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# Feihe and China National Institute of Standardization redefine dairy quality with new freshness standard

28 July 2026 | News

**New framework shifts focus from finished products to raw materials, addressing nutrient preservation, ingredient traceability and active component retention in Chinaâ??s growing dairy market**

China’s dairy industry is entering a new phase of quality competition, where freshness is moving beyond a marketing claim to become a measurable quality benchmark. China Feihe Limited and the China National Institute of Standardization (CNIS) have jointly introduced a new quality management standard for dairy source raw materials, aiming to establish a science-based framework for evaluating freshness, nutritional activity and supply chain transparency. The move reflects a broader shift in consumer expectations. As dairy consumption continues to upgrade, consumers are increasingly looking beyond basic safety standards and demanding higher nutritional value, ingredient transparency and better quality assurance. According to industry reports, “freshness” has emerged as the most important factor influencing consumer perception of dairy quality, accounting for 28 per cent of quality-related considerations — ranking ahead of nutritional content and taste.

However, the industry’s traditional understanding of freshness has largely remained focused on finished-product indicators such as manufacturing dates and shelf life. The new standard challenges that approach by shifting attention upstream — recognising that the freshness of dairy products is closely linked to the condition of raw materials, preservation of active nutrients and processing methods. The newly released “Fresh Quality Management Requirements for Dairy Source Raw Materials” and “Fresh Quality Management Requirements for Products Containing Dairy Source Ingredients” establish detailed requirements covering raw material usage cycles, ingredient traceability, active nutrient retention and processing control. The standards aim to make freshness measurable, comparable and verifiable across the dairy supply chain.

**The Freshness Challenge Begins Before the Product Reaches Consumers**

The importance of raw material quality is particularly significant in infant formula, where the nutritional value of the final product depends heavily on the quality and stability of dairy ingredients. While consumers often associate milk powder quality with fresh milk content and production dates, the composition of infant formula tells a more complex story. Raw cow’s milk

accounts for only around 20 per cent of an infant formula product, while whey-based ingredients contribute more than 60 per cent.

This makes the freshness of whey-based ingredients a critical factor. China's dairy industry continues to rely heavily on imported whey ingredients. In 2025, China imported 732,700 tonnes of whey, accounting for 36.6 per cent of total dry dairy product imports. The dependence on imported ingredients means longer transportation routes and extended storage periods, creating challenges in maintaining the activity of sensitive nutritional components.

**Protecting Active Nutrition, Not Just Preserving Freshness**

The new standard expands the definition of freshness by including not only the physical condition of ingredients but also the preservation of their nutritional activity. The nutritional value of breast milk is widely recognised for two key characteristics — its balanced nutrient composition and the presence of active components such as lactoferrin and immunoglobulins, which contribute to infant health and immune development. The new dairy raw material framework focuses on protecting these sensitive components through stricter processing and quality control requirements.

Under the standard, dairy ingredients are expected to be produced through low-temperature and gentle processing methods to reduce nutrient degradation. Key requirements include controlling processing temperatures, maintaining ingredient purity and limiting nutrient losses during production. For example, whey protein extraction is required to use membrane filtration technology directly from fresh milk, with operating temperatures controlled at 20°C or below. Lactoferrin production standards require purity levels of above 97 per cent. The framework also sets controls on heat-related degradation indicators, including limits on compounds associated with excessive processing temperatures.

The standard further requires the loss rate of key nutrients such as thiamine to remain within 0.05 per cent, reinforcing the industry's focus on nutrient preservation rather than only product safety.

**Shorter Supply Chains Become a Competitive Advantage**

Beyond processing technology, the new framework places strong emphasis on time management across the dairy supply chain. The standard requires core ingredients such as whey protein and lactoferrin to move from production to utilisation within 30 days, while fresh milk is expected to enter powder processing within two hours to minimise nutritional losses. For Feihe, this approach aligns with its vertically integrated dairy strategy. The company has developed capabilities across milk sourcing, ingredient production and manufacturing, including self-production of 11 key dairy ingredients.

The company's "two-hour ecosystem" aims to shorten the journey from milking to processing, reducing storage time and preserving ingredient activity. Feihe has also developed a fresh ingredient traceability system that allows consumers to access information on both raw material production dates and final product manufacturing dates.

**A New Direction for China's Dairy Industry**

The introduction of the freshness standard reflects a wider transformation underway in China's dairy sector, where companies are increasingly competing on scientific quality management rather than only production scale. By moving quality control from the finished product stage to the raw material level, the framework could encourage broader industry adoption of transparent sourcing, advanced processing technologies and stronger traceability systems.

For consumers, the shift provides a clearer understanding of what "freshness" truly means. It is no longer limited to how recently a product was manufactured, but extends to how effectively nutritional value has been protected throughout the journey — from raw material sourcing to final consumption. For the dairy industry, the message is clear: the next generation of quality standards will be built not only around what is added to products, but around how carefully every ingredient is preserved before it reaches the consumer.