1,133.0	-9.1%	1,678.3	1,856.8	10.6%
Gross margin	603.6	493.1	-18.3%	1,053.4	1,119.6	6.3%
EBITDA*	168.4	70.4	-58.2%	269.2	286.6	6.5%

Source: Financial Reports for 2022 of Ausnutria and H&H Group

Note: EBITDA for H&H Group is adjusted.

Ausnutria's revenue was USD1.1 billion (RMB7.8 billion), down 9.1%; profit attributable to shareholders was USD68.6 million (RMB472.3 million), down 39.8%. These decreases reflected China's falling births and intensifying competition, along with fallout from the global pandemic.

China remained Ausnutria's main market, accounting for 80.2% of its total sales in 2022. Two core brands – Hyproca 1897 and Kabrita – improved their market shares and have continued to innovate in infant formula and food for special medical purpose (FSMP).

- Hyproca 1897 (cow milk formula): Market share grew 0.2 percentage points in China
- Kabrita (goat milk formula): Overall sales rose 6.6% – up 5.5% in China and 21.8% overseas. The brand's market share has remained over 60% in the imported goat milk IMF segment for 5 years in a row in China, growing by 5 percentage points last year
- In FSMPs, the company launched the Hyproca 1897 line "Zhishu", a lactose-free series for infants; Ausnutria also registered a new FSMP line "Kangsude" including

two products "Zhenshan" (an easy-to-absorb lactose-free formula) and "Shushan" (with added dietary fibre and choline chloride), targeting people above 10 years old with eating disorders, digestion and absorption problems, and metabolic disorders, to be launched soon (release date unknown)

- There were other new launches last year, under the brands Hyproca 1897, Kabrita, Allnutria and others, in different categories like A2 protein milk formula, HMO milk formula, sheep milk powders for the middle-aged and elderly, organic pure sheep milk powders, to drive growth.

Despite the severe difficulties presented by the external environment, Ausnutria indicates confidence in the market

development prospects and its positioning in sheep milk formula and high-end cow milk formula, and

commits to increasing its efforts to grow the nutrition range in China and worldwide.

**TABLE 12: Global Sales of Main Businesses of Ausnutria in 2022, USD million**

Product category	2021	2022	YoY change	Sales Share in 2021	Sales Share in 2022
<b>Dairy products and related operations</b>	1,220.6	1,113.7	-8.8%	97.9%	98.3%
Branded formulae	1,084.8	946.8	-12.7%	87.0%	83.6%
– Cow milk formula	595.2	424.9	-28.6%	47.8%	37.5%
– Goat Milk Formula	489.7	521.9	6.6%	39.2%	46.1%
Private label formulae and others	135.7	166.8	22.9%	10.9%	14.7%
– Private labels (contract manufacturing formulae)	30.8	30.2	-1.8%	2.5%	2.7%
– Others (milk, milk powders, cream, whey protein powder)	105	136.7	30.2%	8.4%	12.0%
<b>Nutrition (probiotics and related healthcare products)</b>	25.7	19.3	-24.9%	2.1%	1.7%
<b>Total</b>	<b>3,687.4</b>	<b>3,360.3</b>	<b>-8.9%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Ausnutria's Annual Report for 2022

Note: Cow milk formulae are all self-owned products selling in China; Goat Milk Formulae are Kabrita products selling in China, the Europe, United States, Canada, Middle Eastern countries, South Korea, South Africa, Mexico and others.

H&H Group's revenue was USD1.9 billion (RMB12.8 billion) in 2022, up 10.6%. It has faced some difficult market conditions, but managed to resume growth, especially in the Baby Nutrition and Care (BNC) business, aided by focusing on raising brand awareness not only in large cities, but also in lower-tier cities.

Sales from mainland China were up 6.4% to USD1.4 billion (RMB9.6

billion), accounting for 74.9% of the total group sales; Australia / New Zealand and North America made up 10.9% and 9.6% respectively.

**In mainland China:**

- IMF sales increased 0.8%—the ultra-premium line "Biostime" kept growing, taking a market share of 12.1%
- Probiotics sales recovered and have continued to top their market

H&H Group has submitted registration applications for 8 IMF lines to comply with the new national standard, of which "Biostime Alpha-star" has been approved. It added that it would keep expanding its ultra-premium portfolio and adding complementary series and items like DHA-containing supplements, calcium tablets and fudge, to grow its market position this year.

**TABLE 13: Global Sales of Main Businesses of H&H Group in 2022, USD million**

Product category	2021	2022	YoY change	Sales Share in 2021	Sales Share in 2022
Baby Nutrition and Care (BNC)	961.0	971.9	1.1%	57.3%	52.3%
– IMF	748.0	752.9	0.7%	44.6%	40.5%
– Probiotic supplements	140.2	158.1	12.8%	8.4%	8.5%
– Other infant products	72.9	61.0	-16.3%	4.3%	3.3%
Adult Nutrition and Care (ANC)	611.8	662.6	12.5%	36.4%	35.7%
Pet Nutrition and Care (PNC)	105.6	222.3	20.9%	6.3%	12.0%
<b>Total</b>	<b>1,678.30</b>	<b>1,856.80</b>	<b>10.60%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: H&H Group's Annual Report for 2022

## Raw Milk Price

### China's Milk Price Still Low

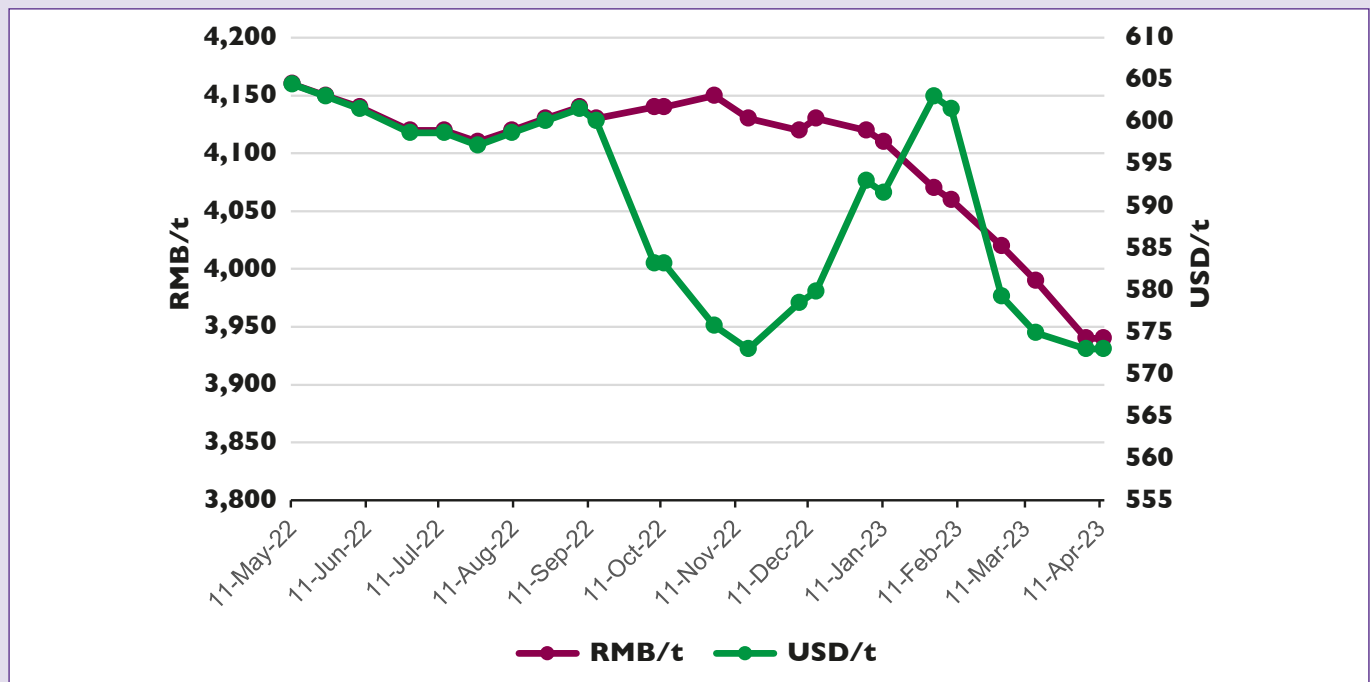
**Summary:** China's raw milk price has stayed low in April, after months of decline due to unstable supply and demand, but the country's economic recovery does offer some hope.

In the week ended 12 April, China's raw milk price averaged USD573 (RMB3,940) per tonne, unchanged from the first week of the month and down 5.7% YoY.

The monthly average fell to its lowest level amid the current downturn evident since last December.

Prices of dairy feeds and raw milk production costs were pushed higher by the continued short supply of feed grain and other uncertainties in the international market, but the squeeze remains with the recent weak demand for dairy.

**FIGURE 1: Trends in China's Raw Milk Price, May 2022–April 2023**



Source: Ministry of Agriculture and Rural Affairs (MARA)

According to data from the National Bureau of Statistics, in 2022, China's dairying continued to scale up, with cow milk production up 6.8% to 39.32 million tonnes and raw milk from all animal sources surpassing 40 million tonnes in the year. Average milk yield per cow increased by 500 kg from 8.7 tonnes in 2021 to 9.2 tonnes in 2022. Output of dairy products grew by 2.0% to 31.18 tonnes, still mostly liquid milk. In Q1 2023, national milk production has continued to rise, up by 8.5% YoY, with lingering surpluses, data from the Ministry of Agriculture and Rural Affairs shows – partly explaining the recent further falls in the milk price.

Dairy farmers remain in a long struggle with surplus production and weak demand, so the average milk price last year was down 3.1% to USD604.6/t (RMB4,160/t).

For dairy businesses, there are also the rising costs. By the end of Dec. 2022, the national prices of corn and soybean meal averaged USD443.3/t (RMB3,050/t) and USD736.9/t (RMB5,070元/t), up 1.5% and 23.6% YoY. This April, the national price of corn averaged USD427.3/t (RMB2,940/t), down 0.3% from the first

week and levelling off from April 2022.

Many dairy businesses reported significant drops or marginal growth in 2022; for example:

- Bright Dairy's total revenue was down 3.39% to USD4.1 billion (RMB28.22 billion) and net profit attributable to equity shareholders down 39.11% to USD52.47 million (RMB361 million)
- China Feihe's total revenue fell 6.4% to USD3.1 billion (RMB21.31 billion) and net profit was down 28.4% to USD719.1 million (RMB4.95 billion); it noted that margins from IMF and nutritional supplements also experienced double-digit declines
- It was stressed in corporate annual reports that prices of soybean meal, corn, alfalfa and other raw materials for feed, as well as the cost of package materials, have spiralled as inflation and the Ukraine crisis continue to have a serious effect

Meanwhile since August 2022 the international prices of bulk milk powders have moved down, contributing to

China's milk price downturn. Recently, however, market conditions appear to be looking up, with China reporting its GDP up by 4.5% YoY in Q1 and up by 2.2% from Q4

2022, hinting at revived demand and a possible end of the current low milk price.

## News in Brief

### Dairy Imports in March 2023

The March import volumes show strong YoY increases for cream, SMP, whey, fresh cheese, IMF and casein and to a lesser extent also for lactose. However, although it is the 2<sup>nd</sup> consecutive month showing increased imports overall in LME terms, the market still disappoints across most segments – despite the butter import volume almost doubling on a MoM basis. The recovery in the foodservice and bakery channels as pandemic restrictions have been eased is reflected in these numbers, but the impact of growing local milk supply is evident also. The growing IMF volume stems from the implementation of the new national IMF standard effective as of February 2023, meaning many domestic IMF brands had to exit the market stop selling their products, leading consumers to switch to foreign brands. At the same time, China has been accelerating the approval of IMF imports to fill the demand gap.

**TABLE 14: 2023 March Imports, tonnes**

HS code	Product	202203	202302	202303	MOM	YOY
04011000	Milk & cream, fat ≤1%, not concentrated or sweetened	9,223.2	5,436.6	4,944.7	-9.0%	-46.4%
04012000	Milk & cream of >1% but ≤6% fat, not concentrated or sweetened	50,287.7	29,163.7	33,085.3	13.4%	-34.2%
04014000	Milk & cream, 6%	5.1	0.0	3.8	/	-26.1%
04015000	Milk & cream, fat >10%, not concentrated or sweetened	25,405.9	15,943.8	27,210.1	70.7%	7.1%
04021000	Milk & cream in solid forms, fat ≤1.5%, concentrated/sweetened	22,995.9	40,457.6	37,737.4	-6.7%	64.1%
04022100	Milk & cream in solid forms of >1.5% fat, concentrated, unsweetened	58,119.6	49,088.9	39,039.3	-20.5%	-32.8%
04022900	Milk & cream in solid forms of >1.5% fat, concentrated, sweetened	195.2	143.5	75.4	-47.5%	-61.4%
04041000	Whey and modified whey	37,758.4	51,560.6	55,640.2	7.9%	47.4%
04049000	Products consisting of natural milk constituents, nes	866.5	665.4	758.4	14.0%	-12.5%
04051000	Butter	12,494.8	6,280.1	11,828.3	88.3%	-5.3%
04059000	Other fats & oils derived from milk	2,827.9	2,107.3	1,136.3	-46.1%	-59.8%
04061000	Fresh cheese, incl. whey cheese, curd	4,838.6	4,157.3	8,099.7	94.8%	67.4%
04062000	Grated or powdered cheese	5,485.7	4,034.2	3,394.0	-15.9%	-38.1%
04063000	Processed cheese, not grated or powdered	2,466.5	1,235.7	1,784.1	44.4%	-27.7%
04064000	Blue-veined cheese, other-veined cheese prod. by penicillium roqueforti	17.1	7.3	10.5	44.5%	-38.7%
04069000	Cheese, nes	3,117.8	3,076.7	3,221.4	4.7%	3.3%
17021100	Anhydrous lactose, lactose wt. ≥99%	11,442.3	8,596.5	12,596.3	46.5%	10.1%
17021900	Lactose syrup & other lactose	191.3	5.8	15.7	169.9%	-91.8%
19011010	For infant food retail packaging formula, the defatted cocoa content < 5%	22,102.5	23,576.1	32,528.1	38.0%	47.2%
35011000	Casein	1,014.9	1,939.1	1,730.4	-10.8%	70.5%
35019000	Caseinates	1,675.7	1,072.6	1,547.4	44.3%	-7.7%
35022000	WPC80/WPI	2,946.9	1,384.7	2,321.7	67.7%	-21.2%

Source: China Customs



## Technological Progress in China's Dairy Industry in 2022

On 31 March, the Chinese Journal of Animal Science (established by the China Association for Science and Technology in 1953) issued its Annual Report on China's Dairy Industry Technology Development 2022, shedding some light on the country's technological progress in cattle breeding and dairy processing as follows.

### Cattle Breeding:

- Studies on the genetic mechanism of key traits in dairy cows have played a role in improving cattle body weight and shape and milking performance; genetic markers are used to identify and sort out cattle bred with frozen semen, and help reproduce a quality herd providing milk with high levels protein and fat
- Nationwide dairy cattle genetic assessment and genome assessment projects have been completed. Key traits such as protein and fat percentage, cattle body size and shape, milking system, feet and leg, and somatic cells are evaluated for higher accuracy in predicting reproductive traits of cattle
- Progress has been made in the core technology of cow sex selection, where evaluation of chromosome quality and production performance of bovine embryos has seen preliminary results

### Dairy Processing:

- A method for rapid detection of chlorate and perchlorate in liquid milk has been developed (these are novel environmental pollutants found in various types of foods including dairy, with potential adverse effects on human thyroid functions)
- There are some innovations in liquid milk, such as: rice-fermented milk, low in GI (glycemic index); a *Lactobacillus Fermentum*-fermented milk with  $1 \times 10^8$  CFU/mL viable counts and 225.56  $\mu\text{g}/\text{mL}$  conjugated linoleic acid (CLA), with walnut oil as substrate; and fermented milk of blueberry and purple sweet potato
- Three powder testing technologies have been developed: a method for detection of chloropropanol ester (MCPDE) and glycidyl ester (GE) in infant milk formula; a method for detection of  $\alpha$ -Lactalbumin in infant milk formula; a method for rapid detection of N-Acetylneuraminic acid (Neu5Ac) in milk powder
- Research projects on the production of low-salt cheese have shown the influence of adding emulsifying salts on the tensile properties of cheese, and the effectiveness of whey protein-butter emulsion gel in reducing emulsifying salts content in processed cheese

## Sanyuan Foods Launches "Jizhi Night-time Milk"

On 21 March, Beijing Sanyuan Foods Co., Ltd. (Sanyuan Foods, Stock Code: 600429.SH) launched the Chinese dairy industry's first pure cow milk rich in natural melatonin. The product is only available on JD.com at present, priced at USD11.48 (RMB79) for 10 x 250ml cartons, targeting consumers looking to deal with stressful lifestyles and poor sleep levels and quality.

It is sourced from Sanyuan Foods' own 500 cow herd producing milk with high melatonin levels. Each carton contains 12,500pg of melatonin, 10 times the level in the company's normal pure milk products – its ingredient list shows only milk.

The addition of melatonin shows an innovative approach to functional dairy products; the concept of "natural" is highlighted to target this growing focus in consumers' food and beverage purchasing.

**PICTURE 1: Sanyuan Foods "Jizhi Night-time Milk"**



Source: Sanyuan Foods

## A Brand New Cheese Category: Frozen Cheese!

This month, Rhecioss Food (Zhejiang) Co., Ltd. – a startup business founded in 1 June 2022 with a registered capital of USD1.45 million (RMB10 million) – announced its innovative product – Frozen Cheese. This is a brand new category, neither ice cream nor ambient or chilled cheese but stored at -18 degrees °C.

The company explains that manufacturing this product demands advanced techniques: liquid nitrogen (LIN) technology used in swift freezing to maintain nutritional properties as far as possible; biological enzymatic hydrolysis technology used to enhance the natural cheese flavour; avoiding any coagulants, meaning fewer salty, greasy, bitter and sour tastes after freezing, fit for typical Chinese tastes.

**PICTURE 2: Rhecioss Frozen Cheese**



Source: Rhecioss

Rhecioss Frozen Cheese comes in 2 flavours – original and chocolate – selling at USD1.86 (RMB12.8) per 50g. The main ingredients are cheese (>15%), milk powders and egg yolk, delivering 6.8g natural protein per 100g. The product is the company's only line at this stage. It an impulse item aimed at "on the go" consumption, like an ice cream; but the company suggests that it will launch more varieties in the future, for example a frozen cheese dessert series.

## Junlebao's Farm Programme Underway

In late March, Lixian Leyuan Family Ranch Co., Ltd., owned by Junlebao Dairy Group Co., Ltd. (Junlebao), added its last batch of 1,200 dairy cows (imported from Chile) in addition to the designed total of 3,600 cattle (including 2,200 milking cows), and began operating.

This farm is located in Lixian County of Baoding City, Hebei Province, with a total area of 140,000 m<sup>2</sup> and building area of 60,800 m<sup>2</sup>, investment of USD15.3 million (RMB105 million). It is expected to start to produce milk at the end of 2023, and yields could reach 40kg per cow per day or in total 32,000 tonnes per year. Its annual sales are projected at USD19.5 million (RMB134.4 million) and net profit at USD4.65 million (RMB32 million).

The construction work here began in May 2022, and the first batch of 400 cattle arrived in Nov., having been bred at a dairy cattle breeding centre in Weixian County in Xingtai City, Hebei.

According to Junlebao's response to the *Guidelines for Revitalization of the Local Dairy Industry in Hebei*, its goals are to build 100 farms within 3 years (2022–2025), to support the development of mid-scale integrated family farms. Last year, it completed the construction of 15 farms in Shijiazhuang, Cangzhou, Baoding, Xingtai, Handan and other cities, based on investment of USD159.9 million (RMB1.1 billion) and providing an additional herd of 220,000 head, expected to produce around 130,000 t/a high-quality milk. worth USD79.9 million (RMB550.0 million).

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## Sanyuan Foods Upgrades Full IMF lines to A2 formulation

On 13 April, Beijing Sanyuan Foods Co., Ltd. (Sanyuan Foods, Stock Code: 600429) launched 3 premium IMF series – "Ailiyou", "Aibeiyi" and "Aiduoen" – and announced that it has upgraded all IMF products to A2 formulations, to meet the new national formula standard with higher requirements on quality and techniques. Apart from the featured A2  $\beta$ -casein formulation to protect babies' digestive systems, "Ailiyou" – the star product – contains 6 nutritional ingredients for baby's brain development: MFGM+DHA+ARA+nucleotide+taurine+choline, with structured lipid OPO and lactoferrin added to help digestion, absorption, immunity, cognition and bone development.

The A2 milk for these products comes from Sanyuan Foods' own dairy farms. The company has set up 2 national research and innovation platforms to provide a foundation for its business – the National Dairy Cows Embryo Engineering Technology Research Centre and the National Maternal and Infant Dairy Health Engineering Technology Research Centre. It now has the capability to perform double testings of the cows' A2 genotype and milk protein content to ensure the purity of its dairy breeds.

Since February 2023 the so-called "strictest ever" new national standard for infant formula has been in place. Compared to the previous national standards for raw materials, nutrients and other safety indicators, the new standard imposes much higher requirements on manufacturers' R&D capabilities, requiring a more scientific basis for the new formulae registration and renewal. So far, only 34% of milk formulae applications have been approved to the new national standard.

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## Modern Dairy's Revenue Jumps in 2022

On 28 March, China Modern Dairy Holdings Ltd. (Modern Dairy, Stock Code: HK.01117) published its 2022 results, with substantial growth in volume and sales.

### Key financial data:

- Revenue: USD1.8 billion (RMB12.30 billion), up 73.7%
- Cash EBITDA: USD398.0 million (RMB2.74 billion), up 12.6%
- Adjusted net profit: USD138.1 million (RMB950 million), up 2.7%

### Key operating data:

- Total raw milk sold: 2,330,000 tonnes, up 46.5%
- Herd size: 405,358 head, up 14.6%
- Average milk yield: 12.2 tonnes/head, up 8.0%
- Total milk production: 2,360,000 tonnes, up 46.6%

In 2022, facing the pressure of rising commodity prices, labour costs and transportation costs, Modern Dairy used its scale and resources to buck the downturn in the dairy industry. It acquired Inner Mongolia Fuyuan International Industrial (Group) Co. Ltd. in Nov. 2021, and Inner Mongolia Aiyangniu Technology Co., Ltd. in June 2022, incorporating their results into those of the Group accordingly. Currently, most of Modern Dairy's farms are in regions adjacent to dairy processing plants to ensure rapid transfer of product with nutritional value and freshness maintained at the highest level.

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## China Approves Import of Feed-Grade Dairy Products from France

On 16 April, the General Administration of Customs of China (GACC) announced the *Quarantine and Hygiene Requirements for Imported Dairy Products for Feed Use from France (Announcement No.36 of 2023)*.

These are defined as dairy products made from milk or by-products (whey, buttermilk, skimmed milk, colostrum, etc.), with or without vegetable ingredients, vitamin premixes, probiotics and other ingredients approved for use under Chinese and French laws.

Detailed requirements for the imports include:

- The products are for feed use only, not suitable for human consumption
- No additives are added that are prohibited by Chinese and French laws and regulations; no toxic and harmful substances are added that threaten animal health, and all must comply with China's hygiene standards for feeds
- No salmonella is detected in each 25g product sample; total plate count should be below  $2 \times 10^6$  CFU/g (excluding products containing probiotics), and total mould count should be below  $1 \times 10^3$  CFU/g
- No GM modified or ruminant-derived raw materials are added that have not been approved by China
- All milk-derived ingredients shall be processed by heat treatment (colostrum should be processed by ionization method to preserve antibodies). The methods of heat treatment and ionization processing shall meet the requirements by French laws and be recognized by China

To date, China has allowed imports of dairy products for feed use from countries other than France, such as Poland, the Netherlands, Belarus, the US, Argentina.

## China Feihe to Add Cow Colostrum Powder Capacity

On 17 April, the local government approved the pre-construction environmental impact assessment of Feihe Tailai Dairy Co., Ltd. (Feihe Tailai)'s project to add colostrum powder capacity.

Project profile:

- Construction nature: Expansion
- Investment: USD16.0 million (RMB110 million), 0.3% (=USD45,781.6/RMB315,000) of which for environmental protection
- Location: Feihe Tailai's 300,000m<sup>2</sup> plant in Tailai County, Qiqihar City of Heilongjiang
- Construction content: Reconstruct the Area B at the milk powders workshop, transfer some production lines and supporting facilities, build a 73.39m<sup>2</sup> refrigeration facility, and add a process for removal of milk fat and a low-temperature spray drying tower
- Construction capacity: 2,550 t/a cow colostrum processing capacity and 255 t/a cow colostrum colostrum powder production capacity
- Working system: adding 30 people working for 220 days per year
- Construction duration: 10 months

Feihe Tailai was set up on 25 July, 2016 with registered capital of USD73 million (RMB500 million), wholly-owned by Heilongjiang Feihe Dairy Co., Ltd. It currently has 500 t/d processing capacity of goat milk and 20,000 t/a production capacity for goat milk formula.

## Yuxuan Food's Project Approved

On 24 March, the Ecology and Environment Bureau of Yuhui District approved the pre-construction environmental impact statement of a project covering a range of dairy products proposed by Yuxuan Food Technology (Anhui) Co., Ltd. (Yuxuan Food).

Project details:

- Construction nature: New construction
- Total investment: USD58.1 million (RMB400 million), 1.25% (=USD726,691.2/RMB5 million) of which for environmental protection
- Location: Yuhui District, Bengbu Area, China (Anhui) Pilot Free Trade Zone
- Construction content: Transform 3 production plants and build production and supporting facilities, with production lines for dairy products, cocoa products and wine
- Designed capacity for dairy products:
  - Whipping cream (40% fat, imported condensed milk as raw material) – 1,500 t/a
  - Butter (80% fat, imported whipping cream as raw material) – 500 t/a
  - Natural cheese (imported condensed milk as raw material) – 2,000 t/a
  - Processed cheese (imported natural cheese as raw material) – 3,000 t/a
  - Whey powder – 135 t/a
  - Milk beverages – 865 t/a
- Working system: 10 administrative staff and 60 production and technical workers; the dairy product lines will run for 300 days or 2,400 hour per year
- Construction duration: 6 months

Yuxuan Food was founded in May 2021 with a registered capital of USD7.67 million (RMB50 million).

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