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India's expanding whey protein demand meets a tightglobal market

Santiago Morales Hilarión, DCA Market Intelligence

PLUS

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Master Marketier

Tamal Chatterjee
Chief GrowthOfficer, Sid's Farm

Rural Dairy Mart: The Last Mile Input and Service Delivery

10th edition

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India's expanding whey protein demand meets a tight global market

India's demand for high-protein whey products continues to expand, while availability in the main producing regions remains constrained. The European Union and the United States are supplying a growing market at a time when domestic demand, committed production and limited spot availability are keeping whey protein markets tight. This analysis examines how these dynamics are shaping trade flows, prices and India's sourcing position in 2026.

By **Santiago Morales Hilarión**, Dairy Market Analyst DCA Market Intelligence



Santiago Morales Hilarión

Demand for high-protein whey products in India is expanding rapidly, supported by fitness trends and the increased adoption of GLP-1 drugs. The country imported 21,156 tonnes of whey protein concentrate with 80% protein (WPC80) and whey protein isolate with 90% protein (WPI90) in 2025, up 17.2% compared with the previous year. Indian expenditure on these products increased even more rapidly. Import value rose by 64.4% to USD $269.35 million over the same period, supported by a 40.3% increase in average import prices.

The trend continued into 2026. Through April, India imported 8,107 tonnes of WPC80 and WPI90, valued at USD $114.76 million. This represented a year-on-year increase of 32.2% in volume and 63.1% in value, indicating that average import prices remained above year-earlier levels during the first four months of 2026.

Despite being the world's largest milk producer, India is not a major producer of whey protein ingredients. Whey

production largely results from cheese manufacturing and requires significant investment in ultrafiltration, microfiltration and drying capacity. With relatively limited production capacity in both cheese and whey processing, India depends primarily on imports to cover its demand for whey protein.

The European Union and the United States are currently the most important producers globally and represent the main origins of the whey protein consumed in India. Both regions have recorded notable increases in whey protein prices, affecting domestic and international markets. This article examines the factors behind these increases and their impact on international trade, with particular attention to India.

European prices increased amid stronger domestic and export demand

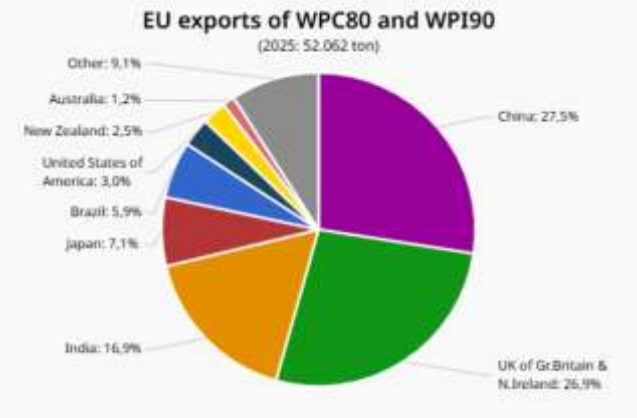
Whey protein prices increased sharply in the EU. According to DCA Market Intelligence benchmarks, WPC80 rose by 36.0% to EUR €26,250 per tonne between 24 March and 19 August, while WPI90 increased by 30.0% to EUR €32,500 per tonne over the same period. Prices accelerated particularly during May and have since remained comparatively stable while fluctuating at elevated levels.

Although production levels were reportedly strong during the European holiday period, according to industry sources, most available volumes had already been committed in advance into the fourth quarter. With a large share of production committed, availability on the spot market remains limited, providing important context for the current price level.

Consistent with reports of robust demand, EU deliveries to the global market increased. EU exports of WPC80 and WPI90 rose by 5.5% year on year to 30,198 tonnes through June 2026. Export value increased more strongly, by 35.0% to EUR €467.32 million over the same period, alongside a 28.1% increase in average export prices. This represented a notable acceleration from 2025, when physical exports increased by 0.2% and export value by 25.2%.

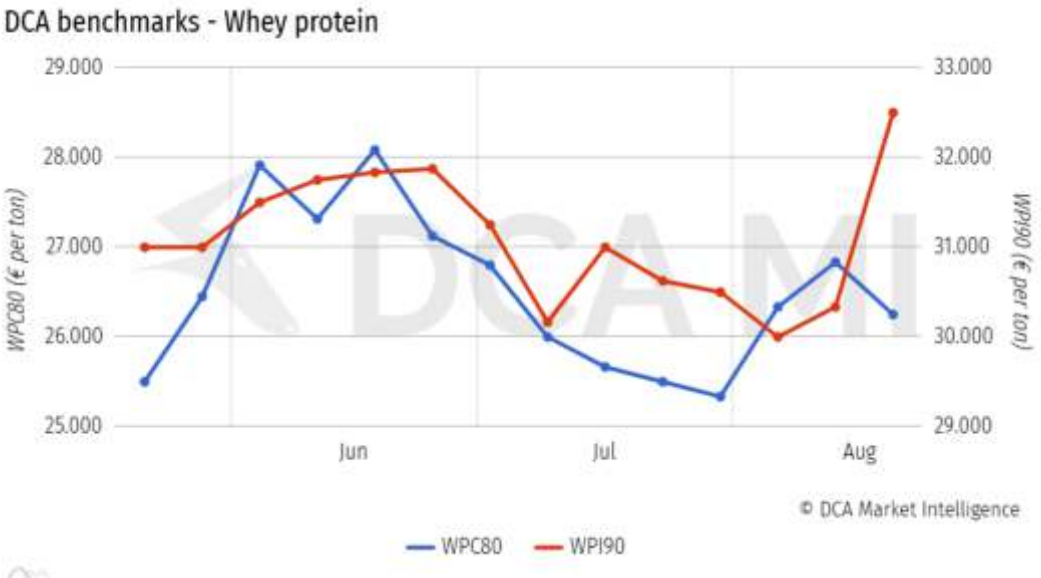
Trade activity within the EU increased even more strongly. Internal trade expanded by 12.2% year on year to 46,083 tonnes through April 2026, while trade value increased by 28.7% to EUR €533.45 million. This contrasted with a 0.4% decline in intra-EU volumes in 2025.

Trade within the EU therefore outpaced the increase in shipments to international markets, pointing to stronger



demand within the region. This internal pull reduces the volume potentially available for other destinations when production is already largely committed.

Strong whey protein prices have also coincided with higher prices for other whey products, including whey powder. According to DCA Market Intelligence, food-grade whey powder averaged EUR €1,815 per tonne in August, up 66.7% from the previous year and a record for that month.



EU production data for whey protein are not publicly available in sufficient detail. However, industry sources indicate that demand for high-protein products is absorbing a substantial share of available whey solids. This reduces the amount of whey solids available for standard whey powder production and contributes to the tightness observed in that segment.

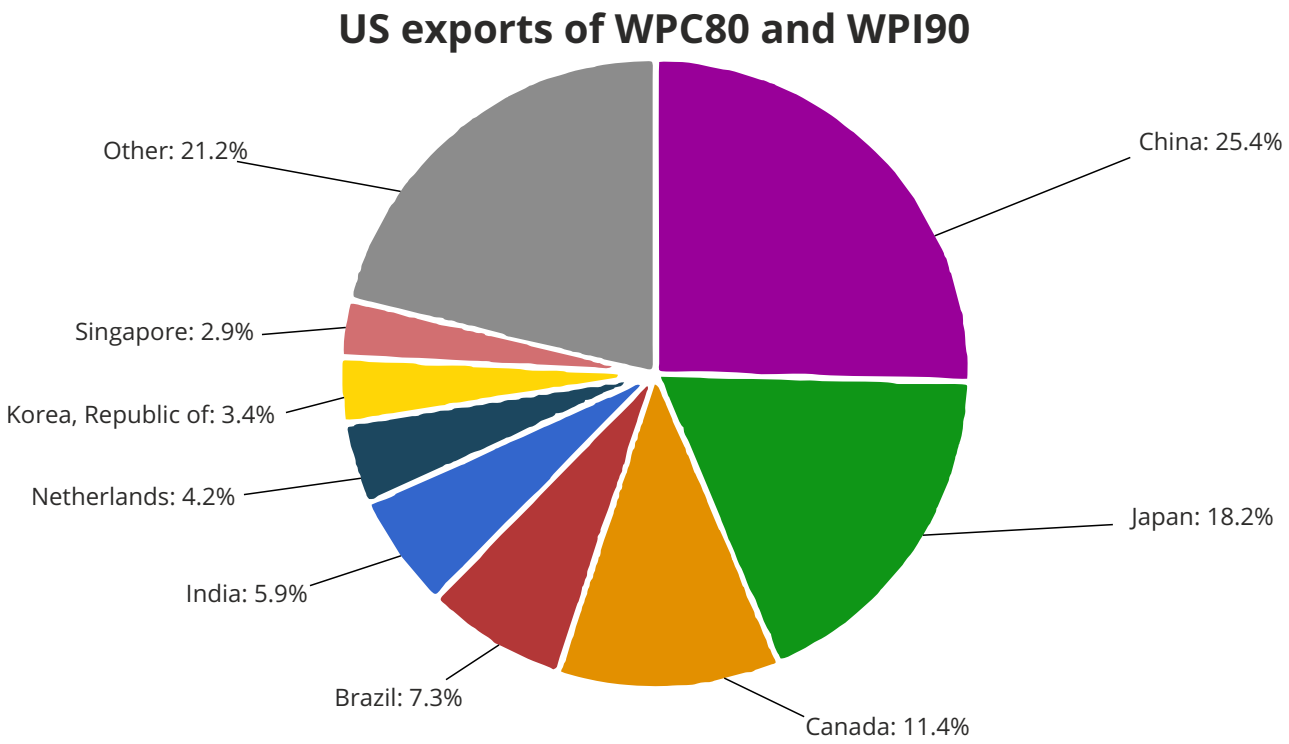
US increasingly directs whey solids towards high-protein production

High-protein ingredients have also taken priority in the US processing mix. Production of WPC80 and WPI90 increased by 8.6% year on year to 172,624 tonnes in 2025, while production of WPC34 and whey powder declined by 15.1% and 1.0%, respectively. Growth in high-protein production moderated in 2026, with output rising by 4.0% year on year to 88,986 tonnes through June.

According to the United States Department of Agriculture (USDA), WPC80 prices remained strong at USD $12 to $13 per pound, equivalent to approximately EUR €22,369 to €24,788 per tonne. WPI90 prices were firmer still at around USD $14 per pound, or approximately EUR €26,664 per tonne. More detailed market reports indicate that WPC34 prices increased by 33.8% to USD $2.11 per pound, equivalent to approximately EUR €3,960 per tonne, with constrained availability cited as an important market factor.

Prices also strengthened in the export market, increasing by 30.8% year on year during the first half of 2026. Despite a 12.9% contraction in export volume to 60,152 tonnes over the same period, higher unit values resulted in a 14.0% increase in export value. The contraction followed a period of strong expansion in 2025, when exports increased by 28.8% compared with the previous year.

Despite higher production and lower exports, the elevated pricing of WPC80 and WPI90 in the US indicates strong competition for available product between domestic and export markets. This has limited the amount of additional product moving into export channels while maintaining high price levels in both markets.



Stocks have also declined. Average inventories during the first half of 2026 were 4.6% below the previous year. Taken together, production, export and stock data indicate that demand for high-protein whey is absorbing a large share of available industry capacity across domestic and international markets.

EU covers most of India's whey protein needs in 2026

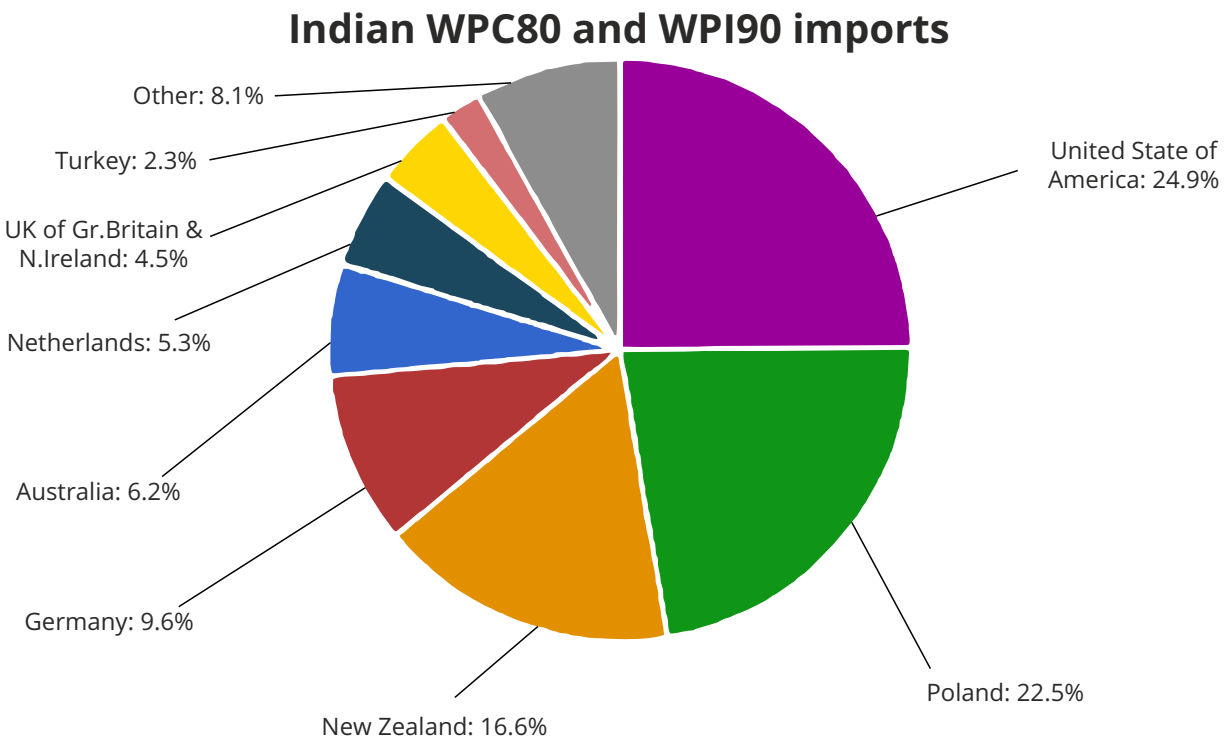
The EU and the US, the main global producers of high-protein whey ingredients, have shown a broadly similar pattern over the past year. Strong demand across domestic and export markets has coincided with increasingly limited availability. Under these conditions,

buyers across several regions are competing for access to available product, while average transaction and export values have increased.

India is part of this trend. Despite relatively limited growth in total EU exports, EU shipments of WPC80 and WPI90 to India increased by 16.4% year on year to 5,893 tonnes through June 2026. This was slightly below the 18.5% increase recorded in 2025.

Export value to India increased by 49.5% to EUR €87.62 million, accelerating from growth of 35.5% in the previous year. The increase reflected, in part, a 28.4% year-on-year rise in average EU export prices to India.

At the same time, the decline in US WPC80 and WPI90 exports was more pronounced in trade with India. Shipments fell by 24.0% year on year to 3,498 tonnes



From Trust to Growth: How Transparency Is Reshaping Dairy Brand Building

Tamal Chatterjee —
Chief Growth Officer, Sid's Farm



Your career spans more than two decades across marketing, business development and growth leadership. How has this journey shaped your approach to building brands, and what has kept you closely connected to the dairy sector over the years?

My career has moved through very different worlds — consumer durables, B2B eCommerce, media and content, rural digital access, and dairy before Sid's Farm. On the surface these look unrelated, but each one taught me a version of the same lesson: you cannot build a brand from the outside in. You have to understand the product, the supply chain and the customer's real, unglamorous daily life before you build your GTM strategy.

Dairy has stayed with me because it sits at an unusual intersection. It is deeply emotional — milk is often the first thing a mother gives a child, and trust in it is almost inherited — yet it is also one of the most operationally unforgiving categories there is. There is no margin for error between the farm and the doorstep. That combination of emotional weight and operational precision is what has kept me here. It rewards marketers who are willing to get close to procurement, quality and logistics, not just to campaigns. To top that, is the satisfaction of going to bed happy every night knowing that I've contributed towards putting good food on people's plates.

Your role at Sid's Farm has evolved from marketing leadership to Chief Growth Officer. How has this transition changed the way you think about marketing—not merely as communication, but as a driver of revenue, profitability and long-term enterprise growth?

The shift from CMO-style thinking to Chief Growth Officer has been less about acquiring new tools and more about changing what I hold myself accountable for. As a marketer, my scorecard was reach, engagement and brand recall. As CGO, my scorecard is acquisition cost against lifetime value, subscription retention, channel-wise contribution margin and how efficiently every rupee of spend converts into a repeat household, not just a one-time buyer.

Practically, this means marketing decisions now sit in the same room as decisions about pricing, pack sizes, delivery economics and channel mix. When we look at something like a new price point or pack format, we are not asking 'will this get attention' — we are asking how it moves acquisition cost, how it affects churn six months out, and what it does to unit economics at scale. Growth leadership means treating marketing as a lever on the P&L, with the same discipline you would apply to procurement or manufacturing, rather than as a cost centre that sits apart from the business.

Milk is an everyday necessity, but consumers often find it difficult to independently judge its quality. How can a dairy company translate technical attributes such as testing, traceability and food safety into a brand proposition that consumers can understand and trust?

The honest starting point is admitting that most consumers are not going to read a lab report before pouring milk into their child's glass. So the job isn't to publish data — it's to translate rigour into something a

household can feel and verify in ten seconds. Also, the true test of a brand's ethics lies in how rigorously they follow every step in the SOP even while knowing that most customers would probably never take a look at the test reports.

At Sid's Farm, every batch goes through a multi-parameter testing process before it reaches a doorstep, and every pack carries a QR code that traces the test reports of that particular batch. The QR code matters more than any claim we could make in an ad, because it hands the proof to the consumer instead of asking them to take our word for it. The brand proposition isn't 'we test rigorously' — it's 'you don't have to trust us blindly, you can check for yourself.' That reframing, from claim to verifiable fact, is what makes technical quality legible as a brand promise rather than jargon.

Transparency has become central to the Sid's Farm brand. What does genuine transparency mean in practice, and how can a company ensure that it does not become merely another marketing claim?

Transparency stops being a marketing claim the moment it costs you something operationally. If a company only ever shares good news — the certifications, the awards, the glowing testimonials — that isn't transparency, that's curation. Genuine transparency means being willing to show the parts of the process that are unglamorous or invisible: the daily discipline of quality testing that no consumer sees, the traceability that could just as easily expose a problem as confirm a strength.

In practice, we treat transparency as an operating standard first and a communication strategy second. The farmer-traceability system and the testing regime exist because Dr. Kishore Kumar Indukuri built the company on the conviction that dairy in India needed a fundamentally more honest supply chain, not because they made for good content. My job is simply to not let the storytelling get ahead of what the operations can actually stand behind. The test we apply to any transparency-led message is: could a customer independently verify this? If the answer is no, it doesn't go out, however good it sounds.

Transparency is a core value that we try and imbibe in every small thing that we do at Sid's Farm. Take for example our farm & factory visits open to anyone interested, every weekend. We take the visitors (who are mostly our customers) through nuances of our process that makes them pause & reflect on the importance of asking the right questions. Or say our personalized communications to each D2C subscriber every time we are forced to raise prices, in which we clearly lay out what input costs changed at our end and how that added to the pricing.

Dairy purchasing is highly habitual, and convincing a household to change its milk brand can be difficult. What have you learnt about customer acquisition, the first product experience and building long-term loyalty in such a frequently purchased category?

Milk is probably the most habit-locked category in Indian FMCG. A household's milk brand is often inherited from parents and rarely questioned, so the acquisition moment is really a trust transaction, not a mere commercial transaction. You are not selling a product trial, you are asking someone to override a habit that touches their child's health.

What I've learnt is that the first delivery matters disproportionately more than any campaign that preceded it. If that first pack arrives on time, tastes as promised and the app or subscription experience is frictionless, you've done more to earn loyalty than a month of advertising could. Beyond that, loyalty in this category compounds through consistency, not novelty — the same reliable quality, the same trustworthy sourcing, delivery after delivery. We've also found that acquisition strategy has to be tailored by city maturity: in a market where we're well established, the priority is deepening retention; in a newer market, it's about smoothing the first few weeks of trial so habit has a chance to form before a competitor's discount pulls the household away.

There also are these small gestures from our end like visiting a long standing customer with a surprise bag of goodies, or special privileges to existing customers of a housing society when we are doing BTL activations there, which are our quiet ways of saying that every customer is special to us.

> **“The brands that endure will be the ones that treat trust as infrastructure, not messaging.”**
>
> **Tamal Chatterjee,** Chief Growth Officer, Sid’s Farm

Discounts and introductory offers may attract consumers, but they do not necessarily create loyalty. How can dairy brands move beyond price-led marketing and build lasting differentiation around quality, experience and purpose?

Discounts are excellent at buying attention and terrible at buying loyalty, because anyone who joins you for the price will leave for a better price. In a category people buy almost every day, a purely price-led relationship is one of the most fragile things you can build. However, I do admit, that when you're chasing GMVs in a very fast-moving category like ours, discounting seems extremely tempting most of the times.

The differentiation that lasts is the kind a competitor can't copy overnight — traceability infrastructure, testing discipline, a founder-led purpose that predates the marketing department. Purpose only works as differentiation when it's operational rather than rhetorical: Sid's Farm exists because our founder wanted farmers to be paid fairly and consumers to know exactly what they were drinking, and that conviction shows up in decisions made long before a customer ever sees a rupee off. We use price to get someone to try the product, but what earns the renewal is the experience — a good delivery, a trustworthy pack, transparency they can act on — because that is what a discount alone can never manufacture.

Sid's Farm is expanding into markets with different consumer behaviours, retail structures and competitive environments. How do you determine which elements of the brand should remain consistent and which need to be adapted for each city?

The non-negotiables travel unchanged everywhere: the quality testing standard, the farmer traceability, the core brand promise of transparency. Those are the reasons someone chooses us over an established local player, and diluting them in a new market to move faster would undercut the very thing we're trying to build a reputation on.

What changes is the go-to-market shape — the channel mix, the messaging emphasis, even which product format leads. In a mature market like Hyderabad, our priority is retention and deepening subscription behaviour among households who already know us. In Bengaluru, a lot of our growth work is about converting other online buyers into app subscribers. In a newer market like Pune, we lean on e-Com first entry rather than trying to directly fight for mind share immediately, and in a corridor-dense market like Mumbai's western suburbs, density and premium formats matter more than broad reach. The discipline is separating brand truth, which is fixed, from market tactics, which should flex to how each city actually shops.

Direct subscriptions helped several new-age dairy brands establish close relationships with consumers. As the business scales, how do you see the future balance between D2C subscriptions, quick commerce, modern retail and traditional distribution?

I don't think of these as competing channels so much as different stages of the same relationship. Quick commerce is very often where a new household first encounters us — low commitment, instant availability, easy to try. The app-based subscription is where that trial converts into habit, because it's where we can offer the freshest experience, the most direct relationship, and the richest traceability. Modern retail and traditional distribution extend our reach into households that may never download an app just for milk but still deserve the same product standard.

As we scale, I expect quick commerce to keep growing as the discovery layer, subscriptions to remain the core of retention and lifetime value because that is where the relationship is deepest, and modern trade and general trade to matter for footprint and brand visibility for customer cohorts in which digital penetration is still catching up. In fact, we also supply to premium cafes where, with the right branding interventions, we often softly pique the customer's curiosity. The balance isn't static — it shifts by market maturity or new product context, which is why our growth strategy is built market by market rather than as one national channel mix.

Milk may bring a household into the brand, while products such as curd, paneer, butter, ghee and functional dairy offerings can deepen that relationship. How should consumer insight guide product innovation, and how do you distinguish a meaningful opportunity from a passing trend?

Milk earns the trust; the rest of the portfolio is where that trust gets to compound. Once a household relies on us for something as sensitive as milk, they're far more open to buying curd, paneer, butter or ghee from us too, because we've already cleared the hardest bar — quality they don't have to think about.

On distinguishing real opportunity from trend, we start from need states rather than category buzz. Before we move into a new category, we spend real time understanding distinct consumer cohorts and what functional benefit each was actually seeking, rather than launching something because the format was fashionable. A trend is something a category is talking about; a meaningful opportunity is something a specific, identifiable group of your existing customers is already

asking for, in language you can trace back to a real problem in their day — digestion, immunity, a habit they're trying to build. If we can't name that customer and that problem specifically, we treat it as noise, not a brief. We keep our ears on the ground listening closely for indicators from across channels, brands, and consumers alike.

Rapid growth in dairy places pressure on procurement, manufacturing, cold-chain logistics and quality assurance. How can growth and marketing teams ensure that the brand promise does not move faster than the organisation's ability to deliver it consistently?

This is the discipline I worry about most, because it's the failure mode that's invisible until it isn't. A brand promise that outruns operational capacity doesn't fail loudly — it fails quietly, one disappointed household at a time, and by the time you notice it in the retention numbers, real damage has already been done to trust that took years to build.

The guardrail we use is simple: growth and marketing don't get to promise anything the supply chain hasn't already proven it can deliver at the scale we're promising it to. Before we expand delivery radius, launch a new pack size or push into a new city, the operational question — can procurement, cold chain and quality assurance sustain this reliably, not just on day one but on day ninety — gets answered first. Any go-to-market plan we build, whether for a new pack format or a new city, is grounded in unit economics and delivery-model realities from the outset, not bolted on afterward.

Growth that quality assurance can't keep pace with isn't growth, it's borrowed trust.

A thought here for growth stage companies like ours – it is extremely easy to spread oneself too thin in an attempt to go all out and procure from vastly far apart geographies just to support growth, but the bigger question to ask oneself is whether there is a clear route to profitability in sight at any volume when we take this path. The smarter, more sustainable way is to make your existing clusters denser to bring about greater optimization.

As Sid's Farm enters its next stage of development, what are its most important growth priorities over the next three to five years, and what role could partnerships, new markets or acquisitions play in that journey?

Our priorities over the next few years centre on three things: deepening our position in the markets we're already in rather than spreading thin, building out the parts of our portfolio — like functional and value-added dairy — that extend the relationship beyond milk, and getting the underlying delivery and subscription infrastructure ready to support that scale efficiently.

Partnerships have a real role to play here, particularly with organisations that bring FMCG operating depth and distribution muscle rather than capital alone. We've been in conversation with players in the broader FMCG and dairy and beverages space precisely because the right partner can compress years of infrastructure-building into a much shorter timeline, and can help us extend Sid's Farm's model of transparency and traceability to more households faster than we could alone. Any such partnership, for us, has to protect the founding promise of the brand — it's a multiplier on our model, not a dilution of it.

While we are concentrating on the above, a significant part of our bandwidth shall also be utilized for development of more functional products in dairy as well as adjacent categories.

Looking at the Indian dairy market over the coming decade, what will distinguish the brands that build enduring consumer trust from those that achieve only short-term visibility? What advice would you offer young marketers and entrepreneurs seeking to build the next generation of dairy brands?

The brands that endure will be the ones that treat trust as infrastructure, not messaging. Visibility can be bought with media spend and discounting; trust in a category this intimate has to be earned through consistency that a consumer can verify for themselves, delivery after delivery, year after year. Over the next decade, as Indian consumers become more discerning about food safety and sourcing, the gap between brands that can prove their claims and brands that only assert them is only going to widen.

My advice to young marketers and entrepreneurs in this space would be to resist the temptation to lead with a campaign before the operations can support it. Spend time in the supply chain before you spend time in the boardroom writing brand decks. Build the traceability and the quality systems first, because no amount of storytelling can substitute for a product that consistently does what you say it does. And stay close to the category's emotional weight — you are not selling a beverage; you are being trusted with something that goes into a child's body every single day. If you build with that seriousness, the brand takes care of itself. Lastly, while traditional diary products will act as the sheet anchor for your brand, do not forget to keep your feelers out for changing consumer needs. The future belongs to those that understand a consumer's real-life functional needs and creates a solution before the others do.


Image Source: Kabilai Farm

The Dairy Plant Is Already Talking. Are We Listening?

By **Radhika Krishnaswamy**, Senior Vice President, Findability Sciences

How Industrial AI is enabling bold possibilities in dairy manufacturing


Radhika Krishnaswamy

Walk through a modern dairy plant and you can almost hear its rhythm.

Pasteurizers cycle. Chillers switch on and off. Pumps move milk from tanker to tank. Packaging lines run at speed. Operators move between screens, gauges and equipment, making dozens of decisions to keep production on track.

Beneath that rhythm is another constant activity: the plant is generating data.

Temperatures, pressures, flow rates, quality parameters, equipment conditions, energy consumption and production volumes are being captured continuously. Many dairy manufacturers have accumulated years of this information.

Yet much of that data is still used primarily to answer a backward-looking question: What happened?

The greater opportunity is to ask a different question: What is likely to happen next—and what can we do about it?

That is where Industrial AI is beginning to change the equation.

The real promise of AI in dairy manufacturing is not another dashboard or a more sophisticated report. It is the ability to understand what is happening across the plant, anticipate what may happen next and help people make better decisions while there is still time to influence the outcome.

From hindsight to foresight

Dairy manufacturing is inherently variable.

Milk composition changes with season, geography, herd and even between collections on the same day. Equipment performance shifts gradually. Ambient conditions influence processing. Operating settings that delivered excellent yield last week may not produce the same result today.

Experienced operators understand this instinctively. They know the sound of a healthy machine. They notice when a process is taking slightly longer than usual. They recognize when a reading looks normal in isolation but feels wrong in context.

That experience is invaluable. But, no individual, however experienced, can continuously track hundreds of interacting variables across an entire plant.

Industrial AI can help extend that human capability.

Predictive models can identify relationships and patterns across process data that are difficult to detect through individual readings. Instead of waiting for a parameter to cross a predefined threshold, an AI system can recognize combinations of subtle changes that historically preceded a quality deviation, yield loss or equipment issue.

That distinction is fundamental.

An alarm tells an operator that something has happened. A prediction gives the operator time to prevent it.

A two-hour warning can create an opportunity to investigate a process condition, adjust a setpoint, inspect equipment or schedule an intervention. A flashing red light often means the window for prevention has already closed.

The resulting improvements may not sound futuristic—and that is precisely the point.

More consistent quality. Better yield. Higher throughput. Less unplanned downtime. More efficient use of energy and water. These are the outcomes that determine whether a dairy plant creates or loses value every day.

AI is a capability, not a software purchase

One of the most common mistakes organizations make is treating Industrial AI as a technology rollout.

Technology is only one part of the equation. An AI model is only as dependable as the data beneath it—and its value ultimately depends on an organization's ability to act on what the model reveals.

Instrumentation must be reliable. Data from production systems, quality laboratories, maintenance platforms and enterprise applications must be accessible, contextualized and aligned. Operators need to understand why a system is making a recommendation. Plant leadership needs to identify the problems worth solving. And someone must remain accountable for determining whether the promised business value was actually delivered.

In other words, Industrial AI is not an IT project. It is an operating-model transformation. It requires operations, engineering, quality, IT and business leadership to work together.

Trust is equally important. If an AI system repeatedly produces recommendations that operators cannot understand, validate or act upon, it will eventually be ignored—regardless of how sophisticated the underlying model may be.

The strongest implementations bring plant teams into the process early. Operators and engineers contribute the operational context that data alone cannot provide. They help shape the models, test recommendations and distinguish between a statistically unusual event and one that genuinely matters.

AI adoption becomes sustainable when it is built with operators, not simply delivered to them.

The first use case might focus on yield variability, energy consumption or unplanned downtime. But the more valuable outcome is the capability created around it: cleaner data, better instrumentation, stronger cross-functional collaboration and a repeatable approach to solving the next problem.

The return on the first project matters. But the real competitive advantage emerges when the second and third projects can be deployed faster because the foundations are already in place.

The value rarely stays where it started

Some of the most interesting benefits of Industrial AI emerge beyond the original use case. Consider a plant that starts by investigating yield variability on a production line. Bringing together process, quality and equipment data may reveal patterns that also improve maintenance planning.

More reliable production forecasts can help procurement anticipate raw-material requirements.

Better visibility into process variability can inform inventory decisions and logistics scheduling. Improved understanding of equipment behavior can help maintenance teams move from reactive intervention toward planned action.

A question that begins on the plant floor can ultimately influence decisions across the enterprise. This is why data should not be organized solely around individual AI projects.

A narrowly designed solution may answer one question extremely well, but it can also create another isolated pool of information. A reusable data foundation, by contrast, allows operational intelligence to support multiple functions and future applications. It also gives leadership a more complete view of plant economics.

Production volume alone does not tell the full story. Leaders need to understand the relationship between throughput, quality, losses, energy consumption, maintenance and—ultimately—saleable output.

AI can help connect those dots.

Sustainability becomes an operating metric

Sustainability is sometimes discussed as though it sits outside everyday plant performance. In dairy manufacturing, it does not.

On the plant floor, sustainability ultimately comes down to a practical question:

How much raw milk, water, steam, electricity and fuel does it take to produce one unit of saleable product?

Every avoidable loss carries a wider footprint. Product lost during processing represents not only the value of the milk itself, but also the water, energy, refrigeration, labor and transportation already invested in producing and moving it.

Different dairy products create different operating demands. Chilling and cold storage consume significant electricity. Pasteurization, evaporation and cleaning require thermal energy. Milk powder, whey products and concentrated dairy ingredients require large quantities of water to be removed. Cleaning-in-place systems must balance stringent hygiene requirements against water, chemical and energy consumption.

These variables cannot be optimized independently.

Reducing energy consumption at the expense of product quality is not an improvement. Increasing throughput while creating additional process losses simply shifts the problem. Optimizing one metric in isolation can easily create inefficiency somewhere else.

Industrial AI can help plants evaluate these relationships together and identify operating conditions that deliver the best overall outcome.

That is when sustainability moves from an annual reporting exercise to a daily management discipline.

The path toward autonomous manufacturing

The industry is moving toward more autonomous operations. But autonomy should not be confused with a factory operating without people.

A better way to think about autonomy is as a progression.

First comes visibility: connecting data and creating a reliable view of plant performance.

Then detection: identifying anomalies, inefficiencies and emerging equipment issues.

Then prediction: estimating what is likely to happen if current conditions continue.

Then recommendation: helping operators determine what action to take.

Only after these capabilities have been established and trusted should systems begin taking limited actions independently—within clearly defined parameters and with appropriate human oversight.

Each stage depends on the one before it. A plant cannot automate decisions it does not yet understand. And it should not place confidence in predictions built on unreliable or poorly contextualized data.

The dairy plants that progress fastest may not be those with the most sensors, the largest technology budgets or the most ambitious automation announcements.

They will be the plants that treat data as operational infrastructure, focus AI on problems that matter and build confidence through measurable outcomes.

The next competitive advantage

Industrial AI does not begin with the pursuit of a fully autonomous factory. It begins with a simpler ambition: Help the plant see more clearly. Respond earlier. Learn from every production cycle.

The technology is becoming increasingly capable. The greater challenge—and opportunity—is organizational: connecting data to decisions, intelligence to action and individual use cases to a broader operating model.

For dairy manufacturers, that could mean turning years of historical data into foresight. It could mean giving experienced operators a digital counterpart that can monitor the plant continuously. It could mean reducing waste while improving yield, strengthening quality while increasing throughput, or making sustainability a measurable part of everyday production decisions.

The plant is already talking.

The next step is learning how to listen, understand—and act.

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Image Source: FloUV

Beyond Water Sterilisation: Can UV-C Reshape Dairy Processing in India?

A familiar technology in an unfamiliar place

Ask most Indian dairy professionals where ultraviolet light is used in a plant and the answer will usually be water treatment. UV systems are familiar in process-water loops, drinking-water lines and effluent-treatment systems. Yet passing milk, whey, cheese brine or a valuable protein stream through ultraviolet light still sounds unusual. That perception is beginning to change.

Ultraviolet-C (UV-C) covers the germicidal part of the ultraviolet spectrum, roughly 200–280 nanometres. Commercial food systems often use wavelengths close to 254 nm. At these wavelengths, microbial DNA and RNA absorb UV energy, causing damage that prevents microorganisms from multiplying. Unlike thermal pasteurisation, UV-C does not depend on heating the entire product and is therefore generally considered a non-thermal, or more precisely low-thermal-load, intervention.

The attraction for dairy is straightforward. Heat is dependable, well-regulated and deeply embedded in plant design, but it can also denature proteins, alter flavour, promote Maillard reactions and reduce the functional value of sensitive fractions. As India moves beyond liquid milk and traditional products towards whey proteins, milk protein concentrates, immunoglobulins, lactoferrin and specialised nutrition ingredients, the cost of heat-related quality losses becomes more significant.

Why milk is far more difficult than water

Water treatment makes UV-C look simple. Clear water allows light to travel through the liquid, enabling a conventional reactor to deliver a relatively predictable dose. Milk is almost the opposite. Fat globules scatter light, while proteins and other solids absorb it. Even skim milk has relatively low UV transmittance, while whole milk and cream are more challenging.

If milk flows through a straight tube around a lamp, liquid close to the lamp may receive greater exposure while material farther away receives less. This creates two risks. Under-dosed zones may allow microorganisms to survive, while excessive exposure can increase the potential for unwanted chemical or sensory changes. Simply installing a larger lamp is therefore not an adequate solution. The central challenge is hydrodynamics: ensuring that the liquid receives a sufficient and reasonably uniform UV-C dose.

Modern dairy UV-C systems use thin films, turbulent flow, vortical movement, coiled paths or combinations of these approaches. Reactor geometry, flow rate, viscosity, optical absorbance, fouling behaviour and the target microorganism must be considered together.

The meaningful parameter is therefore not simply lamp power, but the validated UV dose delivered to the product under defined operating conditions.

Dairy plants should approach UV-C as a process-engineering system rather than an off-the-shelf water-treatment technology. The same system cannot be assumed to work equally well for skim milk, buffalo milk, sweet whey, acid whey, cream and cheese brine. Each matrix requires its own validation envelope.

Why reactor geometry matters: the Dean-vortex approach

One promising approach uses a serpentine helical tube arranged around a UV-C source. As liquid moves through repeated curves and bends, centrifugal forces generate secondary swirling movements known as Dean vortices. These movements transport liquid between the wall and the core, repeatedly exposing different portions of the stream to UV-C.

In practical terms, the design aims to address the central weakness of UV treatment in opaque liquids: uneven exposure. A straight-flow reactor can expose some product to substantially more light than other portions. Dean-flow mixing disrupts this pattern by repeatedly transporting material across the tube.

The engineering proposition is that this can produce more uniform exposure and improve treatment of optically dense liquids while limiting excessive exposure of the fraction closest to the lamp.

The principle has been investigated in peer-reviewed research. A 2022 Journal of Food Engineering study evaluated a serpentine Dean-flow UV-C system for whole milk using computational fluid dynamics and biodosimetry. Related research has also examined microbial and spore inactivation in whole milk and other opaque beverages.

However, reactor geometry alone does not establish commercial performance. The required dose, flow conditions, product composition, microbial target and fouling behaviour must still be validated at the intended operating scale.

The vitamin-D3 question - benefit, concern or both?

One point in the UV-C discussion is frequently misunderstood. The compound relevant to dairy research is vitamin D3, not vitamin D4. UV exposure can convert naturally present 7-dehydrocholesterol into vitamin D3.

The European Union authorised a specified UV-treated pasteurised cow's milk as a novel food in 2016, recognising the resulting increase in vitamin D3. This demonstrates that UV treatment can potentially deliver a nutritional benefit in addition to microbial control.

But the same effect can become a process-control consideration. A processor seeking only microbial inactivation may not want an unintended change in nutrient composition or additional labelling implications.

The amount of vitamin D3 formed depends on milk composition, fat level, wavelength, dose and reactor conditions. It should therefore not be treated as an automatic or universally desirable outcome.

Better dose uniformity can help control exposure, but it does not mean photochemical changes disappear. Product-specific testing should quantify vitamin D3 before and after treatment. Where enrichment is intended, dose control becomes a feature; where it is not, the operating window must be established accordingly.

Vitamin D3 is also only one part of the quality equation. Riboflavin is photosensitive, while UV exposure can contribute to oxidation reactions and the formation of compounds associated with light-induced flavour changes. Depending on the product and treatment conditions, other nutrients and lipids may also be affected.

Consequently, microbial validation should be accompanied by sensory testing, oxidation markers and relevant nutrient analysis, along with appropriate oxygen and packaging controls.

Where UV-C is already creating value

The strongest global examples of UV-C in dairy are not necessarily bottles of UV-treated drinking milk. They are applications where heat or membranes create clear operational penalties.

At Arla Foods' Krusaa cheese plant in Denmark, a UV-based system is used to treat salad cheese brine that had previously been microfiltered. The dairy has reported complete brine reuse, lower salt consumption and reduced disposal of salt-rich retentate. In Poland, SM Ryki has also integrated UV-based brine treatment into cheese production, while in Canada, Amalgamated Dairies Limited has announced deployment for Havarti and feta brine. These examples suggest that cheese brine is among the more mature dairy applications because it is repeatedly reused and carries both microbiological and environmental costs when discarded.

Research and early commercial activity are also expanding into whey, whey protein concentrate, colostrum and bioactive dairy ingredients. Studies on donor human milk are not directly transferable to industrial bovine streams, but they provide evidence of the principle: optimised UV-C treatments can achieve substantial microbial reduction while retaining more sensitive proteins and enzymes than conventional heat treatment.

These are encouraging findings, not grounds for blanket extrapolation. Human milk, bovine milk, whey and purified protein streams differ significantly in composition and optical properties. Nevertheless, the evidence strengthens the case for UV-C where commercial value depends on preserving proteins in a more native state.

Lactoferrin: where every percentage point matters

Lactoferrin is a heat-sensitive iron-binding glycoprotein used in infant nutrition, clinical nutrition, supplements and functional foods. Its value depends not only on recovery, but also on purity, native structure, colour and biological functionality. Conventional fractionation involves separation, concentration, purification and drying, with microbial-control steps incorporated throughout. Severe heat exposure can reduce the quality or recoverable value of the final ingredient.

UV-C could serve as an upstream or intermediate bioburden-reduction step in a lactoferrin-bearing milk or whey stream, potentially reducing reliance on damaging heat treatment before chromatography, membrane concentration or drying.

The opportunity should be described in terms of retention rather than automatic yield enhancement. UV-C does not create lactoferrin, and final recovery still depends on the complete downstream process. Its value lies in preventing losses before extraction. If a thermal step partially denatures lactoferrin or promotes aggregation, a validated non-thermal microbial intervention could help preserve bioactivity and improve the proportion of material meeting premium specifications.

For an Indian processor, the right pilot should therefore compare the complete process against the existing heat-treated route. Key measures should include microbial safety, lactoferrin recovery, bioactivity and final product functionality. Only plant-level evidence can establish the true economic value.

Whey and the next phase of Indian dairy

India's dairy economy has traditionally been built around milk procurement, liquid milk, ghee, paneer, curd and milk powder. The next phase is likely to involve greater fractionation—separating milk and whey into components for infant nutrition, sports nutrition, medical foods and functional formulations.

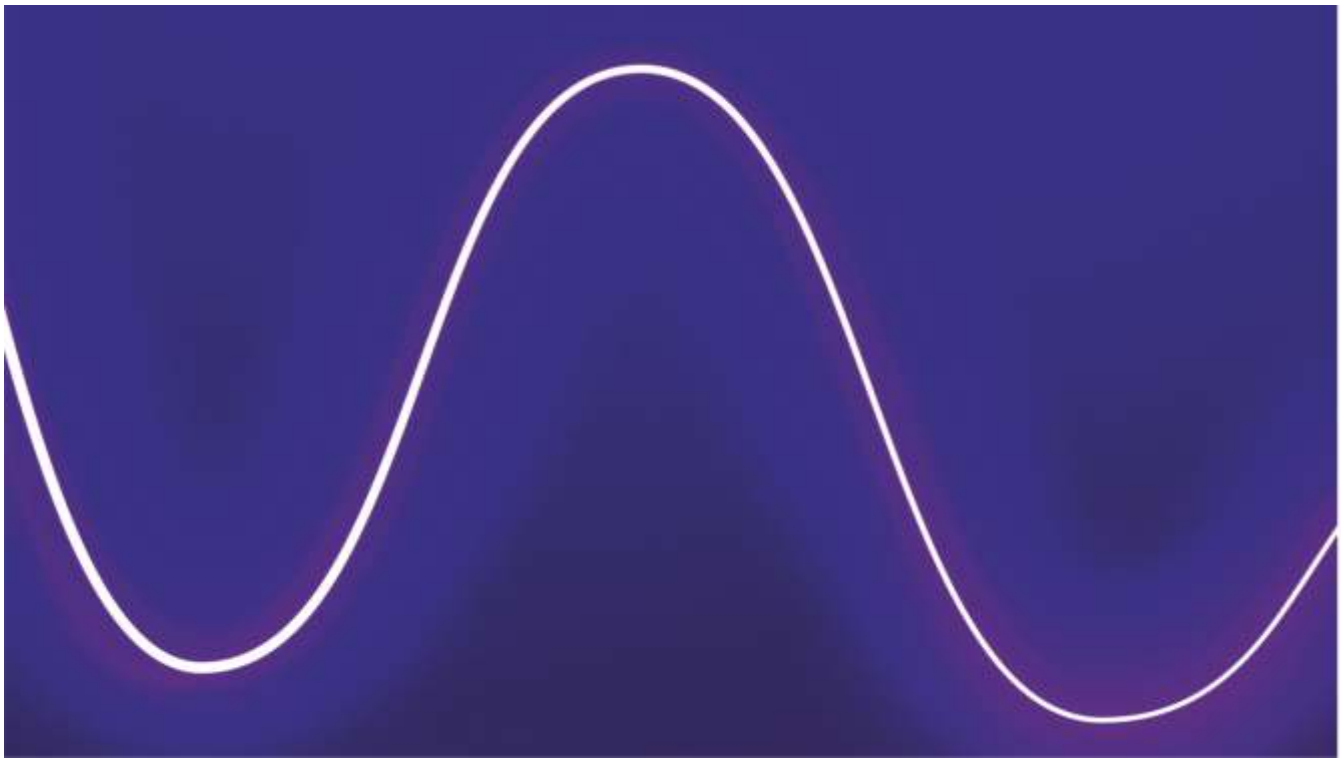
This changes the processing question from “How do we preserve milk?” to “How do we preserve the most valuable functionality within milk?”

Whey illustrates the opportunity. A cheese or paneer plant may regard whey as a low-value by-product, while an ingredient plant sees lactose, beta-lactoglobulin, alpha-lactalbumin, minerals and potentially other bioactive fractions. Heating provides microbial safety but can denature whey proteins, alter solubility and contribute to fouling during downstream processing.

A controlled UV-C step before concentration or drying could reduce microbial load while limiting thermal damage. This could support better functional protein recovery and potentially reduce the severity of subsequent heat treatment.

The benefit is not simply nutritional. Native proteins can command greater value because of their solubility, gelling, foaming or biological properties. Less denaturation may also improve downstream processing and reduce product losses. Lower thermal loads could further reduce energy consumption and cleaning requirements. These benefits must be demonstrated against each plant's baseline, but they align closely with India's need to extract greater value from every litre of milk.

UV-C may also have applications in cheese brine, process water, evaporator condensate, lactose streams, colostrum and selected pre-treatment steps before membrane fractionation. The most practical adoption route is likely to begin with such bounded applications, where processors can measure value without



immediately changing the regulatory identity of consumer milk.

What should concern processors

UV-C is promising, but it is not forgiving of poor engineering.

The first concern is uneven dose in opaque liquids. A system must demonstrate that the least-exposed zone receives the required dose. Computational fluid dynamics can help, but microbial challenge testing and biodosimetry remain essential.

The second concern is spores. Vegetative bacteria are generally easier to inactivate than bacterial spores. Depending on the target, UV-C may therefore need to be combined with mild heat, bactofugation, microfiltration or another hurdle rather than used alone.

Third is fouling. Protein and mineral deposits on tubing or lamp sleeves can reduce UV transmission and create shadowed zones. Hygienic design, validated CIP and continuous monitoring are therefore essential.

Fourth is regulation. The regulatory position for UV-treated dairy products varies by application and jurisdiction. Existing approvals for specific products or processes should not be interpreted as universal approval. Indian processors considering commercial deployment should engage FSSAI early and establish whether UV-C is being used as a processing aid, an additional safety hurdle or a replacement for a defined pasteurisation step.

Finally, claims must match evidence. “Non-thermal” does not mean risk-free; a “five-log reduction” is meaningful only when the organism, product, dose and test conditions are specified; and “higher yield” must be demonstrated through a complete mass balance.

Conclusion: A targeted opportunity, not a replacement for heat

UV-C is unlikely to replace thermal processing across India's dairy industry, and the technology should not be judged on that basis. Its more realistic opportunity lies in targeted applications where conventional microbial-control methods impose a quality, operational or economic penalty.

The experience with cheese brine, together with emerging research on whey, lactoferrin, colostrum and other sensitive dairy ingredients, suggests that UV-C could become increasingly relevant as the industry moves towards higher-value fractionation and functional ingredients.

The challenges remain significant. The optical complexity of dairy streams, dose uniformity, fouling, spore resistance, product-quality changes and regulatory requirements mean that performance cannot be assumed from water-treatment applications or laboratory results.

For Indian dairy processors, therefore, the question is not whether UV-C will replace pasteurisation, but where it can create value alongside existing technologies.

The technology is promising, but its future in dairy will ultimately depend less on the power of the lamp than on the precision of the process.

References are available upon request.

Rural Dairy Mart: The Last Mile Input and Service Delivery

By **Dr Thanammal Srinivasan Raju**, Kumaraguru Institutions


Dr Thanammal Srinivasan Raju

In under a year, ten farmer-run Rural Marts have reached more than 7,250 smallholder dairy farmers across Tamil Nadu. The model combines local access to quality inputs with advisory and veterinary services, while demonstrating the potential for a viable rural enterprise.

Ask a smallholder dairy farmer in rural Tamil Nadu what often stands between a healthy, high-yielding animal and one that merely gets by, and the answer may come down to access. India's dairy economy rests on the shoulders of roughly 80 million smallholder farmers, but quality cattle feed, mineral mixtures, veterinary care and reliable technical advice are not always available close to the farm, or at a price and frequency that farmers can easily manage.

When the right inputs and services are difficult to access, farmers tend to depend on what is locally available. This can affect animal health, milk productivity and ultimately household income.

Bridging this gap between scientific recommendations and what farmers can access locally is the idea behind the Rural Mart model.

Since September 2025, an initiative led by Kumaraguru Institutions, with support from the National Dairy Development Board (NDDB) and the Environmental Defense Fund (EDF), has established ten Rural Marts across seven regions of Tamil Nadu. In less than a year, the network has reached more than 7,250 farmers and recorded combined monthly turnover of over INR 24 lakh. Farmer footfall has also increased substantially during the period.

The underlying proposition is straightforward: improving dairy productivity requires more than knowledge. Farmers also need convenient access to quality inputs, services and practical advice. Rural Marts attempt to bring these elements together at the village level.

More Than a Feed Shop

A Rural Mart differs from a conventional input outlet by combining retail with services and advisory support. Each mart is operated by a trained local entrepreneur, creating a model in which farmers can access several requirements from a single, familiar point.

Inputs: Quality cattle feed, nutritional supplements, mineral mixtures and essential animal-health products are stocked locally, reducing the need for farmers to travel to distant towns.

Services: Doorstep delivery is offered, while equipment such as chaff cutters, cow mats and milking machines provides farmers with access to basic mechanisation.

Advisory: Entrepreneurs, supported by visiting experts, provide guidance on feeding, animal health and ways to improve milk productivity.

Training: Animal health camps and veterinarian-led sessions provide farmers with practical information on why particular interventions are required, rather than simply promoting a product.

This combination is important because the value of the model extends beyond a retail transaction. A farmer visiting to purchase feed may also seek advice about a sick calf, mineral supplementation or feeding a recently calved animal. Repeated interactions can gradually build trust and encourage farmers to adopt improved practices.

The model is particularly relevant for peri-urban dairy farmers, who may be geographically close to cities but

still have limited access to specialised dairy advisory services. Since Rural Mart entrepreneurs have themselves adopted several of the recommended practices on their farms, their advice is based on practical experience. This farmer-to-farmer credibility can help accelerate the adoption of new practices.

The Economics of a Rural Mart

The strongest case for the model may ultimately come from its economics.

Experience from the Pariyur Rural Mart in Erode indicates that the initial investment required to establish a mart can be relatively modest, potentially making the model suitable for government- or institution-supported rural entrepreneurship programmes.

An initial investment of approximately 7 lakh was sufficient to establish the Pariyur mart, including basic infrastructure and working capital.

Setting Up a Rural Mart	
Fixed assets (shop advance, laptop, printer, furniture)	₹2,00,000
Initial working capital	₹5,00,000
Total initial investment	₹7,00,000



Six months into operation, the mart recorded monthly revenue of 5,91,302 against monthly costs of 5,44,004. Product procurement accounted for the overwhelming share of expenditure at 5,34,731, while rent was 8,000 and electricity costs 1,273.

The resulting monthly surplus of 47,298 represents a margin of approximately 8–10%. While this is not a high-margin retail business, the figures demonstrate the potential for a viable rural enterprise, particularly as sales volumes increase.

The model also provides an opportunity to combine commercial activity with essential animal-health and advisory services at the local level.

"Farmers respond when quality inputs, fair pricing and genuine advice are available close to home, delivered by someone from their own community."

What Farmers Are Buying

The day-to-day operations of a Rural Mart also provide insights into farmers' purchasing behaviour.

Pariyur Rural Mart - Monthly Snapshot	
Total Monthly Revenue	₹5,91,302
Total Monthly Cost	₹5,44,004
Monthly Net Profit	₹47,298
Approx. Operating Margin	8-10%
Service Radius	5-7 km

High-volume products such as commercial pellet cattle feed, rice bran, cattle mash feed, wheat bran and cottonseed-based feed ingredients form the backbone of regular sales. Mineral mixtures, calcium supplements, animal-health products and dairy equipment typically move in smaller volumes but can contribute more significantly to margins. Demand for some of these products increases following veterinary camps and awareness programmes.

Several patterns have emerged:

- Farmers often prefer raw materials such as rice bran, broken wheat, broken rice and oilcakes because they are cheaper and allow them to formulate their own feed mixtures.
- Doorstep delivery can be an important factor, particularly for farmers who would otherwise need to travel to distant markets.
- Purchases are largely need-based and monthly, while

buying frequency can increase as farmers develop confidence in the service.

- Visible improvements in milk yield or animal health can encourage repeat purchases and farmer-to-farmer referrals.
- Price remains a major consideration. For example, when commercial feed prices increased from 1,300 to 1,500, sales volumes declined and some farmers changed brands.
- Recommendations from veterinarians and extension personnel often carry greater influence than direct product promotion.

These patterns suggest that the Rural Mart's role is not simply to make products available, but to help farmers make better purchasing and management decisions.

Taking Services Beyond the Counter

The Rural Mart model also extends beyond the shop. Entrepreneurs organise animal-health camps and product demonstrations in villages, creating opportunities to reach farmers who may not regularly visit the outlet.

More than 20 animal-health camps have been conducted across the network, alongside participation in events such as dairy conferences, startup programmes, agricultural exhibitions and Agri Intex 2026. A quarterly Rural Mart Business Development Meeting is also being used to coordinate activities and share learning across the network.

At the same time, entrepreneurs are being trained to strengthen their technical capabilities. Training has included the use of Rumen8 scientific feed-planning software, silage management, dairy equipment, and advanced dairy nutrition. Programmes have also involved organisations and experts with experience in dairy technology, equipment and sustainable agriculture.

This continuing capacity building is important because the entrepreneur behind a Rural Mart is expected to perform a role that goes beyond conventional retail. The objective is to develop a local last-mile resource for dairy farmers—one that combines access to products with practical knowledge and services.

If the model can maintain both farmer trust and commercial viability, Rural Marts could offer a scalable approach to strengthening the last mile of India's dairy input and service delivery system.

The Policy Case for Going National



Unlike a conventional input shop, a Rural Mart combines commercial activity with extension services, farmer advisory and community outreach. It functions as a village-level service centre, bringing together inputs, technical guidance and animal-health support that are often fragmented across conventional supply and extension channels.

The model also intersects with several existing policy priorities, including rural entrepreneurship and self-employment, strengthening of the dairy value chain, Farmer Producer Organisations (FPOs), livestock extension, climate-smart dairy development, and greater participation of women and youth in rural enterprises. Its relevance may be particularly strong in underserved rural and peri-urban areas where access to specialised dairy services remains limited.

The Tamil Nadu experience points to several potential levers for scaling the model:

- Capital support: Loan assistance of around 5 lakh per Rural Mart, potentially supported by a 30% subsidy under suitable entrepreneurship or rural livelihood schemes.
- Working capital support: Assistance of around 2 lakh during the initial establishment phase, when procurement and inventory requirements can be relatively high compared with early turnover.
- Scheme convergence: Linkages with Animal Husbandry and Dairy Development departments, the National Livestock Mission, FPO promotion initiatives and State Rural Livelihood Missions could help integrate Rural Marts with existing programmes.
- Entrepreneur capacity building: Two to three weeks of structured training covering business

management, dairy advisory, scientific feed planning and climate-smart livestock practices can help entrepreneurs deliver both commercial and extension services.

- Industry partnerships: Collaboration with dairy cooperatives, private dairy companies and input manufacturers could strengthen supply chains, improve product availability and potentially help stabilise input prices.
- Targeted replication: Priority could be given to peri-urban clusters and rural areas with high concentrations of dairy farmers but relatively limited access to organised input and advisory services.

What Scaling Would Take

The Rural Mart experience suggests that a relatively modest initial investment can support a rural enterprise that combines the sale of dairy inputs with advisory, animal-health and extension services. However, the case for wider replication should be built not only on turnover and farmer reach, but also on independently verifiable profitability and operating performance.

Across the ten marts, farmer reach has reportedly increased four-fold within five months, while average monthly turnover per mart is currently in the range of 4–6 lakh. Reported net margins across the marts are around 8–10%.

The experience also points to a consistent behavioural pattern: farmers are more likely to adopt and continue using products and practices when quality inputs, fair pricing and credible advice are available close to their farms and are delivered by a trusted member of the local community.

As the model expands beyond Tamil Nadu, maintaining this local and farmer-oriented character will be as important as achieving scale. At the same time, systematic collection of data on operating costs, margins, farmer retention, service utilisation and productivity outcomes will be essential.

If these indicators continue to demonstrate commercial viability and measurable benefits for farmers, the Rural Mart model could offer a practical framework for strengthening the last mile of dairy input and service delivery. Its larger potential lies not simply in creating more retail outlets, but in developing locally anchored service centres that connect farmers with quality inputs, knowledge, technology and animal-health support.



Regulatory action against analogue paneer gathers momentum

India is moving toward much stricter control of analogue paneer—products made partly or entirely with vegetable fat but sold as conventional dairy paneer. Maharashtra has imposed a one-year prohibition, while FSSAI is reportedly considering a national restriction. Investigations found restaurants, caterers and other businesses substituting analogue products without informing customers, turning a labelling issue into a wider food-authenticity matter. India's paneer market is estimated at approximately 1 lakh crore, but around 94% remains unorganised. Effective enforcement could allow organised companies to capture more of the category. Zomato has also directed partners to remove dishes declared as containing analogue dairy products, extending pressure into foodservice. The shift should increase demand for genuine milk fat and protein while benefiting organised processors, laboratories and traceability providers. The crucial challenge is implementation: regulators need rapid fat-composition screening, consistent sampling and enforcement covering wholesalers and restaurants, not merely packaged manufacturers. Genuine paneer costs more, so the transition could also increase foodservice prices.

Reliance launches Bombay Creamery with ₹10 ice creams

Reliance Consumer Products has entered India's ice-cream category through Bombay Creamery, offering cups, cones, bars, sticks and tubs beginning at 10. The brand launched in western India and is expected to expand nationally. The development could reshape competition because Reliance brings significant financial resources, retail access and distribution capability. Its approach resembles the strategy used with Campa beverages: aggressive pricing, rapid outlet penetration and use of a wider consumer ecosystem. Bombay Creamery will compete with Amul, Mother Dairy, Vadilal, Kwality Wall's, Havmor and Hatsun's Arun Icecreams in an organised market estimated at approximately 18,000 crore. The 10 proposition could expand consumption and purchase frequency, while competitors may respond with smaller packs, promotions and freezer investment. A national rollout would have upstream consequences through demand for milk fat, skimmed-milk powder, sugar, inclusions and frozen distribution. Reliance has the capacity to alter pricing expectations and retail economics across both dairy ice cream and the wider frozen-dessert category.

Milky Mist IPO establishes a new dairy valuation benchmark

Milky Mist Dairy Food made a strong market debut on 18 August, with its shares rising approximately 30% and its valuation approaching $1.5 billion. The company raised around $163 million. The listing is significant because Milky Mist is built around value-added products rather than commoditised pouch milk. Paneer, cheese, curd, yoghurt, butter, ice cream and UHT products form the core portfolio. Proceeds will reduce debt, expand the Perundurai facility and install more retail cooling equipment. The company sources over 85% of its milk directly from roughly 74,654 farmers and procured about 294 million litres in FY2026. It subsequently reported quarterly revenue of 973.45 crore, up about 44%, and net profit near 65 crore. Paneer, cheese and curd contribute more than 60% of revenue. The IPO establishes a visible valuation benchmark for integrated value-added dairy and could encourage other regional processors to seek institutional capital. Milky Mist must now sustain growth, expand geographically and manage volatile milk costs against much larger cooperative and corporate competitors.

White Revolution 2.0 expands cooperative coverage

The central government has reported substantial progress under White Revolution 2.0. Approximately 24,097 new dairy cooperative societies have been formed, while 31,394 existing societies have been strengthened. The programme ultimately targets 75,000 new societies and reinforcement of 46,422 existing organisations, with priority for villages currently outside organised procurement. It aims to increase cooperative milk procurement by 50% over five years. Supporting infrastructure can include automated collection, testing equipment, bulk milk coolers and connections to milk routes. If executed effectively, the programme could materially change organised sourcing in underpenetrated regions by providing farmers with transparent fat and SNF testing, direct payments and dependable buyers. Implementation quality will be more important than the registration count. New organisations require governance, working capital, trained personnel, reliable testing and viable routes; without these, many could remain inactive. Private dairies may face greater procurement competition but could also benefit from improved milk quality, chilling infrastructure and productivity across newly organised milk sheds.

Rajasthan commissions major cooperative dairy infrastructure

Rajasthan has launched a substantial package of cooperative and rural-development investments, including milk-processing and cattle-feed capacity. A Saras Dairy plant is being developed at Alwar with an initial capacity of 300,000 litres per day, expandable to 500,000 litres. Four additional Saras plants in Bhilwara, Jaipur, Pali and Rajsamand have been commissioned at a combined cost of approximately 274 crore. The wider programme across 17 districts exceeds 6,400 crore, though it includes non-dairy projects. The dairy investments are strategically important for a state with a large bovine population and considerable marketable surplus but uneven organised procurement. Additional capacity could reduce dependence on informal traders and create more stable farmer outlets. Cattle-feed plants may address productivity constraints alongside processing expansion. Commercial success will depend on securing milk volumes and building markets for value-added products. Competition among Saras, private dairies and neighbouring cooperatives is likely to intensify. The facilities could also strengthen Rajasthan's ability to supply powder, ghee and long-life products to deficit regions and institutions.

FSSAI proposes front-of-pack warning labels

FSSAI has proposed prominent front-of-pack warning labels for packaged foods high in sugar, salt or saturated fat. The system would use declarations such as 'HIGH SUGAR', 'HIGH SALT' and 'HIGH FAT'. It could affect flavoured milk, ice cream, dairy beverages, processed cheese, sweets and several yoghurt categories. Single-ingredient foods may receive different treatment, but final thresholds and scope will determine the impact. Large companies have previously favoured interpretive ratings rather than direct warnings, while public-health groups argue warnings are easier to understand. Dairy businesses may need to reformulate, reduce serving sizes or reposition indulgent products. Children-oriented flavoured products could be particularly affected. The proposal may accelerate reduced-sugar yoghurt, high-protein beverages and portion-controlled ice cream, but reformulation is technically difficult because sugar and fat determine texture, stability and flavour as well as nutrition. The final nutrient thresholds, exemptions and transition period will therefore be watched closely across dairy and packaged food.

CONCURRENT DAIRY EVENTS

scheduled along with 10th edition of
Dairy Industry Expo, 16-18 October
at The Ramkrishna Lawns, Kolhapur

10th edition
Dairy INDUSTRY EXPO 2026
The Farming & Processing Event

Friday, 16th October

Dairy Pathshala | Increasing productivity

12.00 PM – 2.00 PM

- Reducing Infertility & Improving Conception Rates in Dairy Herds
- Disease Prevention & Management – Role of Ethno-Veterinary Medicine (EVM)

Saturday, 17th October

Dairy Manch

11.00 AM – 1.30 PM

Roundtable with 15 leaders representing the dairy value chain

- Understanding the Factors Driving Milk Inflation
- Buffalo led white revolution 2.0
- Way Forward: Dairy Expert

Dairy Pathshala | Reducing Cost of Production

2.30 PM – 4.30 PM

- Feed, Fodder & Silage Strategies for Better Profitability
- Rural Mart – Blinkit for Dairy
  Exploring new models for delivering essential products, inputs and services to dairy farmers

Sunday, 18th October

Dairy Pathshala | Capturing Extra Margins

11.00 AM – 1.00 PM

- Innovation customised for Indian dairy sector

Organizer

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DAIRY TECHNOLOGIST FORUM DTF REGISTERED

Kolhapur Refrigeration & Air Conditioning Association

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dairy dimension

Conference Registration

Visitor Registration

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Lactalis moves to acquire Saputo's UK dairy business

Lactalis has agreed to acquire Saputo's UK dairy division in a transaction valuing the business at approximately £988 million. The acquisition includes five manufacturing facilities and major British brands such as Cathedral City, Davidstow, Wensleydale Creamery, Country Life, Clover and Utterly Butterly. The business employs approximately 1,300 people and generates around €800 million in annual revenue, with 94% of sales originating in the United Kingdom. Subject to regulatory approval, the transaction is expected to close by the end of the first quarter of 2027. The deal will make Lactalis a leading participant in Britain's cheddar, butter and spreads markets. Saputo is exiting the UK to concentrate resources on markets where it believes it has stronger positions. For British milk suppliers, the acquisition raises questions about future procurement, factory utilisation and Lactalis's negotiating power with retailers. It is another major step in global consolidation as leading dairies concentrate capital in branded cheese and value-added categories.

Global dairy prices stabilise as protein demand offsets supply growth

The international dairy market has shown signs of stabilisation after earlier weakness. The Global Dairy Trade index increased 2.3% at the 18 August auction, followed by another positive result on 1 September. Skimmed-milk powder was among the strongest products, while butter, anhydrous milk fat and cheddar remained comparatively weak. The divergence indicates that the recovery is being driven primarily by proteins and powders rather than a broad improvement across commodities. Strong demand for skimmed-milk powder, lactose and mozzarella has helped absorb rising seasonal volumes, but ample milk-fat availability continues to constrain butter. Supply remains the main downside risk: milk production is expanding in the United States, European Union and New Zealand. The market is balanced between abundant near-term supply and longer-term concerns about weather, El Niño and disrupted shipping. Exporters may see sharply different returns according to product mix. Importers, including India, may encounter selective buying opportunities rather than uniformly favourable prices.

Falling British milk production raises supply concerns

Great Britain's milk deliveries declined by an estimated 3.2% year-on-year in July, with monthly production falling to approximately 1.03 billion litres. Deliveries during April–July were around 2% below the previous year. The contraction is linked to heat stress, drought and deteriorating farm economics. The milk-to-feed price ratio has weakened, indicating that milk prices are not keeping pace with production costs. Elevated energy, feed and fertiliser expenses add pressure. Bluetongue has also become established in parts of western England and can reduce fertility and production in affected herds. The decline matters as processing concentration increases through major European mergers and acquisitions. Cheese and butter manufacturers may need stronger contractual incentives to protect factory utilisation. Lower British supply could raise import requirements from continental Europe and Ireland, although stronger production elsewhere may partly offset the shortage. Farmgate-price responses will determine whether this remains a temporary weather-related contraction or becomes a persistent supply correction.

Arla reports strong results as protein demand accelerates

Arla Foods reported group revenue of €7.6 billion for the first half of 2026, while net profit increased to €213 million from €158 million a year earlier. Volume-driven revenue from strategic brands grew 6.7% as consumer demand improved alongside normalising retail prices. Protein-rich products—including skyr, cottage cheese, protein beverages and specialised ingredients—were a central growth driver. This helped compensate for weaker commodity prices and a lower performance price paid for milk. Arla has raised its full-year revenue expectations after merging with Germany's DMK Group. The enlarged cooperative is owned by more than 11,000 farmers across seven countries and has greater milk-pooling and manufacturing flexibility. The results reinforce the move toward nutrition, functionality and convenient protein consumption, supported by fitness, healthy-ageing and weight-management trends. For processors, the strategic message is that fractionation, whey utilisation and nutritional ingredients are becoming more important sources of value while commodity products remain exposed to oversupply and narrower margins.

US milk-price outlook lowered despite slower productivity growth

The US Department of Agriculture maintained its 2026 milk-production forecast at 236.6 billion pounds. A larger expected dairy-cow inventory is compensating for weaker milk yield per cow, leaving total output broadly unchanged. For 2027, USDA reduced its forecast slightly to 238 billion pounds as productivity is expected to grow more slowly. USDA also lowered the projected all-milk price by 15 cents to $19.85 per hundredweight for 2026 and by five cents to $19.80 for 2027. The outlook matters for global skimmed-milk powder, whey, lactose and cheese markets. US processors have added substantial cheese and ingredient capacity, increasing the volume that may need to be placed into export channels. Competitive US prices could challenge European and New Zealand suppliers in Southeast Asia, Latin America and the Middle East. For farmers, softer milk prices combined with elevated feed, labour and financing costs could eventually slow herd expansion. The immediate signal, however, remains one of sufficient milk supply and constrained commodity-price upside.

A2 Milk profit drops as China infant-formula business struggles

New Zealand's a2 Milk Company reported a 44% fall in attributable annual profit to NZ$113.6 million, missing expectations and issuing a cautious FY2027 outlook. The principal weakness came from China-label infant milk formula, where revenue declined 14% to NZ$544.3 million. Supply disruption, production backlogs and high freight costs affected availability. Although inventory has improved, the company expects consequences to continue into the new year. China remains the world's most commercially important infant-formula market, but declining births, intense domestic competition and strict registration requirements already challenge international suppliers. A2 Milk's wider China and Asia revenue increased through English-label products, but not enough to prevent the profit decline. The company plans more marketing and reduced dependence on China-label formula. The results underline the risks of reliance on one geography, regulatory system and manufacturing route. Dairy-nutrition companies are

likely to diversify further into adult nutrition, healthy ageing and other Asian markets as conventional Chinese infant-formula growth becomes less predictable.

New Zealand milk production reaches another winter record

New Zealand milk collections increased 7.9% year-on-year in July to approximately 30.3 million kilograms of milk solids. It was the third consecutive July record, although winter is a low-volume period because much of the herd is dry. Combined June and July collections were 6.8% higher. Improved weather, favourable soil moisture, increased cow numbers and productivity contributed. Forecasts also point to growth during August, September and October. The additional supply matters because New Zealand is the dominant exporter of whole-milk powder and a major supplier of butter, skimmed-milk powder and cheese. Higher spring production could weigh on prices if import demand—particularly from China and Southeast Asia—fails to keep pace. Weather remains the main uncertainty: a potentially severe El Niño could reduce pasture growth later in the season. For processors, stronger collection improves factory utilisation but increases the volume that must be sold internationally. The interaction between New Zealand supply, Chinese demand and US and EU production will be central to late-2026 prices.

Europe's Heatwave Triggers Feed Shortages and Dairy Pressure

Europe's record-breaking summer heat has damaged pastures, increased livestock feeding costs and raised concerns about milk production across major dairy regions. Farmers in Ireland, France and the United Kingdom are reporting reduced grass availability, weaker animal productivity and growing pressure on winter feed reserves.

Ireland experienced its driest July on record, while the United Kingdom recorded its hottest summer. France also faced one of its longest and most intense heatwaves. Across France, Germany, Spain and Ireland, grass growth slowed sharply, disrupting normal summer grazing cycles.

Reduced grass and forage availability is increasing demand for purchased feed. Corn prices in Paris have reached a three-year high amid concerns over a weak European harvest and uncertainty surrounding Black Sea grain supplies. The European Commission expects green corn yields to be around 12% below the five-year average, while soybean yields are projected to decline by approximately 14%. The European feed industry estimates that Europe may require an additional 7 million tonnes of corn imports this year.

The shortage extends beyond corn and soybeans. Heat damage has also affected alfalfa and sugar beet production, reducing the availability of by-products commonly used in animal feed. With fewer processing residues available, livestock farmers may increasingly compete for a smaller pool of feed ingredients.

Feed shortages are already affecting milk output. In France, grass growth has reportedly fallen by around 50%, while some dairy farms have experienced production declines of approximately 30%. Heat stress can reduce feed intake, fertility and milk yields. When suitable forage is unavailable, farmers must either purchase expensive supplementary feed or reduce herd sizes to protect remaining fodder supplies.

Some farmers are already making difficult decisions ahead of winter. In Dorset, England, reports indicate that certain producers have begun culling cows because of uncertainty over future feed availability. Such herd reductions could contribute to tighter milk supplies across Europe. Meanwhile, the FAO global dairy price index increased by 2.3% in August after four consecutive months of decline.

Europe's rising import requirements are emerging at a difficult time. Disruptions to the Black Sea grain export corridor amid escalating Russia-Ukraine tensions threaten Ukrainian grain availability and add pressure to an already limited European harvest. Lower domestic production, higher import demand and uncertain grain flows have contributed to higher Paris corn prices. If imports are delayed or restricted, feed costs could remain elevated for longer.

Ireland has traditionally relied on hay and alfalfa imports from countries such as France when domestic supplies were limited. However, shortages across several European regions simultaneously are making this option less reliable.

The outlook will depend on pasture recovery, European harvest results, Black Sea export flows, global corn and soybean availability, herd reductions and consumer demand. Europe's heatwave has therefore become more than a temporary farming challenge, exposing vulnerabilities in regional feed systems and potentially influencing dairy production, commodity prices and food costs well into the coming year.

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