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## 20 YEARS: THE EVOLUTION OF ANIMAL PROTEIN PRODUCTION SYSTEMS IN BRAZIL AND WORLDWIDE

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# BRAZIL AT THE CENTER OF THE GLOBAL PROTEIN CONVERSATION

January sets the tone for the year ahead. It is a month of planning, strategic decisions and, above all, global connection. For the animal protein industry, there is no better stage for this dialogue than the International Production & Processing Expo (IPPE), one of the world's most relevant meeting points for leaders, companies and innovators shaping the future of food production.

In 2025, Brazil reached a historic milestone by surpassing the United States to become the world's largest beef producer. This achievement goes far beyond volume. It reflects decades of investment in technology, genetics, nutrition, management, sustainability and efficiency across the entire production chain and reinforces Brazil's role as a key reference in global animal protein production.

This leadership is not limited to beef. Brazil stands out as a strategic player across poultry, swine and aquaculture, combining scale with innovation and an increasingly global mindset. In a world facing growing demand, stricter requirements and complex challenges related to food security and sustainability, Brazil's experience and solutions are part of the global conversation.

IPPE represents exactly this moment of convergence. It is where markets connect, partnerships are built and the future of animal protein is discussed with a global perspective. Being present here is not only about showcasing products or technologies, but about reinforcing positioning, credibility and long-term commitment to the evolution of the industry.

In this special English-language edition of Feed&Food, distributed at IPPE in Atlanta, we bring insights, perspectives and stories that reflect the dynamics of the global protein market, highlighting Brazil's role and its dialogue with the world. Our commitment remains the same: to be a trusted platform for information, connection and strategic thinking among those who lead and transform animal protein production worldwide.

We wish you a productive IPPE and a successful start to the year. ■

**Diogo Ciasulli**  
CEO



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Mayra Theis and Fabio Pereira

## BRAZILIAN AGRIBUSINESS ON THE GLOBAL CLIMATE AGENDA

**C**OP30 in Belém placed Brazilian agribusiness at the center of the global debate on how to produce more and better under climate and regulatory pressure. On a stage where food security, clean energy, and environmental integrity are no longer separate agendas but part of the same conversation, Brazil presented a narrative that it is possible to combine scale, efficiency, and conservation. Brazil, which produces sustainably and exports to every continent on the globe, has benefited from the action agenda for the agribusiness of the future, signaling a cycle in which climate risk management and energy transition are components of competitiveness.

Three fronts of COP-30 can be considered in relation to agribusiness. The first is that of targets and instruments that affect agrifood systems, with commitments to adaptation, reduction of emissions in production and land use, and requirements for traceability and zero illegal deforestation in export chains. The second is financing, with progress in the discussion of financial resources and incentives for low-carbon agricultures and resilience in the fields. The third is markets, in which large importers are moving toward requiring standardized evidence of climate, water, and biodiversity performance, a window for those who can prove their performance, and a barrier for those who are not ready.

The event also served as a showcase for solutions that are already working and are established practices in Brazil, such as integrated crop, livestock, and forestry (ICLF) systems, compliance with the Forest Code, and the bioeconomy, which were presented as scalable proofs of concept. The combination of science applied by Embrapa and universities, public policies such as the ABC+ Plan, and partnerships with the private sector pointed to a pragmatic path of implementation.

At the heart of the agenda is the ability of agribusiness to manage physical risks – drought, extreme heat, heavy rain events – with technology and management. In this scenario, integrated systems for production, soil and water management, precision agriculture, and crop rotation reduce exposure, increase productivity, and capture carbon in the process. The expansion of ICLFS has proven to be and ex-

ample of resilience and sustainable intensification, with gains in soil management and health, animal welfare, and methane reduction per unit produced. In parallel, rural insurance, a climate data platform and early warnings are beginning to migrate from pilots to scale operation.

The energy transition is also part of agribusiness and has made progress, through first- and second-generation ethanol, biodiesel, biogas/biomethane from livestock and agro-industrial waste, bioelectricity and SAF (sustainable aviation fuel) make up a portfolio with a Brazilian comparative advantage. Policies such as *RenovaBio*, combined with sectoral targets for SAF and biomethane, can position the country as a global supplier of low-carbon molecules. For industry and cooperatives, the economic equation improves by capturing energy revenues, reducing fuel and fertilizer costs, and monetizing carbon credits with integrity.

None of this is possible without funding and qualified personnel. COP30 reinforced that robust MRV (monitoring, reporting, and verification) projects are the lingua franca of capital: there is no cheap money without reliable data. The green credit pipeline for producers and agribusinesses tends to grow as value chains adopt end-to-end traceability and decarbonization goals. At the same time, human capital and digital technology with AI (artificial intelligence) become levers: agronomic decision-making platforms, sensors, satellite images, and AI models reduce production risk, prove compliance, and unlock financing.

Brazil has the credentials to lead this agenda, is a major exporter of food, fiber, and bioenergy, has one of the cleanest and most renewable energy matrices among major economies, has accumulated decades of expertise in biofuels and built world-class scientific capacity in tropical climates. Leadership, however, will be tested in the ability to execute and define priorities that benefit society and the country.

Competitiveness continues to be driven by productivity with profitability and sustainability, added to proven climate performance. Governance aligned with portfolio and investments will be a differentiator in accessing new markets and capital. ■



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Brasil and leader of  
Agribusiness

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Director of PwC  
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# REGINALDO QUALIFYING

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## GREATER PROFITABILITY WITH LESS IMPACT: HOW THE INTEGRATION OF TECHNOLOGY, GENETICS, AND MANAGEMENT IS BUILDING THE FUTURE OF THE SECTOR

We ended 2025 with major advances in high-performance livestock farming. We achieved significant progress with the implementation of the Beef on Dairy project in Brazil, yielding extremely positive results. These benefits extend beyond the project itself to include a cluster of advantages for livestock farmers, such as improved sustainability, integration into low-carbon livestock protocols, animal welfare applications, and a notable reduction in calf mortality in the dairy sector. These efforts support high-performance livestock farming in Brazil, increasingly transforming it into a showcase for global agribusiness and delivering higher quality products and better results.

When we combine the ability to produce with the performance of methods and processes, we achieve even greater results to promote continuous improvement. Combining technology with production methods is a formula for success. Genetic improvement, management adjustments, adoption of best practices, and careful choices – all of these factors together drive gains across the entire chain.

The Beef on Dairy project has positioned itself very well in a scenario where, by combining methods and processes ranging from management and genetic planning to the most appropriate nutritional compound to be administered to calves and also to the herd, we deliver a product with high levels of quality and sustainability to the market. Calls for organic and sustainable products have been a global maxim of market demand.

We favor the adoption of hydroponic green forage consumption for calves less than 15 days old, which is highly accepted due to its palatability, and we have observed high rates of weight gain without the occurrence of diarrhea or complications that could hinder re-

sults – we had calves that were born with an average weight of 50-60 kg and reached 150-160 kg in 90 days – yes, effective results achieved!

**We understand that the result you are not getting is linked to the decision you are not making!** Deciding to adopt a protocol to implement this productive concept on your property is a decision that can significantly alter the trajectory of your results. The FTAI (Fixed-Time Artificial Insemination) you already use will be the same – perhaps with a few minor adjustments – the veterinarian and zootechnician who serve you will be the same, the semen supplier may also remain the same... What changes is the decision to take the initiative to make it different, better, and planned, transforming your liabilities into assets when selecting the genetics to be applied to your herd – this is the proposal of Beef on Dairy. After the 9 months of gestation, we will reap the results of this decision and move towards a new horizon of results. In the meantime, we will ensure that your animals receive proper and adequate nutritional monitoring so that the results throughout the gestation period and thereafter are even better. When it comes to nutrition, it is possible to reduce your costs by around 45% and improve protein delivery results to above 18% and TDN (Total Digestible Nutrients) above 85% with direct and indirect costs well below traditional methods – and **HOW** this is done is through the application of technology and **DECISION-MAKING**.

At Ecco2, we have multidisciplinary skills that integrate projects of this nature into your productive environment, promoting total integration between the chain of professionals working on your property and those outside it, adjusting the focus of results so that your gains reach significant levels for your property – contact us so we can contribute to your decision-making! [reginaldo@ecco2.com.br](mailto:reginaldo@ecco2.com.br). ■



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Executive Manager in Agribusiness projects, lecturer, Specialist in High Performance Livestock and Land Regularization Management at Ecco2 Business Management

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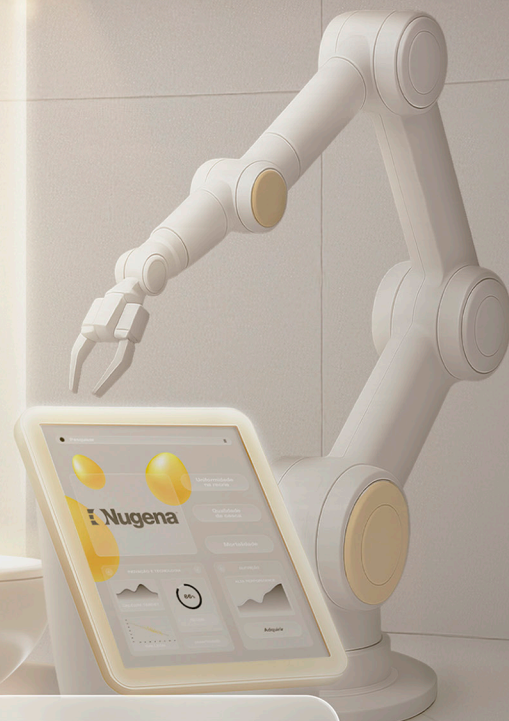


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## ▶ Ariovaldo Zani

Ariovaldo Zani, veterinarian, CEO of Sindirações; President of the Chamber of Sustainability and Animal Welfare/ABPA; President of the Advisory Council for Agricultural Inputs and Extractive Industry SENAI SP; Member of the State Agribusiness Commission of the Regional Council of Veterinary Medicine CRMVSP

# WITHOUT (ANIMAL) FEED THERE IS NO (ANIMAL) PROTEIN

From January to September, the Brazilian animal feed industry produced 66.5 million tons of feed, a 2.0% increase over the same period in 2024, while the forecast is to total almost 90 million tons (excluding mineral supplements) during 2025 and to advance 2.8% over last year's figures.

Broiler farming required 28 million tons of feed through September and remained stable despite the health embargoes linked to avian influenza. Projections of the Brazilian Animal Protein Association/ABPA indicate production of over 15 million tons of chicken meat during the current year, leveraged by increased domestic demand (estimated at 47.8 kg/inhabitant/year), even in the face of relatively stable exports scenario. The forecast is to account for 37.9 million tons of feed for broiler chickens by the end of this year.

In the commercial egg sector, preliminary data from the Brazilian Institute of Geography and Statistics (IBGE) point to a 2.8% increase in egg production, when comparing the 3rd quarter of this year and last year. The accumulated demand for feed reached 5.6 million tons between January and September, reflecting a structural increase in domestic consumption of this protein. The perspective is to add up to something around 7.4 million tons of feed for layers by the end of this year.

From January to September, pig farming required 16.4 million tons of feed, an amount that follows the increase in slaughter of finished pigs throughout the year. According to the Brazilian Association of Pig Breeders/ABCS, even in the face of the significant increase in exports, the small domestic oversupply of pork contributed to the stability in the prices of the live animal. The ex-

pectation is to account for 22 million tons of pig feed by the end of the year.

In dairy farming, formal milk production increased by 8% in the period (comparison between the nine months in 2025 and 2024), driven by favorable environmental conditions, higher dry matter supply and relative stability of operating costs (fed, roughage, and labor). The sector, however, remains in a process of restructuring, with technological intensification and production concentration in larger-scale, more efficient systems. However, it is important to note that the increase in supply occurs in an environment of stagnant domestic demand and increased competition from dairy imports. It is estimated that 5.6 million tons of feed were produced by September of this year, and the forecast is to account for 7.3 million in 2025.

According to the Center for Advanced Studies in Applied Economics/CEPEA, the supply of animals for slaughter and the domestic availability of beef remain high, although modulated by consumption restrictions resulting from the erosion of purchasing power and price recovery influenced by strong export flow. The production of feed for beef cattle totaled 5.3 million tons until September.

The more affordable replacement scenario, reduction in feed and concentrate costs, lower supply of finished animals, and greater stability in arroba prices, contribute to an improvement in the net margin of feedlots, especially in the second annual turnover. The expectation is to exceed 7.7 million tons by the end of the year.

Aquaculture demanded approximately 1.3 million tons of feed from January to September. It is important to note that, during the current

year, several factors have hampered the performance of industrial fish farming - especially tilapia production - among them, the high tariffs on exports to the United States, imports from Vietnam, and, curiously, the list of invasive species drawn up by the Ministry of the Environment. In the case of shrimp farming, the increase in production was due to the establishment of large farms, the use of automatic feeders, aeration with improved comfort and appetite, and lower stocking densities that accelerated growth and the survival rate. This combination increases productivity per area and time, that is, more kilos per hectare each year. The expectation is to reach approximately 1.9 million tons in 2025.

From January to September, dogs and cats consumed around 3 million tons of processed food, while by December this figure is expected to reach about 4 million tons. Of this amount, approximately 80% is destined to dogs, 19% to cats and 1% to ornamental birds and fish, reptiles, and small mammals, according to data provided by the Brazilian Association of Pet Industry Companies/ABEMPET.

The animal protein chain maintains a high level of systemic resilience, supported by gains in zootechnical efficiency, nutritional standardization, and advances in production technologies. And, despite the tariff barriers recently imposed by foreign markets, our industrial park preserves export competitiveness and operational robustness.

The consolidation of precision nutrition and intensive production systems reinforces technical predictability, economic efficiency, and the country's strategic position in the global animal protein scenario. ■

# FEED&FOOD: 20 YEARS CONNECTING THE GLOBAL ANIMAL PROTEIN INDUSTRY

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# DEVELOPING INNOVATIVE VETERINARY PRODUCTS

**ABIQUIFI HOSTED AN ANIMAL HEALTH WEBINAR WITH OVER 260 PARTICIPANTS** AND THE PRESENCE OF THE MINISTRY OF AGRICULTURE AND LIVESTOCK. THE ASSOCIATION WILL ALSO LEAD A BRAZILIAN DELEGATION TO THE GLOBAL INTERNATIONAL PRODUCTION & PROCESSING EXPO (IPPE) IN THE UNITED STATES

**B**razil, an undisputed powerhouse in global agribusiness, has consolidated its position not only in food production but also in the development of innovative solutions for animal health. The Brazilian veterinary industry faces the challenge of harmonizing innovation with complex global regulatory requirements to remain competitive and expand its presence in international markets.

In this scenario, initiatives designed to promote knowledge exchange and international visibility become crucial. A good example is the webinar “Developing Innovative Veterinary Products: Managing Complex Stages and Regulatory Challenges,” organized by Abiquifi in partnership with its member company ACI Brasil in early December 2025. This was a successful and

well-attended webinar that attracted 268 participants from 187 public and private institutions, with notable participation from the Ministry of Agriculture and Livestock (MAPA).

The webinar’s primary purpose was to highlight the essential stages and challenges involved in developing innovative veterinary products in Brazil to facilitate their trade in global markets. This discussion is directly linked to the importance of Brazil’s participation in the International Production & Processing Expo (IPPE) 2026 in Atlanta, United States, as a strategic platform to showcase the sector.

The development of innovative veterinary products requires meticulous planning, beginning with a clear definition of the product and a market assessment aligned with MAPA for

global expansion. Ensuring the quality of the final product through adherence to the International Cooperation on Harmonizations of Technical Requirements for Registration of Veterinary Medicinal Products (VICH) guidelines is essential to facilitate international regulatory approvals. In addition, conducting multicenter efficacy and safety studies under Good Clinical Practices is critical to achieving global recognition.

Pharmaceutical equivalence of new products is also crucial for competitiveness in regulated markets. Furthermore, innovation must align with commercial strategies that leverage Brazil’s potential both to achieve lower development costs and to meet international quality standards, in order to position the country as a global benchmark in animal health.

The relevance of the webinar ex-



tends beyond the event itself and is evident in the internationalization agenda Brazil has been advancing. The discussions and knowledge shared are an integral part of a broader effort that includes the Abiquifi's "Radical Innovation Program" and the "Brazilian Pharma & Health Project," carried out in partnership with ApexBrasil — both aimed at projecting Brazilian animal health onto the global stage. In this context, IPPE 2026 emerges as a key event on this calendar — the decisive "stamp" to consolidate the "Brazil brand" and showcase the potential of our sector.

THE DISCUSSIONS AND KNOWLEDGE SHARED ARE AN INTEGRAL PART OF A BROADER EFFORT THAT INCLUDES THE ABIQUIFI'S "RADICAL INNOVATION PROGRAM" AND THE "BRAZILIAN PHARMA & HEALTH PROJECT," CARRIED OUT IN PARTNERSHIP WITH APEXBRASIL — BOTH AIMED AT PROJECTING BRAZILIAN ANIMAL HEALTH ONTO THE GLOBAL STAGE

## BRAZILIAN ANIMAL HEALTH FOR THE WORLD

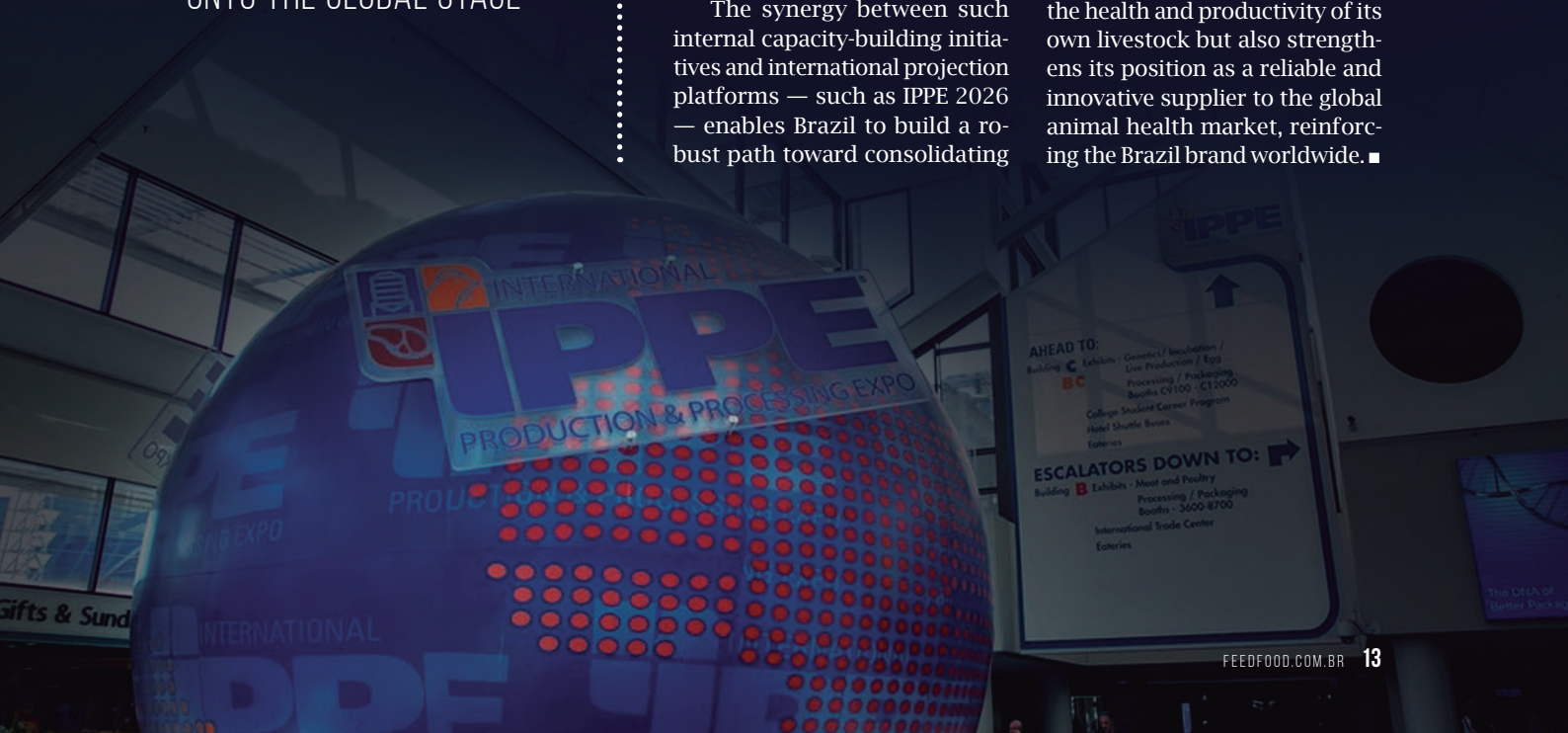
**THE PROGRAM** of the Brazilian delegation will reflect the country's internationalization strategy at IPPE 2026. It will feature an unprecedented technical event designed to explore the role that innovation, regulatory compliance, and industrial strengthening play in positioning Brazilian products in global markets. It will also echo the need for international quality standards and competitiveness — both topics extensively discussed during the webinar hosted by Abiquifi in December.

The unprecedented nature of the event to be organized by Abiquifi and ApexBrasil lies both in its exclusive format — as it is intended solely for the Brazilian delegation — and in the quality of its topics and of invited speakers, notably featuring MAPA, represented by Marcelo Mota, Director of the Department of Animal Health at the Secretariat of Agricultural Defense, Eliana Dea Lara Costa, Coordinator for Animal Health Integration, and Ana Lucia de Paula Viana, Agricultural Attaché of the Ministry in the United States.

The synergy between such internal capacity-building initiatives and international projection platforms — such as IPPE 2026 — enables Brazil to build a robust path toward consolidating

itself as a benchmark in animal health. These efforts show a clear commitment not only to producing and globally showcasing veterinary products that stand for efficacy, safety, and quality, but also to innovation and adherence to the highest regulatory standards. There is no doubt that the country has the capacity to become a global innovation hub by leveraging its competitive advantages and continuously enhancing its value chain.

The future of Brazilian animal health on the international stage is promising. Its essential pillars include engaging with international standards such as VICH, closely collaborating with the Ministry of Agriculture and Livestock, and continually driving innovation, together with a well-defined strategy to internationalize the sector with initiatives such as the Brazilian Pharma & Health Project and active participation in global trade shows like the IPPE. Through continued investments in these areas, Brazil not only safeguards the health and productivity of its own livestock but also strengthens its position as a reliable and innovative supplier to the global animal health market, reinforcing the Brazil brand worldwide. ■





# PRACTICAL SALMONELLA CONTROL: INTEGRATED PROGRAMS OUTPERFORM ISOLATED ACTIONS

ANA PAULA PEREIRA

**S**almonella control in poultry production is still, in many systems, based on isolated interventions applied only during periods of increased sanitary pressure. Although such measures may produce immediate effects, they are rarely sufficient to consistently reduce infection pressure throughout the production cycle within integrated operations.

Practical experience demonstrates that *Salmonella* persists within production systems primarily through two main routes: ingestion of the pathogen via contaminated feed and exposure to a contaminated environment, particularly litter. When only one of these routes is addressed, the pathogen can exploit alternative pathways, enabling its persistence and reestablishment in subsequent flocks. Therefore, integrated control programs provide more stable and predictable outcomes than stand-alone solutions.

The environment represents the first link in the contamination chain. During the increasingly shortened downtime between flocks, factors such as excessive litter moisture, high organic load, and the presence of mechanical vectors favor the survival and dissemination of Enterobacteriaceae. Environmental control

strategies based on physical interventions can reduce these risk factors without inducing microbiological resistance, thereby lowering the initial sanitary challenge faced by poultry at placement.

Once poultry are housed, the primary focus shifts to maintaining and improving intestinal health. Intestinal colonization by *Salmonella*, most notably in the ceca, is directly associated with microbiota balance and gastrointestinal pH. Intestinal environments characterized by elevated pH favor pathogen proliferation and increase fecal shedding, which in turn perpetuates contamination within the production system.

In this context, strategies aimed at acidifying the digestive tract become essential. The use of unbuffered organic acids, strategically protected with functional fats that also exert antimicrobial activity, allows action across different intestinal segments. This approach reduces pathogen viability while supporting beneficial microorganisms. The practical outcome is a reduction in infection pressure, accompanied by improvements in intestinal integrity, flock uniformity, and zootechnical performance.

In parallel, drinking water plays a strategic role in sanitary control. Systems with

inadequate pH or the presence of biofilm function as permanent reservoirs of contamination. Water acidification protocols using acids that enter the gastrointestinal tract of birds in their undissociated form, when applied at strategic moments, such as during management procedures, feed changes, and the pre-slaughter period, enable a rapid reduction in bacterial load. This strategy limits the colonization of pathogens such as *Salmonella* in more alkaline intestinal regions, including the ceca, thereby acting efficiently at critical stages of the production cycle.

From a decision-making perspective, effective integrated *Salmonella* control programs are those that enable a transition from a reactive to a preventive approach. By integrating environmental management, nutritional strategies, and pre-slaughter water withdrawal protocols, poultry production systems gain enhanced sanitary security, greater predictability of results, and improved operational efficiency, protecting performance and reducing long-term risks. ■

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**Ana Paula Pereira**, National Poultry Technical Coordinator, SANEX

# SANEX PROGRAM: enhancing Biosecurity in Poultry Production Systems



RESPONSIBLE  
ANIMAL PRODUCTION



The **Sanex Program** for reducing infection pressure is a structured initiative designed to strengthen biosecurity on poultry farms. Its focus is on the adoption of standardized cleaning and disinfection practices, including dry cleaning, aimed at reducing environmental pathogen load and overall infection pressure on animals.

The program is built around three complementary pillars: water sanitation, gastrointestinal health, and environmental management. Through standardized processes and a strong focus on efficiency, the **Sanex Program** provides a safe and consistent solution to improve animal health and the performance in the production systems.

**Learn about the products of the Sanex Program:**

## Sanex Soluble Acidifier

**Sanex Soluble Acidifier** was the first soluble and unbuffered organic acid blend introduced to the Brazilian market. It is an effective tool as an alternative to antibiotics and chemotherapeutic agents in cases of non-specific diarrhea. The product offers practicality and safety in application, reduces storage space requirements, allows safe transportation, and has zero withdrawal period. Its efficacy has been proven in integrated *Salmonella spp.* control programs, and it can be used at all stages of production.

## NeoAcid

Produced through an exclusive industrial process in which pure, unbuffered organic acids are protected and incorporated into a functional and specific medium-chain triglyceride matrix, **NeoAcid** ensures the release of active compounds at different segments of the gastrointestinal tract. It has proven efficacy as an alternative to antibiotic growth promoters, no export restrictions, zero withdrawal period, excellent return on investment, and demonstrated effectiveness in integrated *Salmonella spp.* control programs.

## Diatex

**Diatex** is a natural, non-toxic environmental conditioner for poultry litter and facilities. It provides effective moisture reduction, control of ammonia volatilization, reduced water activity and natural insect control, contributing to improved environmental quality and animal welfare.



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# QUALITY OF THE FINAL PRODUCTS MARKS THE ADVANCEMENT OF THE ANIMAL PROTEIN PRODUCTION SYSTEM

FEED & FOOD SPOKE WITH **MARCOS ROSTAGNO**, ONE OF THE LEADING EXPERTS ON THE SUBJECT. "ADVANCES IN SUSTAINABILITY, COUPLED WITH THE GROWING COMPETITIVENESS OF THE BRAZILIAN ANIMAL PROTEIN INDUSTRY IN THE GLOBAL MARKET, ARE CLEAR EVIDENCE OF THIS AND SHOULD, IN MY VIEW, CONTINUE TO PUT BRAZIL AT AN EVEN GREATER ADVANTAGE IN THE LONG TERM"

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**H**uge technological advances, such as the development of new concepts and greater precision in the formulation and application of diets, diversification of ingredients, development and application of more accurate models, and many others, have marked the animal protein production system.

Feed & Food spoke with Marcos Rostagno, an agronomist from the Catholic University of Santa Fe (1966), who holds a master's degree (1970) in Animal Science from Purdue Univer-

sity and a PhD (1972) from the same institution. He is known worldwide for his extensive experience in the field of Animal Science, with emphasis on Nutrition and Feeding of Non-ruminants.

According to Rostagno, the quality of the final products and their acceptance in various markets represent the technological advancement of the Brazilian animal protein production at a global level, as well as in terms of sustainability.

Follow the full interview with Marcos Rostagno produced by the Feed&Food team.

**Over the last two decades, what do you consider to be the most significant advances in the areas of animal nutrition and health that have transformed the performance of animal protein chains in Brazil?** The advancement of the Brazilian animal protein industry is undeniable and evidenced by its growing competitiveness in the global market. For this to become a reality, one fundamental factor occurred - the development of excellent professionals in the various areas that make up the chain, especially in the areas of nutrition and animal health, so much so that today

we can find a large number of these professionals being very successful in different regions of the world. The United States is a good example of this expansion of Brazilian professionals. When I arrived here more than 20 years ago, there were only a few of us. Today, many Brazilians work and excel in animal protein production here, something that gives me great pleasure and pride to see. This tremendous advance in the training and consequent quality of Brazilian nutritionists and veterinarians was, in my view, a fundamental step forward that enabled Brazil to make a giant leap forward on the world stage, and it is now seen as a leading country in the production of animal protein. As a result of this professional advancement, the industry has made enormous strides from a technological standpoint, such as the development of new concepts and greater precision in the formulation and application of diets, diversification of ingredients, development and application of more accurate models, etc. In the area of animal health, I believe that the increasing focus on animal welfare, management, and biosecurity represents interrelated and significant advances. The high levels of productivity and efficiency, as well as the minimization of losses caused by diseases (or even the absence of high-impact diseases present in other parts of the world) serve as evidence of progress in these areas. We must also emphasize that the quality of the final products (from the point of view of general characteristics, microbiological characteristics, etc.) and their acceptance in various markets represent the technological advancement of the Brazilian animal protein industry at a global level.

**Global pressure to reduce the use of antibiotics as growth promoters has driven the development of nutritional additives and alternative strategies. What technological and scientific changes have most influenced this transition, and what practical results have been observed?** The topic of antibiotic reduction is quite complex and has been a topic in the animal production industry for many years, since it first began to be addressed in European countries in the late 1980s. The issue of reducing antibiotics is

quite complex and has been a hot topic in the animal production industry for many years, since it first began to be addressed in European countries in the late 1980s. The way in which the challenge has been addressed and prioritized has varied greatly in different regions of the world, but in general it has resulted in a race to find alternatives that simply aim to replace antibiotics, even though we have not yet fully understood how antibiotics actually work as growth promoters and



“THE EMERGING TECHNOLOGY IS EXPECTED TO BE INCREASINGLY ADOPTED IN SEVERAL AREAS OF THE ANIMAL PROTEIN PRODUCTION CHAIN, FORCING SIGNIFICANT CHANGES”

MARCOS ROSTAGNO

what benefits they offer. Even so, this approach persists, and in my view, it is misguided. Even so, from the technological point of view, the diversity of new developed technologies Nevertheless, from a technological standpoint, the diversity of new technologies developed has been impressive, ranging from a wide variety of additives used in feed and water (such as probiotics, prebiotics, symbiotics, postbiotics, organic acids, phytogenics, and many others), to new management practices and tools for diagnosing and monitoring pathogens and infections. In gener-

al, the industry has made significant progress, but it has not yet reached its full potential or met the expectations of consumers and the market. In any case, I do not believe that it is possible to attribute the advances in the industry to individual technologies or specific interventions, but rather to the set as a whole, mainly due to the highly variable application in different regions of the world or even in the different production systems within the same region. However, I would like to take this opportunity to emphasize that we are reaching a point where we must understand that new technologies or additives alone will not be able to replace antibiotics, and that the current view of all these technologies as “alternatives” must be revised if we really want to make significant progress in this challenge. Simple solutions or “magic bullets” are no longer enough to solve complex challenges of today’s animal production systems. In other words, I think that we’re coming to a time when we have to reevaluate some paradigms and start thinking about how to reform the current production system that has worked so far, but which no longer offers the opportunities for breakthroughs on the same scale going forward. By accepting that we have to change our way of thinking, new opportunities will arise to maximize the application and benefits of the technologies made available and that are yet to be developed.

**How has the concept of gut health and the focus on the microbiota evolved in this period and how have they impacted animal productivity and welfare?** The concept of gut health has evolved in parallel with the reduction in the use of antibiotics, particularly antibiotics used as growth promoters. As the use of antibiotics as growth promoters gained attention, attempts to understand their mode of action received more attention, especially with a focus on developing new technologies capable that are able to sustain the gains in productivity and efficiency achieved, as well as assisting the control of certain intestinal diseases and pathogens. As a result, there was an interest in unraveling how inflammatory processes and the immune response influence ►

the partitioning of energy and nutrients in animals, as well as how the gut microbial ecosystem could compete for nutrients with the host and influence the functioning of its immune system. In this intersection of several areas (physiology, immunology, and microbiology), the concept of gut health emerged, which consists of a state of balance or homeostasis. Due to the influence of the human health sector, new laboratory analysis technologies have become more accessible and applied to the study of gut microbiota, which has also contributed to growing interest in the development of various additives that help maintain gut health.

**In your assessment, how does Brazil compare to the United States and Europe in terms of the integration of nutrition, biosecurity, and sustainability within production systems?** In general, I believe that the best way I can characterize the comparative positioning of the Brazilian animal protein industry is as being much more balanced in relation to the United States and Europe. The reason why I use the term “more balanced” in relation to other regions is that in other regions, the positioning has been at opposite extremes, especially with regard to sustainability. Both areas, animal production and sustainability, are quite complex and inherently inter connected. In Europe, the focus in sustainability has been extreme, in my opinion, and gradually making animal production unfeasible, while in the United States this area has been relegated to the background, precisely so as not to compromise the competitiveness of the industry. Sustainability is an extremely comprehensive and complex area, resulting in diverse interpretations and visions that are often conflicting. Despite this, the Brazilian animal protein industry has been advancing, but without radically compromising animal production. Advances in the area of sustainability together with the growing competitiveness of the Brazilian animal protein industry in the global market, are clear evidence of this and should, in my view, continue to put Brazil in an even more advantageous position in the long term. Whenever I participate in this type of broader discussion, I say: Animal production systems are very

complex and include a large number of variables and, therefore, any change or adaptation must occur progressively to keep the system as a whole balanced.

**Considering recent challenges – such as cost volatility, regulatory changes, and new market requirements, what are the main priorities for research and innovation in the areas of nutrition and health today?** As I always say, “every coin has two sides”. On the one hand, challenges generated by frequent changes and scenarios of instability represent obstacles or risks of investing in innovation, especially in the long term. But, on the other hand, these challenging moments represent precisely the time when innovation becomes necessary in order to overcome these obstacles and maintain competitiveness. Changes are constant in the world, and what we are experiencing is just an acceleration in change, something that leads to shorter cycles and requires more attention. Agriculture in general is a relatively stable area, due to generating products that are basic necessities for humanity, namely food. The demand for agricultural products will never disappear, which essentially guarantees the continuity of a consumer market. The challenge is to adapt to the obstacles that emerge due to constant changes, something that Brazilian agribusiness has proven capable of doing whenever under pressure. This characteristic can be defined as adaptability or the ability to innovate. Specifically in the area of research and innovation, the production of animal protein has shown to be able to adapt itself to new market demands and health risks repeatedly, through the development and application of new technologies, something that should not change, in my opinion. However, when we talk about innovation today, we cannot help but think about technology, and artificial intelligence in particular, which should accelerate the trajectory that the industry has been on for some time, which consists of advances in the collection, analysis, and use of data to support strategies and decision-making, not only in the various areas of animal production (such as genetics, nutrition, health, facilities and environment, management, and even labor), but also in the area of

innovation itself. The emerging technology is expected to be increasingly adopted in several areas of the animal protein production chain, forcing significant changes. The automation of a large volume of processes and tasks in production systems, as well as the growing access to information and knowledge, will trigger a wave of change and innovation that will require rapid adaptation, which few are anticipating. We need to prepare ourselves today for this wave, so we will be able to remain competitive tomorrow! We need to prepare the professionals for the future, to implement new systems for control and protection of data and information, in addition to anticipating the future of the industry, which is expected to change significantly in the coming decades.

**Looking ahead to the next few years, what trends are expected to shape the future of animal protein production, especially in the balance between production efficiency, food safety, and reducing environmental impact?** There is no doubt that all these areas will continue to grow in importance, but they will be driven by slightly different determining factors, which will make the challenge of balancing them increasingly difficult. In the case of the constant search for greater efficiency, I see that we are very close to a plateau, due to the law of diminishing returns. Consequently, the magnitude of improvements or gains has been decreasing, resulting in a growing need for new technologies and increased production volumes or scale in order to maintain or gain competitiveness. This scenario results in a clear commoditization of the animal protein production market, and its subsequent consolidation. At another point of the spectrum, we can observe how issues related to food safety and environmental impact are fundamentally motivated by consumers of animal protein, and therefore tend to be more variable between different markets around the world. But in any case, these topics will undoubtedly continue to be relevant and attract interest in technological innovations and approaches. In both cases, strategy and monetization are and will increasingly be the driving force for progress. ■

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## ARM & HAMMER ANIMAL NUTRITION

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# BUILDING THE FUTURE OF PROTEIN STARTS AT THE BASE

*PRODUCING MORE PROTEIN DOES NOT MEAN USING MORE INPUTS WITHOUT ANY CRITERIA. THE CHALLENGE IS TO PRODUCE BETTER, WITH WELL-GUIDED TECHNICAL CHOICES*

FILIFE BARROS

**T**alking about the future of protein is, first and foremost, talking about fundamentals. Nothing moves forward without a solid foundation that is well cared for and designed for the long term. At Agrifirm, we believe that supporting the food chain starts right there, at the beginning, where decisions really make a difference.

For us, sustainability is not an isolated concept or a discourse parallel to the business. It is part of the operating model. Today, 47% of Agrifirm LATAM's revenue already comes from solutions related to environmental sustainability. These are responsible solutions that combine production efficiency, care for the environment and improved animal health, generating real value for the producer.

This data reinforces an important point for the entire sector. When properly implemented, sustainability does not represent an additional cost and cannot compromise the producer's profitability. On the contrary. It strengthens resource efficiency, increases income security and makes production systems more resilient over time.

Producing more protein does not mean using more inputs without criteria. The challenge is to produce better, with well-guided technical choices, adequate nutrition, and knowledge-based decisions. This is where responsible solutions make a difference. They help producers extract more results than are al-

ready available than are already available, reducing losses, improving performance and ensuring consistent production.

Agrifirm's efforts extend beyond the field. At the Royal Agrifirm Group, consistent actions over the past few years have resulted in a 73% reduction in CO<sub>2</sub> emissions from its own operations in just six years, in addition to the adoption of responsible sourcing standards for raw materials. These are clear examples of how discipline, method, and long-term vision generate concrete results.

In practice, well-applied sustainability strengthens business. It improves economic return, increases production efficiency and prepares producers for a market that is increasingly attentive to how food is produced.

Agrifirm works hand in hand with producers because we believe that strong relationships build solid businesses. The future of protein is not built with promises, but on consistent decisions made now, in the field and at the base of the chain.

We continue to Cooperate Together with producers and the entire chain, supporting clearer choices, better performance, and responsible solutions for future-proof protein production.

Be part of this purpose too. ■

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**Filipe Barros**, Marketing and Market Intelligence Manager of Agrifirm LATAM



# Building the future of protein starts at the foundation.

We support the food chain with **responsible solutions** that **lift performance** and **protect the planet**.



**Together** with farmers, building solid businesses.

**With sharper** decisions and performance, we deliver consistent profit, responsible solutions and livestock built for the future.

**Join us. Let's Cooperate.**



See our sustainability initiatives:





# 20 YEARS: THE EVOLUTION OF ANIMAL PROTEIN PRODUCTION SYSTEMS IN BRAZIL AND WORLDWIDE

## BRAZIL CONSOLIDATES ITS GLOBAL LEADERSHIP IN ANIMAL PRODUCTION, WITH ANIMAL HEALTH, TECHNOLOGY, SUSTAINABILITY, AND ANIMAL WELFARE AS STRATEGIC PILLARS

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The Feed & Food Magazine editions published in the second half of 2025 presented a comprehensive analysis of the relationship between the 20-year anniversary of Feed & Food, celebrated in the past year, and the evolution of animal protein production systems over that period.

Key topics addressed included genetics, nutrition, animal health, welfare, management, and sustainability. In previous editions, it was highlighted that the Brazilian animal production sector is undergoing a profound transformation, marked by the integration of productive efficiency, socio-environmental responsibility, and ethical principles across all stages of the value chain.

Driven by scientific advancements, workforce training, and the adoption of emerging technologies, Brazil is now positioned as a global benchmark in adapting to new market demands.

Over recent decades, animal protein production systems have undergone significant transformation, fueled by scientific progress, technological innovation, increasing consumer expectations, and rigorous sustainability standards. While Brazil and the global market follow distinct courses, they converge in the modernization of production models, the strengthening of biosecurity, and the incorporation of animal welfare as a strategic component.

### GLOBAL TRANSFORMATION: FROM EFFICIENCY TO SUSTAINABILITY, FRAMED BY COP 30

At the international level, animal protein production has evolved from extensive systems to highly technology-driven models. Sustainable intensification, advanced genetics, precision nutrition, and traceability systems have become central to the global agenda.

#### GLOBAL TRENDS INCLUDE:

- Reduction of the environmental footprint, through the rational use of water, land, and inputs.
- Automation and digitalization of farms, feedlots, and aquaculture facilities.
- Strict animal welfare protocols, incorporated into international standards.
- Biosecurity as a central pillar, especially in the aftermath of outbreaks such as avian influenza and African swine fever.
- More transparent supply chains, meeting consumer demand for verifiable information.

Advances in the sustainability of Brazilian agribusiness, driven by preparations for COP30 in Brazil, include a strong focus on technological innovation (digitalization and bio-inputs), the restoration of degraded areas (RAIZ Program, ABC+), and the adoption of low-carbon practices (integrated crop-livestock-forestry sys-

tems - ICLF, no-till farming) to mitigate greenhouse gas emissions. These efforts are repositioning agribusiness as part of the climate solution, supported by public-private partnerships and ambitious emission-reduction targets presented to the global community.

#### KEY ADVANCES AND INITIATIVES:

- **Technological Innovation:** Presentation of new technologies for fertilizers, plant nutrition, and productive efficiency, with a strong focus on digitalization and applied research.
- **Restoration Programs:** Launch of the RAIZ Program (Degraded Areas Restoration) and the ABC+ Program (Low-Carbon Agriculture) to restore pastures and promote more resilient production systems.
- **Low-Carbon Practices:** Consolidation and expansion of technologies such as Integrated Crop-Livestock-Forestry systems (ICLF), no-till farming, and biological nitrogen fixation.
- **Bio-inputs and Clean Energy:** Growth in the use of bio-inputs and increased emphasis on bioenergy (corn ethanol, biodigestion) as low-environmental-impact solutions.
- **Maturity and Proactivity:** The sector seeks to demystify negative perceptions by demonstrating maturity through the presentation of data-driven sustainability results and by proposing global solutions.
- **Partnerships and Collaboration:** Strengthening cooperation among government agencies (MAPA), research institutions (Embrapa), and the private sector to accelerate the sustainable transition. ▶

# AT COP30 (BELÉM, 2025)

Brazilian agribusiness played an unprecedented leading role, being recognized as a key player in the search for climate solutions, rather than being viewed as the villain. Brazil presented an ambitious Nationally Determined Contribution (NDC), with targets to reduce greenhouse gas emissions and achieve net-zero emissions by 2050. Brazil's "Action Agenda" at COP30 offers the world the country's experience in sustainable agriculture and land restoration.

These advances reflect a modern, innovative sector committed to sustainable production, seeking to lead the global climate agenda through evidence-based and proven practices.

The study "Land Attribution, Use, and Occupation in Brazil", conducted by Embrapa Territorial and launched at the AgroBrasil Pavilion, within the AgriZone, reveals that Brazilian farmers preserve 29% of the country's native forests within their properties.

According to the study, approximately 65.6% of Brazil's territory still maintains preserved native vegetation. Areas dedicated to agricultural activities (croplands, pastures, and planted forests) occupy 31.3% of the national territory.

These figures reinforce that for every hectare dedicated to agricultural production, 0.9 hectares are protected within rural properties and 2.1 hectares remain as native vegetation overall.

Bruno Lucchi, Technical Director at CNA, who moderated the panel at the study's launch, emphasized the leading role of rural producers in environmental preservation and the global relevance of Brazil's production model.

"Today, 44% of the preserved areas in the country are under the responsibility of rural producers. In the Amazon, for every hectare under production, two hectares are preserved, reflecting Brazil's position as a global benchmark for production combined with conservation," he highlighted.

Luciôla Alves, Deputy Head of Research and Development at Embrapa, highlighted data on land attribution, occupation, and use in Brazil, stress-

ing the essential role of rural producers in environmental conservation.

Embrapa researcher Alfredo Homma presented the challenges and opportunities for more sustainable agriculture in the Amazon region.

## [ AMAZON ]

In this biome, the Embrapa study indicates that rural producers allocate 27.4% of the total area of rural properties to environmental preservation, contributing to the fact that 83.7% of the biome's territory remains covered by native vegetation. Agricultural activities occupy only 14.1% of the area, of which 12.1% are pastures and 2% are croplands.

This proportion reveals a balanced scenario, in which for every hectare used for agricultural production, there are nearly two hectares dedicated to environmental preservation within rural properties and six hectares of native vegetation across the biome as a whole.

In other words, one-third of all Amazonian native vegetation is preserved within rural properties.

## [ CERRADO ]

In this biome, rural producers allocate 34.7% of property areas to environmental preservation and contribute to ensuring that 52.2% of the Cerrado remains covered by native vegetation, according to the Embrapa Territorial study.

The survey shows that agricultural activities occupy 45.9% of the Cerrado territory, with an emphasis on pastures (30%), croplands (14.2%), and forestry/silviculture (1.7%). In practical terms, this means that for every productive hectare, there are 0.8 hectares protected within rural properties and 1.1 hectares of native vegetation overall.

**BRAZIL AS A PROTAGONIST.** Brazil has established itself as one of the world's largest producers and exporters of animal protein, driven by the combination of genetics, animal husbandry practices, animal health, public research, and private investment. Across each production system, it is possible to see how these factors set Brazil apart in terms of economic and technological evolution, especially when considered from a global perspective.

## BRAZILIAN AGRIBUSINESS IS COMPETITIVE, TROPICAL, AND SUSTAINABLE

"Brazil's participation at COP30 last year marked a historic leap in the global standing of the country's tropical agriculture.

We showcased to the world the technological and sustainable dimension of our agribusiness.

The conference exceeded expectations in terms of organization and political outcomes. I commend the work of Ambassador André Corrêa do Lago, President of COP30, who led complex negotiations amid international diverging positions. Even though issues such as biofuels did not advance in the final text, the diplomat succeeded in establishing the topic as a priority for the next negotiation cycle, leading up to COP31 in Turkey.

Brazil is poised to lead the international agenda connecting agriculture and climate, as long as it can better communicate its results. Brazilian agribusiness is competitive, tropical, and sustainable, and when foreign stakeholders witness this firsthand, they set aside misperceptions."

*Roberto Rodrigues,  
former Minister of  
Agriculture and General  
Coordinator of FGVAgro*

## [ POULTRY PRODUCTION ] TECHNOLOGICAL REVOLUTION AND LEADERSHIP CONSOLIDATION

- It has become a global benchmark in efficiency and sustainability.
- Growing use of Big Data, AI, and real-time monitoring.
- Traceability and animal welfare have enhanced its international reputation.

Over the past two decades, Brazilian poultry production has undergone a transformation, which has placed it among the world's most efficient. The combination of science, innovation, and sustainable on-farm practices has reduced the use of natural resources while improving feed efficiency.

Tools such as Artificial Intelligence, Big Data, and real-time monitoring provide greater predictability, optimize nutritional routines, and raise sanitary and biosecurity standards.

Traceability has become a strategic pillar, reinforcing the sector's international credibility. Ongoing integration between public research - particularly from Embrapa - and private investment will be decisive in sustaining Brazil's leadership in poultry meat production.



## [ SWINE PRODUCTION ] ANIMAL WELFARE AS A COMPETITIVE ADVANTAGE

- It has evolved from initial resistance to animal welfare into leadership in ethical and productive husbandry.
- Robust animal health programs have expanded access to premium markets.
- The adoption of technologies and continuous training has increased productivity.

Brazilian swine production is experiencing a new cycle based on technical qualification, strengthened animal health, and sustainability. What was once seen as a cost has become a competitive advantage.

Disease eradication programs, farm modernization, consistent use of technology, and continuous workforce training have improved productive efficiency and reinforced the country's animal health reputation.

Today, the sector operates with more structured processes, precision management, and greater alignment with international demands for animal welfare and environmental responsibility.

## [ BEEF CATTLE ] SUSTAINABLE INTENSIFICATION AND DATA-DRIVEN PRODUCTION

- Sustainable intensification guided by animal health, genetics, and data-driven management.
- Expansion of traceability and performance indicators.
- Animal welfare integrated into management practices, with a growing focus on consumer communication.

Brazilian beef production continues to advance based on two fundamental pillars: animal health and genetic improvement. Traceability strengthens trust in both domestic and international markets, although further expansion among small and medium-sized producers is still needed.

The sector has adopted a performance-oriented production model, focused on zootechnical efficiency and adaptation to tropical conditions, valuing attributes such as early maturity, feed efficiency, maternal ability, and carcass quality.

Animal welfare has become an integral part of the production process, ►



supported by significant investment in workforce training. The future lies in the consolidation of practical indicators that translate science into effective communication with consumers.

[ DAIRY CATTLE ]

**PRECISION MANAGEMENT AND SANITARY ADVANCES**

- Significant progress in nutrition, management, genetics, and automation.
- Sensors, robotic milking, and AI have transformed production into a science of precision.
- Continuous improvement in herd health and milk quality.

Milk production in Brazil is undergoing a period of profound modernization, driven by advances in genetics, nutrition, management, and animal health management software.

Tools such as rumination sensors, artificial intelligence, automated milking systems, and predictive analytics have transformed herd management into a true precision science, enabling early detection of metabolic disorders, subclinical mastitis, and reproductive failures.

Technologies once restricted to large-scale farms are now accessible to a wide range of production systems, contributing to gains in productivity, herd health, and sustainability.

[ AQUACULTURE ]

**PROFESSIONALIZATION, ANIMAL WELFARE, AND STRENGTHENED SANITARY STANDARDS**

- One of the fastest-growing production chains in the country.
- Professionalization, genetic improvement, and intensive systems have increased productivity.
- Standards such as Certified Humane for tilapia have aligned Brazil with global animal welfare and health benchmarks.

Aquaculture is among the production chains that have evolved the most over the past two decades. Tilapia farming, in particular, has advanced through the adoption of the Certified Humane standard for tilapia, which establishes auditable animal welfare criteria from hatchery to harvest.

This milestone reinforces the alignment of Brazilian production with global best practices and acknowledges that factors such as pain, stress, and physiological discomfort directly affect performance and meat quality.

The professionalization of the sector, combined with genetic advances, automation, and precision nutrition, has increased Brazil's competitiveness. Sanitary sustainability is emerging as a central theme for the next decade, essential to ensuring production continuity and access to specialized markets.



**CONVERGENCES BETWEEN BRAZIL AND THE WORLD**

Both nationally and internationally, animal protein production is advancing toward models based on:

- Data-driven decision-making and objective performance indicators.
- Precision nutrition and management.
- Emerging technologies, including AI, sensors, automation, and digital traceability.
- Animal health as a central element of competitiveness.
- Integration of animal welfare with productive efficiency.
- Environmental sustainability as both an obligation and a market differentiator.



## THE FUTURE OF ANIMAL PROTEIN PRODUCTION

The sector is moving toward an era characterized by:

- Fully digitalized and integrated supply chains.
- Higher productivity with lower environmental impact.
- Systems resilient to sanitary risks.
- Greater transparency for consumers.
- Management grounded in science and continuous innovation.

Brazil, supported by a strong technical foundation, rich biodiversity, productive expertise, and increasing professionalization, remains well positioned to lead this global movement. Experts emphasize that technology – especially artificial intelligence, automation, and data analytics – will be decisive for the future of livestock management. However, they also stress that the human factor, including critical thinking, sensitivity, and analytical capacity, will remain an indispensable competitive advantage.

Over the past two decades, Brazil has made consistent advances in genetics, low-stress handling, nutrition, and sanitary protocols, consolidating animal welfare as a strategic investment. This evolution, extensively documented by Feed & Food Magazine, has reshaped productivity, efficiency, and sustainability across the poultry, swine, beef cattle, dairy cattle, and aquaculture sectors.

**BRAZIL: SCIENCE, TECHNOLOGY, AND PEOPLE SHAPING A NEW ERA OF ANIMAL PRODUCTION.** With ambitious goals and strong technical expertise, Brazil continues to strengthen its position as a global production and export powerhouse. The integration of innovation, socio-environmental responsibility, animal health, animal welfare, and professional qualification ensures that the country remains a leader in the global supply of protein, delivering it with safety, ethics, and efficiency.

Photos: image bank F&F

# ARTIFICIAL INTELLIGENCE EXPANDS EFFICIENCY AND REDEFINES ANIMAL PROTEIN PRODUCTION

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Over the past two decades, animal protein production has undergone a profound transformation in Brazil and worldwide. Advances in genetics, nutrition, animal health, and management have enabled significant productivity gains, while the sector has also been required to address increasingly complex challenges, such as high production costs, environmental requirements, animal welfare, and a global market that is more attentive to the origin of food.

In this context of more intensive production systems under constant pressure for efficiency, decision-making has moved beyond reliance on empirical experience and now depends on robust, large-scale, real-time data. Within this scenario, artificial intelligence (AI) has emerged as a strategic ally of the animal protein production chain, not as a replacement for producers or technicians, but as a tool capable of expanding analytical, forecasting, and management capacity.

The application of AI in the sector makes it possible to transform large volumes of information into practical knowledge, helping producers, integrators, and industries make faster, more accurate, and more sustainable decisions. The adoption of these technologies reflects a natural evolution of the sector, aligned with the growing di-

gitalization of agriculture and the need to produce more with fewer resources and lower environmental impact.

**MONITORING, DATA, AND PREDICTABILITY.** One of the main contributions of AI lies in the monitoring and prediction of production events. Sensors, cameras, and intelligent systems allow for individualized monitoring of animal behavior, health, and performance. Data analysis makes it possible to detect early signs of stress, reduced feed intake, health issues, or management failures.

This predictive capability reduces losses, improves planning, and enables preventive rather than corrective actions. In practice, producers can take action before problems become entrenched, increasing system efficiency while safeguarding animal welfare.

Data management is another central element. AI systems can integrate information from different stages of production, including nutrition, animal health, zootechnical performance, and animal history. As a result, decisions are no longer made in isolation but instead consider the production system as a whole, leading to more precise and consistent management.

**AUTOMATION AND OPERATIONAL EFFICIENCY.** Process automation has also gained momentum with the advancement of AI. Activities such as feeding, environmental control, cleaning, and even sanitary protocols can be opti- ▶

mized through intelligent systems, thereby reducing reliance on labor, enhancing standardization, and improving control over production routines.

Beyond operational gains, automation contributes to reducing human error and traceability enhancement, a factor that is increasingly valued by consumer markets and by supply chains that are seeking greater transparency in the production of animal-based foods.

**DISEASE DETECTION AND PRODUCT QUALITY.** Early disease detection is another relevant benefit. Artificial intelligence enables the early identification of behavioral patterns or phy-

## SUSTAINABILITY AND BIOEFFICIENCY

Sustainability is one of the major challenges facing animal protein production, and artificial intelligence emerges as a key ally. By optimizing input use, reducing waste, and improving feed efficiency, these technologies contribute to lowering the environmental footprint of production systems.

Individual animal monitoring and the use of feed bioefficiency metrics enable more precise nutritional adjustments, resulting in improved feed conversion and reduced waste emissions. This approach reinforces the idea that productivity and sustainability are not conflicting concepts, but rather complementary outcomes when supported by technology and high-quality data.

biological changes that signal the onset of health issues, often before clinical signs are visible. This enables rapid intervention, reduces disease transmission, and contributes to a more rational use of medications.

This enhanced control has a direct impact on the quality of meat, milk, and other animal-derived products. AI-based systems help ensure higher standards of food safety, consistency, and quality, meeting the increasingly stringent requirements of domestic and international markets.

**MARKET ANALYSIS AND CAPACITY BUILDING.** Beyond on-farm operations, artificial intelligence also supports market analysis. The interpretation of economic data, consumption trends, and commercial scenarios enables more informed decisions regarding production planning, investments, and marketing strategies, reducing risks in an increasingly volatile environment.

Another relevant aspect is the use of AI as a training and education tool. Digital platforms and intelligent systems help disseminate best practices, support technical decision-making, and expand access to information, especially in regions where traditional extension services are limited.

**TECHNOLOGIES ENABLING THE TRANSFORMATION.** Among the main AI technologies applied to animal protein systems are computer vision, used to monitor health and welfare; machine learning, responsible for identifying patterns and predicting outcomes; natural language processing, applied to the analysis of reports and complex datasets; and robotics, which enables the automation of production processes.

These tools do not operate in isolation; they are integrated into increasingly sophisticated information systems, capable of collecting real-

-time data and transforming it into effective decision-support tools.

### THE FUTURE OF THE PRODUCTION CHAIN.

Trends for the coming years point to the full digitalization of the animal protein production chain. This evolution is expected to lead to the increasing use of online systems, supported by real-time data and artificial intelligence, enabling more agile, remote, and precise management.

This progress represents a structural shift in how production is carried out, managed, and planned. More than a one-time innovation, artificial intelligence is becoming a central element in the pursuit of efficiency, competitiveness, and sustainability, reinforcing Brazil's role as one of the world's leading animal protein producers.

Looking ahead, trends point to further deepening of the digitalization of the animal protein value chain. The use of online information systems, integrated with real-time data and AI-driven analytics, will allow for faster, more accurate, and remote operational management. This advancement expands the sector's capacity to respond to productive, sanitary, environmental, and market challenges. More than an isolated technological advance, artificial intelligence is consolidating itself as a structural component of the evolution of animal protein production. By transforming data into decisions, technology into efficiency, and information into sustainability, AI reinforces the central role of producers and technical professionals in the production process. In a sector under growing pressure to balance competitiveness and responsibility, the competitive edge will not be producing more, but producing better, with artificial intelligence as an increasingly strategic ally across the value chain, from farm to industry. ■





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OF ANIMAL PROTEIN

# FEED PRODUCTION GROWS 2% THROUGH SEPTEMBER, AND SINDIRAÇÕES PROJECTS 90 MILLION TONS IN 2025

GIOVANA DE PAULA (with information from Sindirações)  
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**T**he National Feed Industry Association (Sindirações) released a preliminary sector balance for the first nine months of 2025, indicating that Brazil's animal nutrition industry reached 66.5 million tons of feed between January and September, a 2% increase compared with the same period in 2024. This growth, along with the projection of 90 million tons by year-end — up 2.8% — exclusively reflects the performance of the feed segment, as mineral salt figures have not yet been consolidated. The sector comprises the combined output of feed and mineral salt.

According to Ariovaldo Zani, CEO of Sindirações, the figures underscore the sector's ability to adapt in a global environment still marked by uncertainty. "The animal nutrition industry remains resilient even amid global uncertainties, supported by efficiency, innovation, and a strong productive base," he said.

**POULTRY SECTOR REMAINS STABLE DESPITE SANITARY EMBARGOES.**

Broiler poultry recorded 28 million tons of feed consumption through September, remaining stable despite embargoes related to avian influenza. According to ABPA, chicken meat production is expected to exceed 15 million tons, driven by domestic consumption, currently estimated at 47.8 kg per capita per year. Zani highlights the segment's maturity: "The dynamism of Brazilian poultry reflects technological maturity, nutritional predictability, and the ability to respond quickly to sanitary adversities." The expectation is to reach 37.9 million tons of feed by December.

**COMMERCIAL EGG PRODUCTION GROWS, SUPPORTED BY DOMESTIC DEMAND.**

According to IBGE, egg production increased by 2.8% when comparing the third quarters of 2024 and 2025. Feed consumption for laying hens reached 5.6 million tons, driven by structur- ►

**FEED PRODUCTION (MILLION TONS)**

SEGMENT	2023	2024*	%	2025**	%
<b>POULTRY</b>	<b>43,4</b>	<b>44,1</b>	<b>1,5</b>	<b>45,3</b>	<b>2,6</b>
BROILER	36,5	36,9	1,0	37,9	2,6
LAYERS	6,90	7,18	4,1	7,35	2,4
<b>PIGS</b>	<b>20,8</b>	<b>21,6</b>	<b>3,7</b>	<b>22,0</b>	<b>2,0</b>
<b>CATTLE</b>	<b>13,5</b>	<b>14,3</b>	<b>6,3</b>	<b>15,0</b>	<b>4,9</b>
DAIRY	6,9	7,1	2,5	7,3	2,7
BEEF	6,55	7,22	10,2	7,73	7,0
<b>DOGS AND CATS</b>	<b>3,88</b>	<b>4,01</b>	<b>3,5</b>	<b>4,04</b>	<b>0,8</b>
<b>HORSES</b>	<b>1,00</b>	<b>1,00</b>	<b>0,0</b>	<b>1,003</b>	<b>0,4</b>
<b>AQUACULTURE</b>	<b>1,65</b>	<b>1,79</b>	<b>8,7</b>	<b>1,95</b>	<b>8,8</b>
FISH	1,43	1,57	9,8	1,70	8,7
SHRIMP	0,224	0,227	1,6	0,249	9,7
<b>OTHERS</b>	<b>0,620</b>	<b>0,625</b>	<b>0,8</b>	<b>0,631</b>	<b>1,0</b>
<b>TOTAL FEEDS</b>	<b>84,9</b>	<b>87,5</b>	<b>3,0</b>	<b>89,9</b>	<b>2,8</b>
<b>MINERAL SALT</b>	<b>3,37</b>	<b>3,61</b>	<b>7,0</b>	-	-
<b>OVERALL TOTAL</b>	<b>88,3</b>	<b>91,1</b>	<b>3,2</b>	-	-

\*Estimate; \*\*Forecast Source: Sindirações

al growth in domestic demand. The sector is expected to close the year with 7.4 million tons produced. Zani reinforces the social and nutritional role of eggs: “Eggs remain a strategic protein from both a nutritional and economic standpoint, which supports the continued growth of the laying sector.”

Swine production advances with efficiency, despite slight oversupply

The swine sector consumed 16.4 million tons of feed between January and September. Despite solid exports, a slight domestic oversupply kept live hog prices relatively stable. The sector is expected to end 2025 with 22 million tons consumed. “Brazilian swine production demonstrates high zootechnical efficiency and strategic adaptation to market movements,” Zani states.

### DAIRY FARMING GROWS BUT FACES SUBDUED DEMAND.

The sector recorded an 8% increase in formally collected milk, supported by favorable weather conditions and stable operating costs. However, stagnant demand and intensified competition from imported products have limited results. Feed consumption totaled 5.6 million tons, with estimates reaching 7.3 million tons by December. Zani assesses that the current moment requires continuous evolution: “Dairy farming requires permanent reinvention, given the competitive pressure from imports and the need for ongoing efficiency gains.”

### BEEF CATTLE MARGINS IMPROVE.

The segment consumed 5.3 million tons of feed through September. Lower concentrate costs, more affordable replacement cattle, and stable cattle prices contributed to improved margins, especially in the second feeding cycle of the year. Production is expected to exceed 7.7 million tons by December. “Brazilian feedlot operations are consolidating as a key tool to regulate supply, increase productivity, and ensure predictability in the beef market,” Zani emphasizes.

### AQUACULTURE MAINTAINS A GROWTH TRAJECTORY DESPITE CHALLENGES.

Brazilian aquaculture consumed 1.3 million tons of feed in the first nine months of 2025. Industrial fish farm-

ing faced impacts from U.S. tariff hikes and Asian competition, while shrimp farming stood out through the adoption of technologies such as automatic feeders and more precise management practices, increasing productivity per hectare. Feed production is expected to reach 1.9 million tons for the year. “Brazilian aquaculture has extraordinary room for expansion, especially as it incorporates automation and nutritional precision,” says the CEO of Sindrirações.

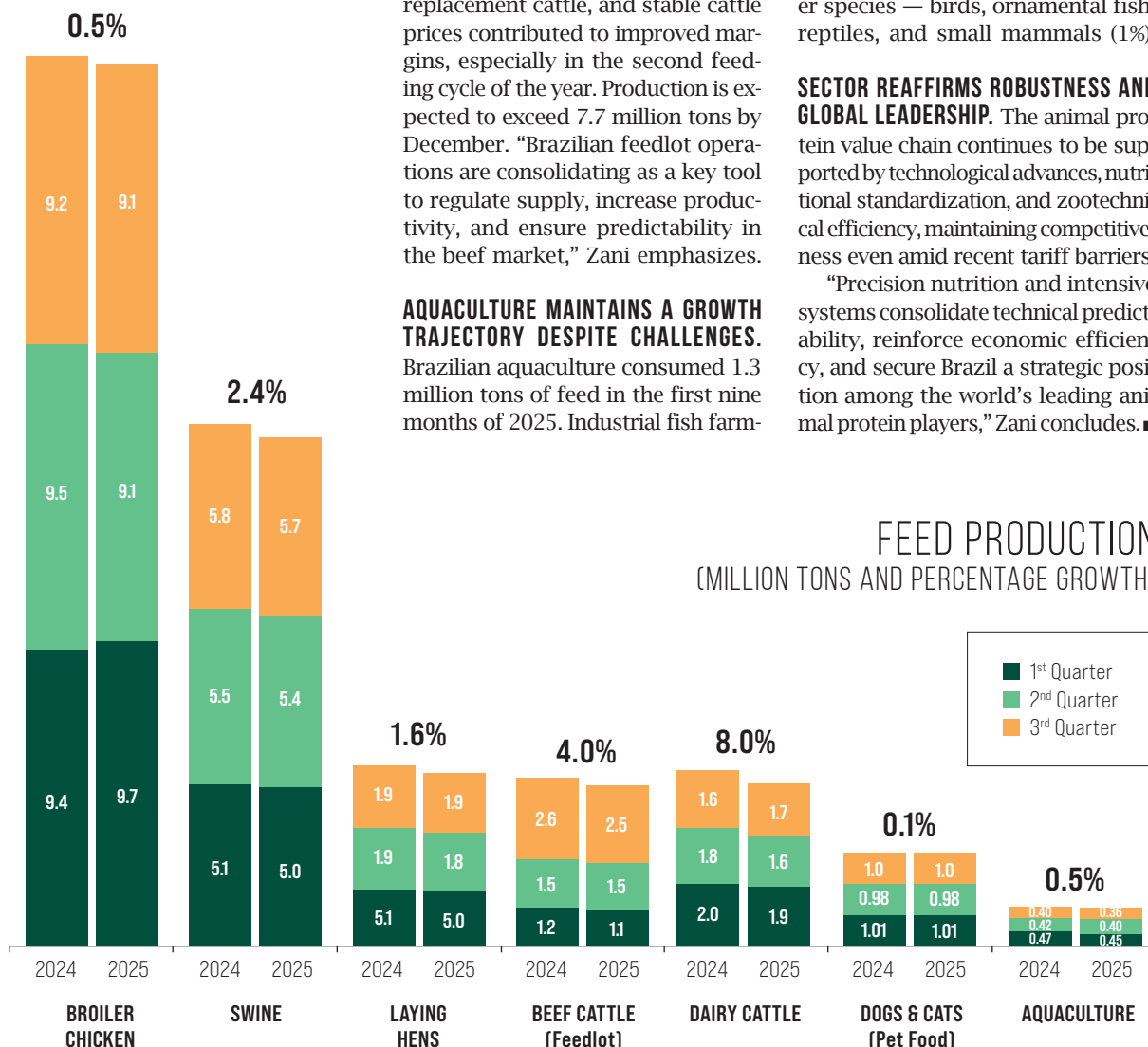
### PET FOOD FOLLOWS THE TREND OF COMPANION ANIMAL HUMANIZATION.

The pet food sector consumed approximately 3 million tons between January and September. The full-year estimate is 4 million tons, distributed among dogs (80%), cats (19%), and other species — birds, ornamental fish, reptiles, and small mammals (1%).

### SECTOR REAFFIRMS ROBUSTNESS AND GLOBAL LEADERSHIP.

The animal protein value chain continues to be supported by technological advances, nutritional standardization, and zootechnical efficiency, maintaining competitiveness even amid recent tariff barriers.

“Precision nutrition and intensive systems consolidate technical predictability, reinforce economic efficiency, and secure Brazil a strategic position among the world’s leading animal protein players,” Zani concludes. ■



Source: Sindrirações

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# ABPA FORECASTS A POSITIVE YEAR IN 2026 WITH INCREASED PRODUCTION AND A STABLE MARKET

CHICKEN MEAT, PORK, AND EGG PRODUCTION, EXPORTS, AND CONSUMPTION ARE **EXPECTED TO REACH RECORD LEVELS IN 2025**

GIOVANA DE PAULA AND KEVIN NASCIMENTO

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**T**he Brazilian Animal Protein Association (ABPA) presented its year-end results in December, highlighting the strength of the chicken meat and pork sectors, as well as the egg industry, alongside favorable prospects for exports and grain supply.

According to the chairman of the Association, Ricardo Santin, the combination of a record harvest, price stability, and continued international growth is expected to keep all segments on a positive trajectory. "Brazil remains among the global leaders in meat production and exports," Santin emphasized.

ABPA reported consistent growth in the pork industry in 2025 and ex-

pects this pace to continue into next year. National pork production estimates point to up to 5.55 million tonnes in 2025, a 4.6% increase compared to the 5.305 million tonnes recorded in 2024. For 2026, further growth is expected, with production estimates of up to 5.7 million tonnes, a 2.7% increase year over year.

Exports are also expected to maintain an upward trend. The industry projects exports of up to 1.49 million tonnes in 2025, a volume 10% higher than the 1.353 million tonnes shipped in 2024. For 2026, exports may reach 1.55 million tonnes, representing a further 4% increase.

Domestic availability of pork is expected to grow by up to 2.7% in 2025,

with approximately 4.06 million tonnes projected, compared to 3.952 million tonnes in 2024. For 2026, a 2.2% increase is expected, reaching 4.15 million tonnes. Per capita consumption is expected to increase by 2.3% in 2025, reaching 19 kilograms, up from 18.6 kilograms in 2024. In 2026, per capita consumption is projected to grow a further 2.5%, reaching 19.5 kilograms.

Chicken meat performance also stood out. Brazilian chicken production is expected to total 15.32 million tonnes in 2025, up 2.2% from the 14.972 million tonnes produced in 2024. For 2026, further growth is anticipated, with production reaching up to 15.6 million tonnes, an increase of 2%.

Exports are expected to grow by

up to 0.5%, reaching 5.32 million tonnes in 2025 (compared to 5.295 million tonnes in 2024), and up to 5.5 million tonnes in 2026, representing 3.4% growth year on year.

In the domestic market, chicken meat availability may reach up to 9.98 million tonnes in 2025, a 3.1% increase compared to 9.678 million tonnes in 2024. For 2026, projected availability is 10.1 million tonnes, 1.2% higher than the previous year.

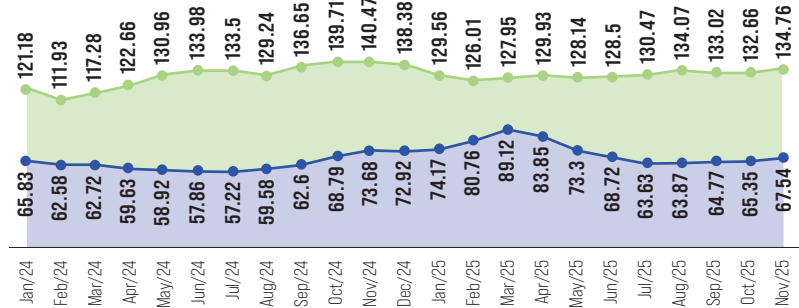
As a result, per capita consumption of chicken meat is expected to rise from 45.5 kg per inhabitant in 2024 to 46.8 kg in 2025 (+2.8%), reaching 47.3 kg in 2026 (+1.2%).

ABPA also reiterated that chicken meat will continue to be the most consumed protein among Brazilians and appreciation is expected to remain stable next year. "The sector is also facing logistical challenges, including delays equivalent to four vessel generations and constraints affecting 70% of ports, which underscores the need for infrastructure investments," Santin explained.

On the sanitary front, the Association highlighted progress in regionalization and prevention protocols. Brazil recorded 185 cases of avian influenza over two years and maintains constant monitoring to prevent impacts on production and exports. ▶

## INPUT COSTS

Corn and soybeans represent more than 70% of the sector's cost composition



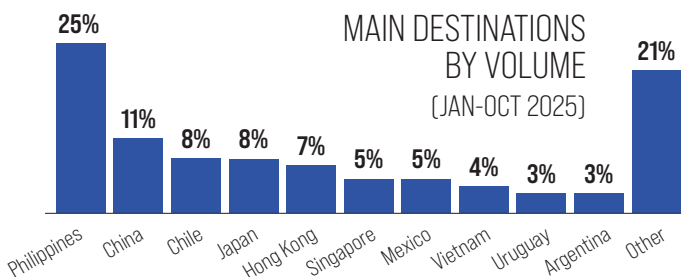
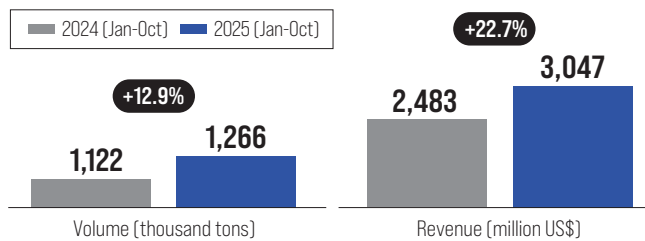
Source: CEPEA. Corn indicators: ESALQ/BMGFBOVESPA, cash price per 60 kg bag. Soybean indicators: CEPEA/ESALQ - PARANA, cash price per 60 kg bag. Data updated as of 26/11/2025

■ Corn (R\$/sc 60 kg) ■ Soybeans (R\$/sc 60 kg)

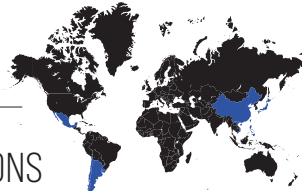
	CORN (thousand tons)					SOYBEANS (thousand tons)				
HARVEST	2022/23	2023/24	2024/25	2025/26*	Var.	2022/23	2023/24	2024/25	2025/26*	Var.
Initial inventory	8,096	7,201	1,884	14,119	649%	9,549	11,034	7,231	10,746	49%
Production	131,893	115,535	141,095	138,837	-2%	159,154	151,283	171,482	177,602	4%
Import	1,313	1,645	1,700	1,700	-	181	821	900	500	-44%
Supply	141,302	124,381	144,679	154,655	7%	-	-	-	-	-
Consumption	79,466	83,996	90,561	94,601	4%	-	-	-	-	-
Export	54,634	38,501	40,000	46,500	16%	101,870	98,815	106,657	112,108	5%
Processing	-	-	-	-	-	52,612	53,665	58,571	59,375	1%
Final inventory	7,201	1,884	14,119	13,555	-4%	11,034	7,231	10,746	13,596	27%

\* November forecast / Source: CONAB

## / BRAZILIAN PORK EXPORTS



## VOLUME IN TONS



DESTINATIONS	2024 (Jan-Oct)	2025 (Jan-Oct)	Var. %
Philippines	206,036	322,076	56.32%
China	199,947	142,100	-28.93%
Chile	92,518	100,072	8.16%
Japan	75,835	95,302	25.67%
Hong Kong	89,438	91,872	2.72%
Singapore	70,673	65,778	-6.93%
Mexico	38,970	63,931	64.05%
Vietnam	41,898	52,366	24.98%
Uruguay	38,888	43,386	11.57%
Argentina	11,460	42,378	269.80%
Other	244,392	274,844	12.46%

Source: SEDEX

 /BRAZILIAN OVERVIEW OF PORK



	2024	2025*	2026*	var.25/24	var.26/25
PRODUCTION (million tons)	5,305	up to 5,550	up to 5,700	up to +4.6%	up to +2.7%
EXPORTS (thousand tons)	1,353	up to 1,490	up to 1,550	up to +10.0%	up to +4.0%
AVAILABILITY (million tons)	3,952	up to 4,060	up to 4,150	up to 2.7%	up to 2.2%
PER CAPITA (KG)	18.6	up to 19.0	up to 19,5	up to 2.3%	up to 2.5%

Source: ABPA, SEDEX

PARTIAL PROJECTION (NOV/25)

The partial projection only considers fresh meat, salted meat, offal, prepared meats and sausages



	VOLUME (tons)	REVENUE (US\$ million)
 PORK	114,546	280,470
 CHICKEN MEAT	472,528	834,04

Source: SEDEX  
The projection considered partial export data released up to 23/Nov

 /BRAZILIAN OVERVIEW OF CHICKEN MEAT

	2024	2025*	2026*	var.25/24	var.26/25
PRODUCTION (million tons)	14,972	up to 15,300	up to 15,600	up to +2.2%	up to +2.0%
EXPORTS (million tons)	5,295	up to 5,320	up to 5,500	up to 0.5%	up to +3.4%
AVAILABILITY (million tons)	9,678	up to 9,980	~ 10,100	up to +3.1%	up to +1.2%
PER CAPITA (KG)	45,5	up to 46,8	~ 47,3	up to +2.8%	up to +1.2%

Source: ABPA, SEDEX

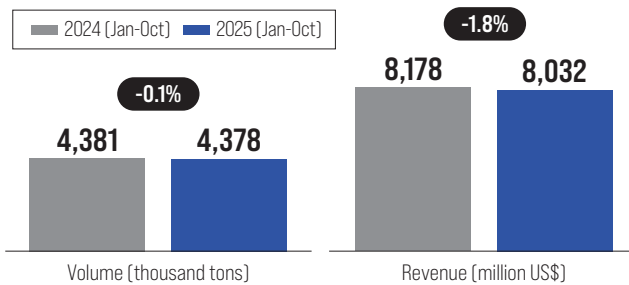
The egg industry also posted significant figures. According to ABPA projections, Brazilian egg production is expected to reach up to 62.25 billion units in 2025, a 7.9% increase compared to the 57.683 billion units recorded in 2024. For 2026, further growth is expected, with production reaching up to 66.5 billion units, an increase of 6.8% year on year.

Egg industry exports are expected to reach up to 40 thousand tonnes in 2025, a 116.6% increase compared to the 18,469 tonnes shipped in 2024. For 2026, further advances are expected, with exports reaching up to 45 thousand tonnes, 12.5% higher than the volume projected for this year.

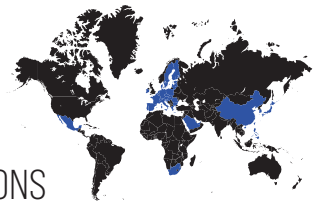
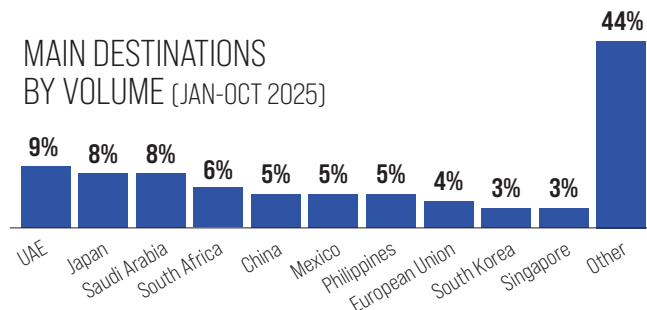
Per capita consumption is expected to increase from 269 units per capita in 2024 to 287 units in 2025 (+6.7%) and 307 units in 2026 (+7% year over year).

According to Santin, Brazil has the capacity to sell between 3 and 5 thousand tonnes per month to the U.S. market. "The scenario for 2026 will be bolstered by record grain yields. Soybeans reached a historic harvest, and corn production exceeds 140 million tonnes, ensuring supply across all segments, from human consumption

 /BRAZILIAN CHICKEN MEAT EXPORTS



MAIN DESTINATIONS BY VOLUME (JAN-OCT 2025)



VOLUME IN TONS

DESTINATIONS	2024 (Jan-Oct)	2025 (Jan-Oct)	Var. %
UAE	390,586	393,686	0.79%
Japan	377,061	337,709	-10.44%
Saudi Arabia	311,313	332,898	6.93%
South Africa	276,561	253,714	-8.26%
China	462,365	228,889	-50.50%
Mexico	171,289	223,169	30.29%
Philippines	197,004	209,765	6.48%
EU	181,985	151,297	-16.86%
South Korea	127,650	146,519	14.78%
Singapore	114,068	124,115	8.81%
Other	1,666,250	1,847,684	10.89%

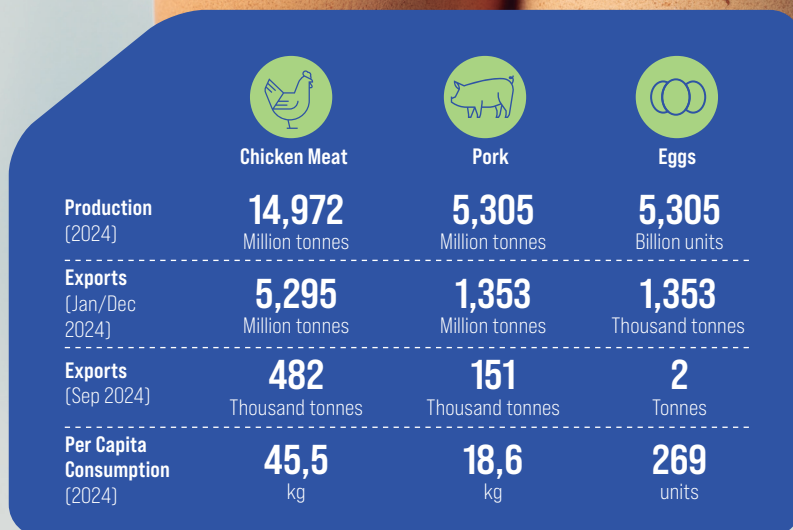
Source: SEDEX

to ethanol production,” he noted.

According to Santin, this structure will support domestic performance and export growth. ABPA also assessed that the Mercosur-European Union agreement could increase sales to the bloc, which currently accounts for 4% of Brazilian exports, with particular emphasis on chicken breast. Regarding China, the Association stated that the country has increased its domestic production, but Brazil will continue to complement demand. Growth is also expected for 2026 in smaller protein segments, such as turkey. ■

“After significant turbulence throughout the year, the industry has proven to be resilient and concluded the period with growth across all production, exports, and per capita consumption indicators for chicken meat, pork, and eggs. The same positive trend is projected for next year amid a scenario of adequate costs and sustained demand for these products, both in the domestic and international markets”

**Ricardo Santin,**  
ABPA President

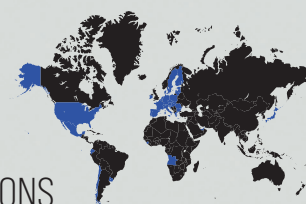
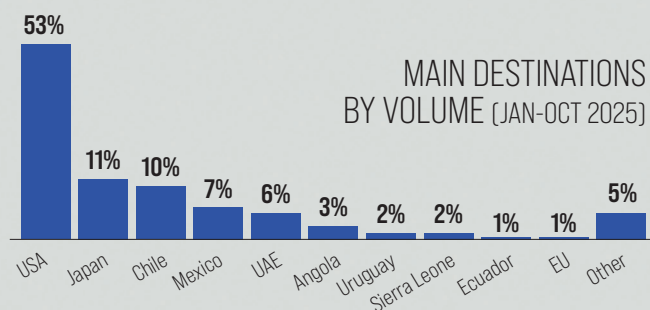
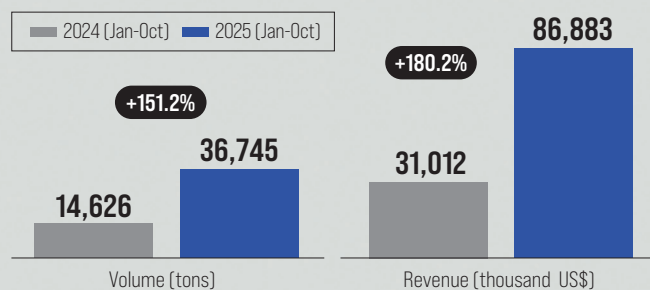


## 🍳/BRAZILIAN OVERVIEW OF EGGS

	2024	2025	2026*	var.25/24	var.26/25
PRODUCTION (billion units)	57,683	up to 62,250	66,500	up to +7,9%	up to +6,8%
EXPORTS (tons)	18,469	up to 40.000	up to 45.000	up to +116,6%	up to +12,5%
PER CAPITA (unit)	269	287	307	up to +6,7%	up to +7,0%

Source: ABPA; SEDEX

## 🍳/BRAZILIAN EGGS EXPORTS



### VOLUME IN TONS

DESTINATIONS	2024 (Jan-Oct)	2025 (Jan-Oct)	Var. %
USA	1.719	19.556	1037,52%
Japan	1.167	3.863	230,99%
Chile	6.300	3.711	-41,10%
Mexico	88	2.725	2983,52%
UAE	1.693	2.345	38,46%
Angola	-	939	-
Uruguay	670	706	5,38%
Sierra Leone	103	473	359,23%
Ecuador	-	324	-
EU	187	255	36,92%
Other	2.698	1.847	-31,54%

Source: SEDEX

# SIAMS 2026: EXPANSION, SECTOR DIVERSITY, AND ADVANCES IN THE EVENT'S INTERNATIONALIZATION

*THE EDITION THUS MARKS A TURNING POINT FOR THE EVENT: BROADER, MORE DIVERSE AND MORE CONNECTED TO GLOBAL DEMANDS—WHILE PRESERVING THE TECHNICAL AND BUSINESS-ORIENTED CHARACTER THAT HAS SHAPED ITS REPUTATION OVER THE YEARS*



**T**he International Animal Protein Show (SIAVS) is preparing its 2026 edition with a series of structural changes that reposition the event within the global animal protein calendar. From 11 to 13 August, at Anhembi Parque in São Paulo, the trade show will occupy 45,000 square meters—a 65% increase compared to the previous edition. The expansion responds to growing demand from Brazilian and international companies and reflects the broader evolution of the production chain traditionally represented at the event.

One of the most visible developments is the advance of internationalization. The 2026 edition will feature exhibitors from 60 countries, reinforcing SIAVS's role as a platform for business and technical exchange across diverse markets. The entry of new company profiles is also noteworthy: for the first time, global brands of industrial processing equipment—such as Marel, Mein and Foodmate—will join the exhibition halls, expanding the range of technologies on display and attracting visitors interested in processing and automation solutions.

Another highlight is the growth of the beef sector's participation, which increased from 220 to more than 620 square meters in this edition. This expansion reflects the growing convergence among animal protein chains and a rising interest in integrated solutions that involve genetics, equipment, inputs, and multidisciplinary production models.

The traditional core of SIAVS has also expanded. Thousands of square meters will be dedicated to major poultry, swine, egg and genetics agribusinesses—segments in which Brazil plays a structuring role in both regional and global supply. Surrounding this central axis, companies specializing in genetics, farm equipment, biological inputs and pharmaceuticals complete the exhibitor mix, offering a comprehensive view of the production chain.

According to ABPA's Business Director, José Perboyre, the expansion of the exhibition layout is a direct result of market demand. "We are in the final stage of commercializing spaces, and what we observe is a consistent movement of interest from both Brazilian and international companies.

The 2026 edition brings greater sector diversity and broadens the event's perspective across the entire production chain."

ABPA President Ricardo Santin sees SIAVS's new configuration as a natural evolution of Brazil's role in global food security discussions. "The event has moved beyond being a showcase of national production to become a technical dialogue space among countries, industries and specialists. This internationalization shows a clear interest in understanding, comparing and jointly developing solutions to the challenges faced by the animal protein sector."

With technical conferences, themat-

ic panels and the presence of foreign delegations, SIAVS 2026 positions itself as a convergence point for innovation, animal health, markets and public policy. The expectation is to bring together thousands of professionals from across the chain, maintaining its focus on high-quality debate and fostering cooperation agendas among producing and purchasing regions.

The edition thus marks a turning point for the event: broader, more diverse and more connected to global demands—while preserving the technical and business-oriented character that has shaped its reputation over the years. ■



# DIFFERENT METHODS OF DATA COLLECTION TO MITIGATE SEASONAL REPRODUCTIVE LOSSES IN SOWS

MSC ISABELA CRISTINA COLAÇO BEZ & PROF. DR. LEANDRO BATISTA COSTA

**B**etween the end of summer and the beginning of fall, pig producers in different regions of Brazil observe a drop in the farrowing rate, an increase in returns to heat, and a reduction in the litter size of sows. This phenomenon, known as seasonal infertility, occurs when the temperature and photoperiod no longer meet the physiological requirements of the sows, disrupting the reproductive cycle, estrus expression, and pregnancy maintenance (Auvigne et al., 2010). Although the problem is widely recog-

nized. Little has been done to mitigate these losses, due to the underuse of monitoring tools such as environmental control systems and technologies for early detection of physiological and behavioral changes in the sows.

## WHY DO SEASONAL CHANGES HAPPEN?

Wild boars, ancestral animals of domestic pigs, are seasonal breeding animals. Even after domestication, modern pigs retain traces of this behavioral pattern, exhibiting an endogenous circannual rhythm that





concentrates reproductive activity in seasons with shorter days. The physiology of current sows still shows strong sensitivity to natural variations in light and temperature (Peltoniemi et al., 2000). Consequently, in intensive production systems, these sows show impaired reproductive performance when exposed to low light levels and high temperatures.

Although breeding programs prioritize the selection of females with greater resilience and ability to sustain high reproductive performance in the face of seasonal fluctuations and other adversities in the herd, controlling climatic conditions in the breeding environment still remains a key factor for animal productivity.

**HOW CAN THESE ENVIRONMENTAL FACTORS BE CONTROLLED?** Currently, most Brazilian farms still adopt traditional methods to control environmental conditions, based on manual cur-

tain management and temperature monitoring using conventional thermometers in the barns, when present. Although functional, this approach has limitations in terms of accuracy and rapid responsiveness to climate variations. Furthermore, technical studies show that simply consulting data from external weather stations is not enough to accurately identify the risks of seasonal reproductive losses in a timely manner (Bloemhof et al., 2008; Auvigne et al., 2010). In this context, the adoption of automatic sensors for environmental data collection has become a strategy to diagnose the impacts of thermal and photoperiod oscillations early on, allowing preventive adjustments in management. The implementation of devices such as data loggers installed directly inside the barns offers more accurate monitoring of the real conditions faced by the animals. The use of these devices has shown ►

## WHAT ENVIRONMENTAL FACTORS NEED TO BE CONTROLLED?



### TEMPERATURE

The thermoneutrality zone for pregnant sows is around 18°C to 20°C (Renaudeau et al., 2012). When the temperature in the facilities exceeds this upper limit, the condition of heat stress begins, with direct consequences on the reproductive performance of the herd. Heat stress triggers a series of harmful physiological changes such as reduced uterine blood flow, maternal hyperthermia,

and imbalance in the endocrine metabolism of females. These alterations create an unfavorable environment for fertilization and compromise, in particular, embryonic development in the early stages of gestation. As a result, there is a significant increase in the return to estrus rates, a drop in farrowing rates, and a reduction in litter size, directly impacting the productivity and profitability of the production system (Bloemhof et al., 2013).



### PHOTOPERIOD

The duration of exposure to sunlight plays a fundamental regulatory role in the hormonal activity of females (Bertoldo et al., 2012). During the transition between summer and fall, there is a gradual reduction in the photoperi-

od, a phenomenon that triggers changes in the reproductive pattern of the herd. This challenge requires specific environmental management strategies to minimize the impacts on reproductive rates and, consequently, on the productive efficiency of the system (Bloemhof et al., 2013).



that, for example, indoor light levels are one of the most important factors in maintain birth rates, evidencing the need for stricter control not only of temperature, but also of the amount and intensity of daily light to which the sows are exposed to.

The implementation of automated monitoring systems, however, does not guarantee uniform results in all production units. Studies show that the most significant effects of environmental interventions occur predominantly on farms with a challenging climate history, low prior adaptation of sows to these climate changes, and/or deficiencies in basic management (Quesnel et al., 2010; Renaudeau et al., 2011). Units that already maintained good lighting and ventilation practices tend to have less seasonal reproductive variation, demonstrating that the impact of environmental control is more evident where there are greater opportunities for improvement. To maximize the benefits of this technology, it is essential to adopt an integrated approach that includes: (1) continuous monitoring of light levels, maintaining levels  $\geq 250$  lux for 14 to 16 hours per day; (2) climate control based on objective sensor data, not subjective perception; (3) integration of systems that connect environmental sensors to ventilation and lighting equipment; and (4) implementation of automatic alerts when parameters exceed established ideal limits.

The analysis of the influence of temperature deserves special attention both on the day of artificial in-

## THE ANALYSIS OF THE INFLUENCE OF TEMPERATURE DESERVES SPECIAL ATTENTION BOTH ON THE DAY OF ARTIFICIAL INSEMINATION AND IN THE THREE WEEKS PRECEDING IT

semination and in the three weeks preceding it. Evidence indicates that adverse thermal conditions during this critical period negatively affect follicular dynamics, the quality of the oocytes, and the uterine environment, compromising fertility even when insemination occurs under seemingly adequate conditions (Sevillano et al., 2016). These strategies allow the transition from reactive management to a predictive and preventive model, essential for maintaining reproductive efficiency in intensive production systems.

### TOWARDS PRECISION PIG FARMING; SMART CLIMATE AS A PRODUCTIVE ALLY:

Modern swine reproduction is moving decisively towards automation and data driven management. Multi-point sensors strategically installed in the facilities, algorithms capable of predicting declines in farrowing rates, and integrated platforms that connect environmental parameters, management practices, and reproduc-

tive performance represent the future that is already present in intensive pig farming. The main lesson of this evolution is clear: it is not enough to know the climate conditions of the region; it is essential to monitor the actual microclimate experienced by the sows within the farm. The strategic combination of indoor environmental data, smart sensors, and preventive management protocols has demonstrated a proven ability to significantly reduce the impact of seasonal infertility on production rates. Although temperature, photoperiod and lighting have variable effects between different production units, indoor light intensity stands out as the variable with greatest impact and, at the same time, more accessible to correct when subjected to continuous monitoring (Lucy & Safranski, 2017; Sánchez-Giménez et al., 2024). Investing in environmental control based on concrete data is no longer a competitive advantage, but rather an essential requirement in the pursuit of maximum reproductive efficiency and economic sustainability in intensive swine production systems. ■

*(Bibliographic references with the authors)*

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# APCS' YEAR REVIEW OF THE ANIMAL PROTEIN INDUSTRY HIGHLIGHTS 2025'S POSITIVE FACTORS

ACCORDING TO THE SÃO PAULO ASSOCIATION OF SWINE PRODUCERS (APCS), **PROFITS IN 2025 MADE IT POSSIBLE TO BEGIN REBUILDING ON-FARM INVESTMENTS**, A KEY FACTOR FOR MAINTAINING COMPETITIVENESS VIS-À-VIS OTHER ANIMAL PROTEINS

VALDOMIRO FERREIRA JÚNIOR

As we close out 2025, we can safely say that it has been a positive year for swine producers. Profitability was consistent throughout the year, which was a significant relief, especially after at least two previous years of heavy losses for the sector. 2025's profits have allowed producers to resume investments in their farms, a key aspect for sustaining competitiveness in relation to other animal protein industries.

2026, however, is expected to remain challenging across the entire pork production chain, particularly the macroeconomic and geopolitical scenario in both domestic and international markets. Key points of attention include:

- 1 Trade relations between the United States and China.
- 2 President Lula's administration stance toward the Venezuelan regime.
- 3 The ability of the side of "Brazil that works," represented by the private sector, to maintain exports above 30% of the national production.
- 4 Exchange rates and how foreign investors will react to Brazilian politics and the economy.

On the domestic side, increased tension is likely due to presidential and National Congress elections. A turbulent environment is to be expected and

essential discussions on national priorities — education, healthcare, and infrastructure — may once again take a back seat, as many potential candidates appear more concerned with maintaining or obtaining power for power's sake.

In this context, agribusiness — driven by Brazilians who truly produce and generate wealth — must continue to invest even more heavily in what it does best: production, innovation, and consecutive yield and efficiency records.

Despite the uncertainties, one conviction remains unchanged: Brazil will continue to help feed the world, supplying high-quality animal protein produced with environmental responsibility and ensuring food security for consumers. Producers are the true national heroes, despite some of the populist media continuing to portray them as objectionable.

Although it has been said before, it bears repeating: "Time will be the judge." Next year, we may have to go to the ballots to correct the course we are taking — a path in which, unfortunately, immorality has prevailed.

May Brazil find its principles again. Order and Progress will be our salvation — in other words, returning to moral values, building a just and fraternal society with children educated within the family, and appreciating the knowledge acquired in our schools. ■

*Valdomiro Ferreira Júnior*  
Agronomist Engineer and Chairman  
of APCS - [fj@apcs.com.br](mailto:fj@apcs.com.br)



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# CONFINA BRASIL 2025 BENCHMARKING PRESENTS AN OVERVIEW OF BRAZILIAN LIVESTOCK

**CONFINA BRASIL 2025 BENCHMARKING** GATHERED THE MAIN RESULTS COLLECTED IN ITS SIXTH EXPEDITION, WHICH COVERED 15 STATES AND 3.1 MILLION HEAD OF CATTLE UNDER INTENSIVE SYSTEMS

**GIOVANA DE PAULA** (With information from Scot Consultoria)  
giovana@dc7comunica.com.br

**A**t the end of last year, Scot Consultoria released the Confina Brasil 2025 Benchmarking. The report aims to understand the reality of intensive livestock farming in Brazil and, over the years, has become a true portrait of the Brazilian countryside in motion: diverse and resilient.

The Project has already passed through more than 700 properties in

16 states since 2020, mapping more than 15.0 million feedlot heads. The expedition collects and analyzes data that drive a more efficient and sustainable livestock farming, while revealing inspiring stories of people who show true passion for the activity.

Confina Brasil addresses fundamental pillars of the activity such as management, nutrition, health, animal welfare, administration and

technological innovation. It also explores strategic topics such as costs and indicators, sustainability, integrated systems, circular economy, waste management, infrastructure, storage and production of inputs, providing a complete view of the operation and the future of livestock.

At the end of each journey, "Benchmarking Confina Brasil" is presented, a descriptive report with an overview



of the data collected during months of research. More than statistics, the project offers strategic inputs for decision-making and reinforces Scot Consultoria's commitment to the professionalization and strengthening of Brazilian livestock production.

According to the report, Brazilian intensive livestock farming recorded important advances in 2025, as an average growth of 18.4% in the volume of animals finished in feedlots this year compared to 2024.

The survey also presented the level of professionalization of management in intensive systems. Among the visited properties, 41.4% monitor their production costs in an integrated manner and 85.9% use some kind of specialized consulting or advisory service. Another highlight is the gradual increase in the use of digital tools and management software, which reinforce the search for efficiency and precision in operational routines.

Feed & Food brings some highlights from the report in this issue. Follow below.

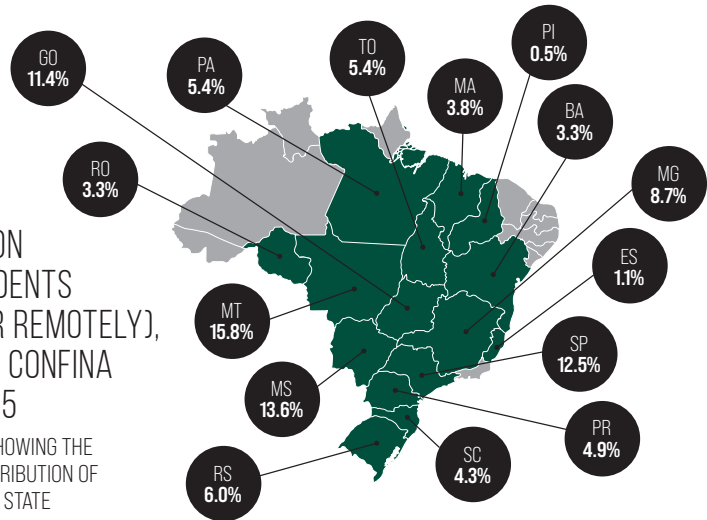
**REPRESENTATIVENESS OF THE SURVEY IN 2025.** In this edition, Confina Brasil 2025 mapped 3.1 million head of cattle kept in feedlots. In addition to the 270.2 thousand animals in semi-feedlot system (Intensive Pasture Rearing and Intensive Pasture Finishing), the universe of farms visited by the expedition brought together 3.4 million animals under intensive and semi-intensive production systems.

Of this total, the survey identified 2.6 million feedlot cattle for slaughter, representing 31.7% of the national forecast, estimated at 8.3 million head confined for this purpose. This number reflects a 11.9% increase in relation to the forecast for 2024 (7.4 million head), consolidating the progress of production intensification in the country.

The analyses presented reflect data collected from 184 properties directly involved in intensive beef production, ranging from small regional structures to large business operations, and considering both the state and national panorama. All information presented in this report is treated confidentially and aggregated, ensuring the anonymity and integrity of participants. This

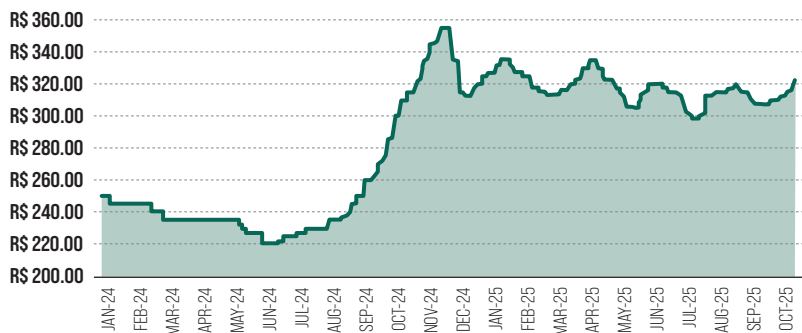
## DISTRIBUTION OF RESPONDENTS (ON-SITE OR REMOTELY), BY STATE – CONFINA BRASIL 2025

MAP OF BRAZIL SHOWING THE PERCENTAGE DISTRIBUTION OF RESPONDENTS BY STATE



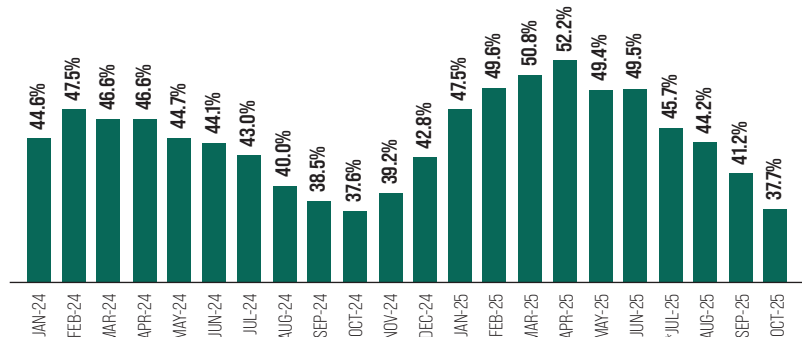
Source: Confina Brasil / Prepared by Scot Consultoria

## PRICE PER ARROBA OF "CHINA CATTLE" IN SÃO PAULO, IN BRAZILIAN REAIS



Source: Scot Consultoria

## SHARE OF FEMALES (%) IN SLAUGHTER, PER MONTH



\*estimates - Source: IBGE, MAPA / Prepared by Scot Consultoria

report reaffirms the purpose that has inspired Confina Brasil since its inception: to always move forward, sharing knowledge about intensive livestock farming in its most diverse realities – from North to South, from the small to the large producer.

The positive outlook and the ex-

change rate for food inputs gave the sector a boost. For corn, a commodity used as a thermometer for the price of the main feeds in Brazil, given its significant participation in the diet composition, the terms of trade, after a more turbulent first quarter, were positive for most of the year, and is even the ►



best in the last 5 years, according to a survey carried out by Scot Consultoria.

The awards and the search for premium meat using heifers, or even to meet export standards for meat from young cattle, is a practice that has grown and may be one of the factors that helped to accelerate the participation of females in slaughter in the first half of 2025. This year is on track to be the year with the highest volume of fresh beef exports in Brazilian history.

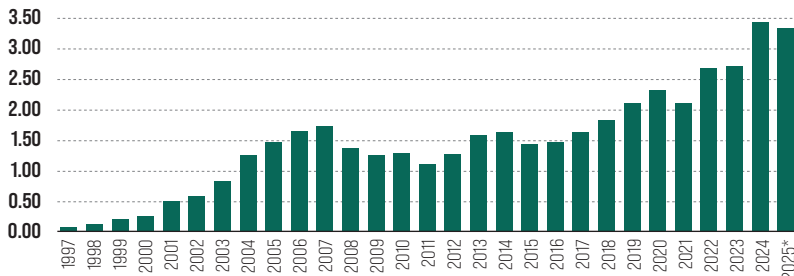
Domestic consumption has stabilized since the early years of the last decade, varying little. However, it is also worth mentioning its relevance, where, even though it is falling in relation to production, the volume available to the domestic market is still above 65.0%. Thus, it is possible to perceive that the Brazilian domestic market has been less buoyant since 2013, failing to keep pace with the growth of exports. All extra production from this period is destined for export and, when the activity is appreciated and global availability is lower, we started to increase production to meet the demand of these markets rather than just exporting the production surplus.

This scenario reflects a world that is reducing its production due to economic issues and limitations in production capacity (whether in terms of area, food and health inputs, certifications, among others), allowing some countries to become leaders in this activity. Furthermore, the reduction of the herd in the United States, at its lowest level since the 1950s, and which, even with a growing productivity, sees its domestic market consuming more, has reduced the country's export capacity, making it even a net importer, and opened the doors for Brazilian beef.

The cost is diluted in Brazil, with a pasture-based production system and a feedlot cycle that lasts, on average, 100 days. With high production capacity and large supply, our price in the international scenario is favored, being just under half the price of finished cattle in the US.

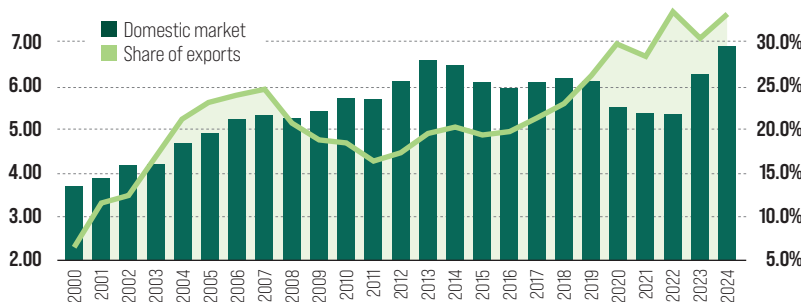
Brazil has stood out not only in shipping beef around the world, but also in exporting replacement cattle and cattle ready for finishing. To date (October 2025), Brazil has shipped 847,450 head of cattle to other countries. According to estimate by Scot

## EXPORTS OF FRESH BEEF, IN MILLION TONS OF CARCASS WEIGHT EQUIVALENT (CWE)



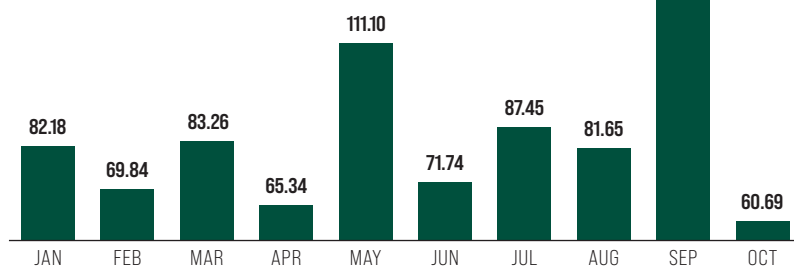
Source: Secex / Prepared by Scot Consultoria

## SHARE OF EXPORTS IN BEEF PRODUCTION, IN PERCENTAGE (RIGHT AXIS), AND VOLUME AVAILABLE TO THE DOMESTIC MARKET, IN MILLIONS OF CWE (LEFT AXIS)



Secex, IBGE / Prepared by Scot Consultoria

## NUMBER OF CATTLE EXPORTED, IN THOUSAND HEADS, PER MONTH, IN 2025



Source: Secex / Prepared by Scot Consultoria

Consultoria, the volume exported this year should be close to the accumulated in 2024, which was 1.0 million head. This demonstrates the global appetite not only for beef, but also for live cattle. It also demonstrates the diversity of foreign demand, since most countries that buy live cattle are Islamic, which differs from the profile of beef buyers.

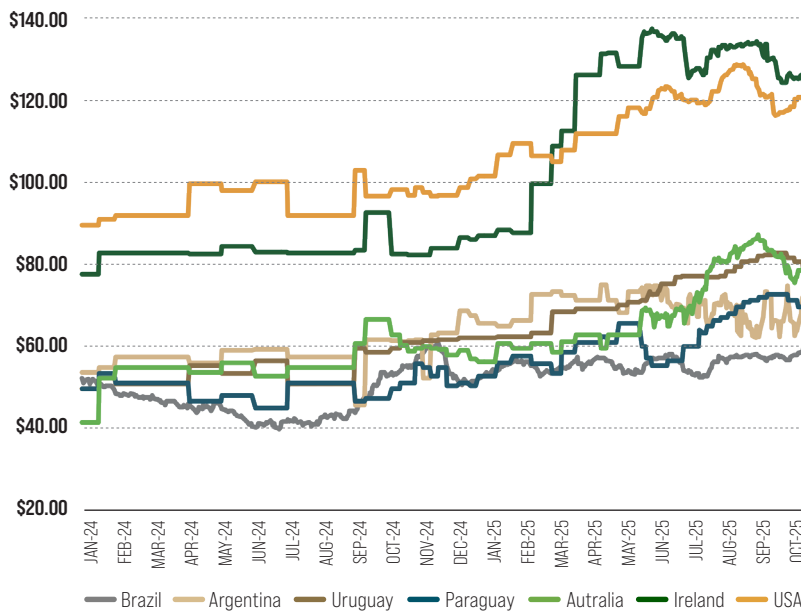
Brazil already stands out in export of fresh beef, with scale, industrial efficiency, and consolidated logistics. However, even so, some destinations

deliberately choose to import live cattle. Live cattle carry a price premium in all destinations analyzed. On a volume-weighted average, the price per ton of live weight is about 28.7% higher than fresh meat. By country, premiums range from 4.1% in Lebanon and 9.4% in the United Arab Emirates to the range of 26.8% to 47.3% in Jordan, Iraq, Morocco, Turkey, and Algeria.

Taking all these factors into account, we can see Brazil increasingly positioning itself as the largest produc-



## PRICE OF FINISHED CATTLE ARROBA PRICE, IN US\$, IN DIFFERENT EXPORTING COUNTRIES



Source: Scot Consultoria

er (currently the second largest) and largest exporter of beef in the world.

The 2025 survey recorded 293,398.7 hectares of pasture and 357,326.0 hectares of crops, with 77.1% of the properties in the sample having pasture and 71.8% having agricultural land. Considering all the states surveyed, the average pasture area was 2,126.1 hectares, while the median was 1,000.0 hectares. The average area for agriculture was 3,107.2 hectares, with a median of 1,000.0 hectares. In the case of

Permanent Protection Areas (PPA) and Legal Reserve (LR), the recorded average was 2,122.5 hectares, with a median of 636.5 hectares. Finally, the area allocated to the feedlot structure averaged 36.0 hectares, while the median was 11.0 hectares. It is important to note the difference between the two indicators.

The average represents the central value of the sample (the point that divides the data exactly in half), revealing a scenario closer to the reality of most properties. For example, half of

the feedlot structures have up to 11.0 hectares. The overall average, on the other hand, is strongly influenced by fewer properties with very large areas (which in the sample reached 20,000 ha of pasture or 400.0 ha of feedlot), which raises the average value and explains the discrepancy observed in all categories. In the feedlots visited on site, the largest property with agricultural area was visited in Mato Grosso, with 25.0 thousand hectares. In the context of the survey, the largest crop area, also considering the remote evaluation, was in Rondônia, with 28.0 thousand hectares, while the largest expanse of pasture was mapped in Tocantins (20.0 thousand hectares).

According to this analysis, the largest PPA/LR was recorded in Pará (32.0 thousand hectares), and the largest feedlot structure is located in Goiás, with 400.0 thousand hectares dedicated to this activity.

Confina Brasil 2025 Benchmarking gathered the main results collected during its sixth expedition, which covered 15 states and 3.1 million head of cattle under intensive systems, consolidating a comprehensive descriptive study of national livestock production. The document offers a technical and productive view of the reality of Brazilian feedlots and semi-feedlots, exploring production profiles, administration strategies, management, adoption of technologies, and the challenges of the sector. More than just collecting data, the goal is to transform it into knowledge, disseminating reliable information that allows producers and other professionals in the sector to make safer strategic decisions and, thus, boost beef production.

Confina Brasil 2025 Benchmarking promotes the connection between all the links in the production chain, ensuring that the potential of national agribusiness is recognized and supported through access to high-quality information.

In addition to the 2025 data, the report presents perspectives for 2026, considering market behavior, challenges inside and outside the farm gate, and the scenario of input and replacement prices. ■

You can access the full report at [www.confinaBrasil.com](http://www.confinaBrasil.com)

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ANA LOUISE DE TOLEDO

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- **Vidara Acid FLB** – A high-tech acidifier that supports microbiological control by reducing pathogenic load and promoting gut health. It contributes to greater feed efficiency and improved zootechnical performance, making it an essential ally in modern production systems.

- **Vidara Lipoenergy**® – A next-generation emulsifier that enhances dietary energy absorption, enabling more cost-effective and efficient formulations. Ideal for optimizing the use of oils and fats, it improves feed conversion and reduces production costs.

- **Vidara Adsorbents** – A product line designed to protect against mycotoxins, ensuring feed safety and animal health. With high bind-

ing capacity and stability, they provide peace of mind to producers even under challenging conditions.

Internationally recognized for the quality and innovation of its products, Vidara works closely with customers, offering technical support and customized solutions tailored to each production reality. Our commitment is to contribute to more efficient, safe systems aligned with global trends in animal welfare and reduced environmental impact.

We believe animal nutrition is one of the pillars for delivering high-quality food to the world. That is why we continue to invest in innovation and strategic partnerships that turn challenges into opportunities.

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**Ana Louise de Toledo**, Technical Commercial Manager – Animal Scientist with a Master's degree in Animal Nutrition from USP




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# THE SECRETS BEHIND HIGH-QUALITY HAYLAGE PRODUCTION

PROCESS EFFICIENCY DEPENDS ON A SET OF STEPS **THAT MUST BE CARRIED OUT WITH TECHNICAL PRECISION**

MARYON STRACK DALLE CARBONARE

**H**aylage has gained increased recognition as one of the most effective strategies to ensure a consistent supply of high-quality forage throughout the year, especially in production systems that face long periods of pasture shortage. The preservation principle behind haylage is anaerobic fermentation. The key difference compared to direct-cut silage lies in the prior wilting of the forage in the field, a step that increases dry matter

content, improves fermentation, and significantly reduces losses. This process broadens the range of forage species that can be successfully ensiled, including tropical grasses, cool-season forages, and legumes. For this reason, haylage has become a well-established tool in dairy farming routines and has been expanding rapidly into beef cattle systems, particularly as a source of physically effective fiber and protein in high-performance diets.

In many regions and during cer-





tain seasons, drying forage for hay production is challenging due to excess moisture, whether as a result of prolonged dew periods, as commonly observed in southern Brazil between May and August, or from frequent rainfall, typical in the North and Northeast during peak plant growth. Under these conditions, forage rarely reaches the dry matter levels required for high-quality hay. Haylage, which requires lower dry matter content and allows forage to be removed from the field earlier, therefore becomes a safer and more reliable alternative.

The efficiency of the haylage-making process depends on a series of steps that must be executed with technical rigor, starting with cutting the forage at the appropriate physiological stage for each species. Field drying time is influenced by several factors, including forage species, biomass yield, location, season, altitude, solar radiation, temperature, relative humidity, wind, and others. The longer the forage remains in the field, the greater the nutrient losses.

To speed up field drying, spreading and tedding can be useful tools. However, special care is required with legumes, as these operations can lead to significant leaf loss.

Windrowing should only be performed once the forage has reached the ideal dry matter content. Proper adjustment of the windrower is essential, particularly to avoid soil contamination. Up to the windrowing stage, all operations are identical regardless of

the type of silo to be used. From collection onward, however, the process differs according to the storage system: forage harvesters are used for bunker, drive-over, or bag silos, while balers are employed in bale-based systems.

When forage is collected using forage harvesters, it is picked up, chopped, loaded, and transported to the silo, where it is distributed in layers and compacted using tractors. The silo is then sealed with plastic sheets to ensure the anaerobic conditions required for fermentation. Forage harvesters can also be used when storage is in silo bags.

Haylage can also be stored in bale systems, which may be cylindrical (the well-known “haylage bales”) or rectangular. In these systems, forage is collected using specific balers, and the formed bales are wrapped with specialized plastic films that ensure proper sealing and create the ideal environment for fermentation. Some modern “combination” balers perform both baling and wrapping in a single operation, optimizing time and operational efficiency. Balers equipped with knives chop the forage, increase density, and improve bale compaction, contributing to a more efficient preservation process.

Proper storage of wrapped bales also requires attention. Bales should be stored upright on a firm, clean surface and protected from objects that could puncture the plastic. Frequent inspections help identify damage that must be repaired immediately to keep air from entering.

Haylage production is an extremely versatile alternative, suitable for small farms as well as large-scale and intensive systems. However, success depends directly on careful planning, proper machine adjustment, correct forage species selection, and a solid understanding of the factors that influence drying and fermentation. When these elements are well managed, haylage results in a stable, nutritious, and reliable forage source, improving feed predictability and making a significant contribution to animal performance and the overall sustainability of the farming system. ■



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# SUSTAINABILITY IN LIVESTOCK PRODUCTION IN 2026

A YEAR OF ADJUSTMENTS, PRESSURES, AND POSSIBLE PATHWAYS

ANA DORALINA MENEZES

For years, we have discussed sustainability in livestock production. We have talked about international requirements, market pressure, climate, transparency, traceability, and the environment. But as we enter 2026, there is a sense that the debate has matured and that there is greater clarity about what is truly at stake. Many issues that once seemed distant, complex, or externally imposed remain challenging, but today they present

themselves in a more concrete and unavoidable way, especially for those seeking to remain competitive in an increasingly demanding scenario.

So, what actually changes?

What changes is perspective more than enthusiasm. Sustainability is no longer seen as a complement to the production system; it moves to the center of the conversation precisely because it touches on fundamental and sensitive issues: efficiency, reputation, risk,

market access, and business longevity. In 2026, Brazilian livestock production is not necessarily at a “turning point,” but rather at a point of decision, one in which each step carries clearer consequences for the future of the sector.

Transparency remains the most decisive trend. The global market is increasingly organized around data: where products come from, how they were produced. Traceability takes on an even more central role, as the structure



that connects sanitary, production, and environmental information. The recently released study on traceability reinforces this movement by showing that robust, coordinated systems reduce uncertainty, protect producers in times of crisis, increase predictability, and provide a solid foundation for public policy, credit, and more informed purchasing decisions. In 2026, traceability is no longer a promise; it is an expectation. However, its adoption requires time, coordination, and, above all, attention to the limitations faced by many small and medium-sized farms, which still encounter long-standing barriers to incorporating technology at the pace expected by the market.

Along the same lines, there is a growing understanding that sustainability is, fundamentally, efficiency. Restoring pastures, managing herds properly, reducing losses, improving nutrition and genetics, adopting animal welfare practices, and caring for human well-being in the workplace – none of this is new. What is new is how clearly the eco-

nommic relevance of these practices is now recognized. Science confirms it, but daily life in the field is even more instructive: well-managed areas are more productive, selected and properly handled animals perform better, and integrated systems reduce climate-related vulnerabilities. In 2026, this logic tends to consolidate out of necessity, not merely as rhetoric.

The climate agenda also takes on a different character. The discussion gradually moves away from polarization and into the realm of economic rationality. Clearer metrics, closer alignment with official inventories, and greater involvement of technical institutions help reduce uncertainty and turn the topic into a criterion for planning, investment, and credit. The sector still faces challenges – measuring emissions is not trivial, comparing methodologies is difficult, and communicating progress requires care – but it is beginning to address climate issues with greater naturalness and less defensiveness.

Amid all of this, one point becomes unavoidable: sustainability will only advance if it makes sense for those working in the field. In 2026, there is a growing understanding that efficiency, predictability, and market access can generate real gains, but only if these benefits also reach producers facing the greatest barriers to entry. This is where inclusion and productive reintegration become strategic agendas. It is not enough to recognize those who are already well positioned; pathways must be opened for those who remain on the margins, or the risk is a supply chain that moves forward unevenly and, as a result, becomes less resilient.

It is within this complex, gradual, and highly nuanced context that the role of the Brazilian Roundtable on Sustainable Livestock gains relevance. The Roundtable acts as a bridge: between links in the value chain, between market expectations and productive realities, and between external requirements and viable domestic pathways. In 2026, this function of convergence becomes even more essential.

By producing applicable knowledge, encouraging best practices, organizing dialogue, anticipating trends, supporting productive reintegration, and strengthening coherent narratives,

the Roundtable helps reduce noise and broaden understanding. The organization does not solve all challenges, but it helps structure the conversations, reinforce priorities, and highlight where real opportunities lie. In such a diverse sector, this role of articulation and clarity is fundamental.

Perhaps this best defines the current moment: not a sector that is unanimously aligned, but one that is more aware of what needs to be done, more willing to confront sensitive issues, and more attentive to the consequences of ignoring movements that are already structural.

For this reason, 2026 has everything it takes to be the year in which Brazilian livestock production adjusts its pace and acknowledges its limitations, identifying and creating the best pathways and beginning to shape, with greater realism, the future it seeks to build. It will be a year in which efficiency, climate, transparency, animal and human well-being, productivity, and inclusion will share the same table as concrete areas of work.

In the end, sustainability was never a destination. It is a path, and paths are rarely straight. In 2026, that path will become clearer, more demanding, and still attainable for those who choose to follow it with resilience, clarity, and consistency. ■



**Ana Doralina Menezes,**  
*Chair of the Brazilian Roundtable  
on Sustainable Livestock*

# NELORE FEST CELEBRATES BREED EXCELLENCE, RECOGNIZES LEADERSHIP, AND HONORS THE TOP PERFORMERS OF 2025

THE EVENT ACKNOWLEDGED THE WINNERS OF THE RANKINGS, HONOREES OF THE “CATTLE INDUSTRY OSCARS,” AND PRODUCERS WHO STOOD OUT IN THE NELORE QUALITY CIRCUIT

Nelore Fest 2025 – an event that closes the annual calendar of the Nelore breed – brought together more than 400 breeders, leaders, technicians, and specialists in early December to celebrate the results of the 2025 National Nelore, Polled Nelore, Nelore Coat Color Rankings, and the Nelore Quality Circuit. Considered one of the most important moments for the breed, the event also marked the presentation of the Golden Nelore Trophy, known as the “Cattle Industry Oscars.”

ACNB President, Victor Paulo Silva Miranda, emphasized the advances of the National Ranking during the 2024/2025 cycle. According to him, the increase in the number of animals evaluated and the growing interest among breeders further reinforce Nelore as a genetic benchmark in Brazil. In total, 39 ranked Nelore shows, 11 Polled Nelore shows, and 14 Nelore Coat Color shows were held. “The performance of the National Ranking was exemplary. We saw more animals in the show rings, greater breeder participation, and an even higher quality standard in the evaluation process. These advances reaffirm the breed’s continuous evo-

lution and strengthen the role of the ranking as a tool for measuring genetic standards and Nelore progress.”

Nelore Fest also featured the official announcement of the winners of the 2025 Nelore Quality Circuit, the world’s largest bovine carcass evaluation championship. This edition recorded historic participation, with 49,700 animals evaluated across 12 Brazilian states, as well as Paraguay and Bolivia, bringing together 388 cattle producers. For the ACNB’s president, the volume of animals assessed reflects producers’ growing commitment to technology, production efficiency, and continuous improvement. “Seeing this record, combined with such a high level of quality, fills us with pride and reinforces how well Nelore cattle are prepared to meet the challenges of an increasingly demanding market.”

**CATTLE INDUSTRY OSCARS.** During Nelore Fest, the Brazilian Nelore Breeders Association (ACNB) also presented the “Cattle Industry Oscars” to companies and individuals who stood out throughout 2025. Matsuda Sementes e Nutrição Animal received the ‘Excel-

lence in Agribusiness’ award, while Banco Bradesco received the ‘Commitment to Agribusiness’ award. In the communications category, *Giro do Boi*, a program aired by *Canal Rural*, was honored as a Breed Promoter, and Paulo Henrique Arantes Horto, president of Programa Leilões, received the ‘Breed Advocate’ award.

ACNB also highlighted the role of women in the cattle industry, recognizing Eny de Miranda Heringer, Elizete Assad Garetti, and Arlinda Cristina Oliveira Cruvinel Borges with the ‘Outstanding Woman in the Nelore Breed’ award. Additionally, specialists José Luiz Niemeyer dos Santos, Alberto Laborne Valle Mendes, Carlos Viacava, and Jonas Barcellos Corrêa Filho were honored with the ‘Contribution to the Evolution of the Breed’ award.

“Nelore Fest goes beyond celebrating results. It is a moment to recognize careers, partnerships, and contributions that collectively build the evolution of the Nelore breed in Brazil. By honoring different links in the production chain, we reinforce the importance of integration and continuous efforts in support of an increasingly strong, efficient, and sustainable cattle industry.” ■



# FERMENTATION AND INNOVATION: ENHANCING THE BIOAVAILABILITY OF VITAMIN D

*BIO D<sup>®</sup>, FROM HUVEPHARMA<sup>®</sup>, STANDS OUT NOT ONLY FOR ITS EFFECTIVENESS, BUT ALSO FOR ITS PRODUCTION PROCESS*

JULIO CONEGUNDES

In a market driven by production efficiency, sustainability and nutritional security, choosing the right source of vitamin D has become a strategic advantage. Among the available options, Bio D<sup>®</sup>, from Huvepharma<sup>®</sup>, stands out not only for its effectiveness, but also for its production process: rigorously controlled fermentation ensures high levels of purity, consistency, and superior performance. In addition, it allows the delivery of the same amount of vitamin with lower inclusion levels per ton, optimizing the formulation.

**Fermentation production: what does it really mean and why does it matter?**

- **Stability and safety:** The final molecule also offers better resistance to feed processing, as well as to the challenges of transportation and storage time.
- **Industrial standardization:** Each batch is standardized in size, color, and purity, a process carried out with high quality control, ensuring a highly safe product, thus being an excellent ally for precision nutrition.
- **Sustainability:** Compared to complex synthetic processes, fermentation reduces waste and energy consumption.

Bio D<sup>®</sup> is a metabolite capable of accurately reflecting the actual vitamin D status in the body.

Data presented in international studies show that Bio D<sup>®</sup> promotes **superior absorption (83% vs. 66%)** and **greater retention (93% vs. 80%)** compared to traditional vitamin D.

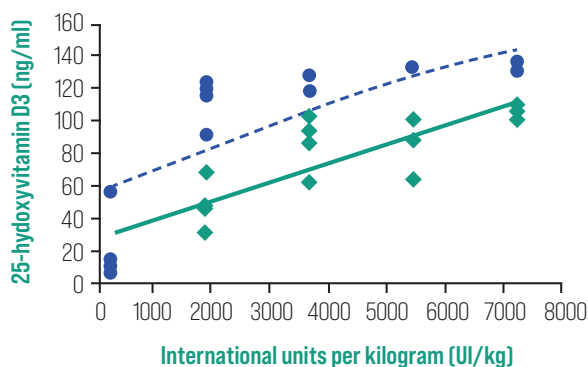
Supplementation with Bio D<sup>®</sup> allows:

- faster response compared to conventional vitamin D;
- elimination of the initial hepatic conversion step;
- better retention and higher bioavailability;
- greater metabolic predictability.

Bio D<sup>®</sup> delivers superior performance with lower inclusion per ton, surpassing other vitamin D sources and generating greater profitability for the producer. A modern solution, aligned with the current requirements of the animal production market.

Bio D<sup>®</sup> reaffirms Huvepharma<sup>®</sup>'s commitment to technology, precision and has established itself as an advanced option in vitamin D supplementation. ■

**Bio D<sup>®</sup>** has **higher retention** and **faster absorption** compared to traditional Vitamin D3



● Traditional Vitamin D<sub>3</sub>      - - - Linear regression (vitamin D<sub>3</sub>)  
 ◆ Bio D<sup>®</sup> (vitamin D + 25-hydroxyvitamin D<sub>3</sub>)      — Linear regression (vitamin D<sub>3</sub> + 25-hydroxyvitamin D<sub>3</sub>)



**Julio Conegundes**, Veterinarian, Regional Commercial Manager - Huvepharma Brasil



# BRAZIL'S DAIRY MARKET EXPECTED TO POST MODERATE GROWTH IN 2026

PRODUCER PROFITABILITY ALSO **SHOWED LOWER VOLATILITY** COMPARED TO RECENT YEARS

**GIOVANA DE PAULA**  
giovana@dc7comunica.com.br

**B**razil's milk production is expected to register moderate growth in 2026, influenced by slightly lower producer prices at the beginning of the year and by a high comparison base, given the strong growth recorded in 2025.

This is according to Andrés Padilla, Analyst at Rabobank. On the demand side, he believes the outlook should remain moderately positive, driven by the start of an interest rate-cutting cycle, elevated public spending, and unemployment re-

maintaining at low levels. "These factors should help sustain dairy consumption throughout next year," he noted.

**CONTROLLED COSTS SHOULD LEAD TO ANOTHER INCREASE IN PRODUCTION, SAYS RABOBANK.** The year 2025 left positive memories for milk producers. Primary production accelerated in the first half of the year, supported by controlled feed costs, positive profitability, and less volatile weather conditions. "Unlike recent years, there were fewer climate-relat-

ed problems such as floods and extreme droughts, which made producers' work easier. The expectation is that the year will close with milk production growth of around 6.8% compared to 2024," said Andrés Padilla.

As regards end-consumer demand, even with inflation at a level similar to the previous year (IPCA at 4.6%), there was stability or slight growth across most dairy product categories. "This performance was supported by factors such as low unemployment, government income transfer pro-

grams, and economic growth close to 2% of GDP,” the analyst explained.

According to him, the first half of the year was marked by farm-level production that was significantly higher than expected. After a 3.1% increase in the first quarter, the second quarter recorded growth of 9.3% compared to the same period in 2024—the fastest pace of expansion in the past ten years. “Although the comparison base was low due to the production decline caused by the major floods in Southern Brazil in 2024, the data still came as a positive surprise,” he explained.

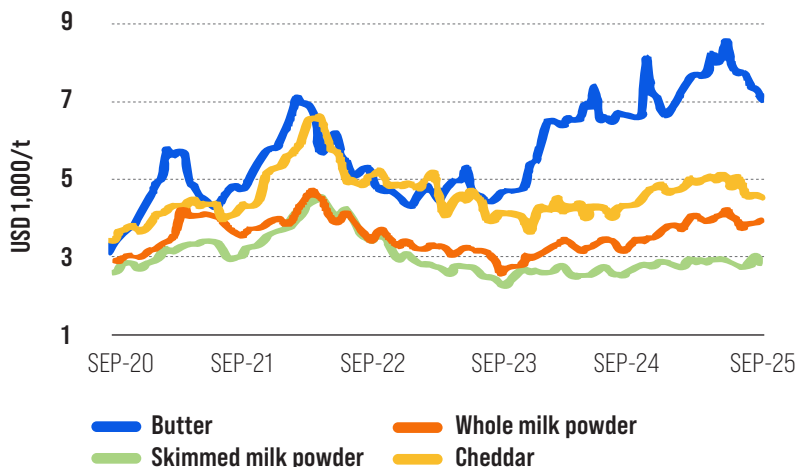
Producer prices started 2025 at historically high levels (BRL 2.65 per liter) and showed lower volatility vis-a-vis previous years. In the first nine months of the year, price volatility was 50% lower than the average of the past six years, as measured by the standard deviation. “It is likely that, at the end of year final assessment, prices will be below those observed at the end of 2024, reflecting higher production and the absence of prolonged droughts in the second half of the year,” he stated.

As a result of lower milk price volatility and a trend toward stable or moderately declining grain costs, producer profitability also showed less fluctuation compared to recent years. According to MilkPoint Mercado data, the indicator measuring revenue minus feed costs has remained above BRL 30 per cow per day over the past 18 months (since March 2024), and it is expected to stay at similar levels through the end of 2025.

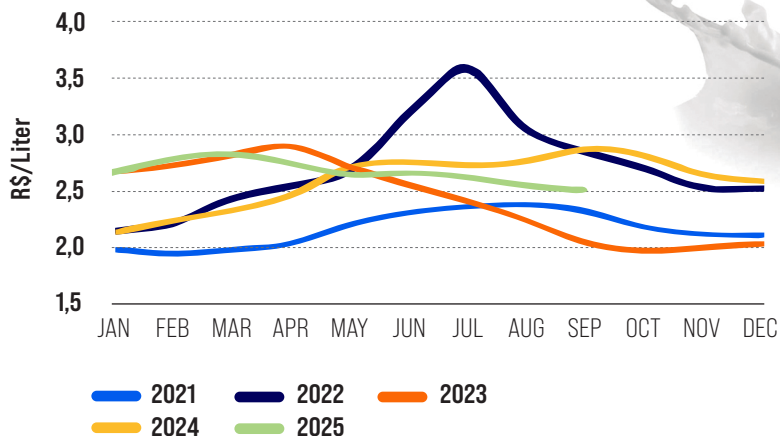
Against this backdrop, Brazil’s milk production, according to Andrés Padilla, Analyst at Rabobank, is expected to close the fourth quarter with growth of around 4%. Combined with the strong gains recorded in the second and third quarters, this should result in an estimated total increase of 6.8% in milk production volume in 2025 compared to 2024.

On the international front, Brazilian imports are expected to end the year at levels slightly below those of 2024, but still relatively high, close to 250 thousand tons, Padilla explained. The appreciation of the Brazilian real and somewhat lower international prices supported import flows from Mercosur, despite the strong growth in domestic production throughout the year. ▶

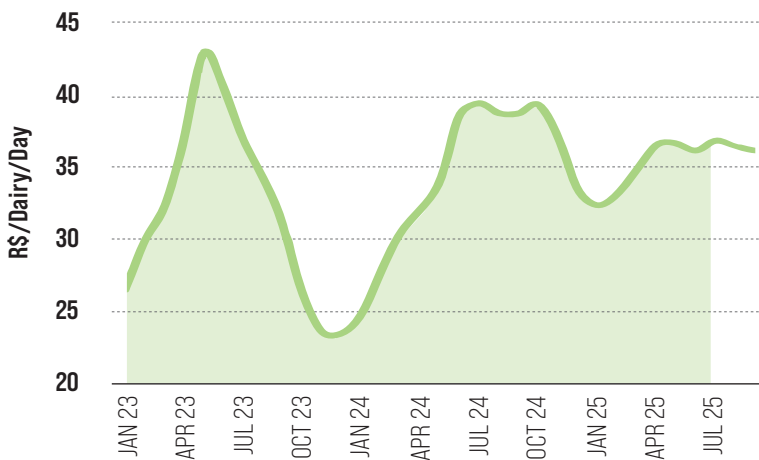
## INTERNATIONAL PRICES (GDT)



## NET PRODUCER PRICE (BRL/LITER)



## ESTIMATED PRODUCER PROFITABILITY



Expansion among large-scale producers remains strong in the dairy sector. Farms producing more than 5,000 liters per day already account for 28% of total national output and are expected to continue increasing their share. Factors such as labor costs and the higher profitability enabled by greater scale have been key drivers of consolidation in Brazil's primary dairy sector.

Looking ahead to 2026, the international market may face further price declines in the first half of the year. RaboResearch projects that global supply will continue to trend upward in late 2025 and in the first half of 2026. In the second half of 2025, milk production in the seven main exporting regions is expected to grow 1.8% year-on-year, before slowing to 1.1% in 2026.

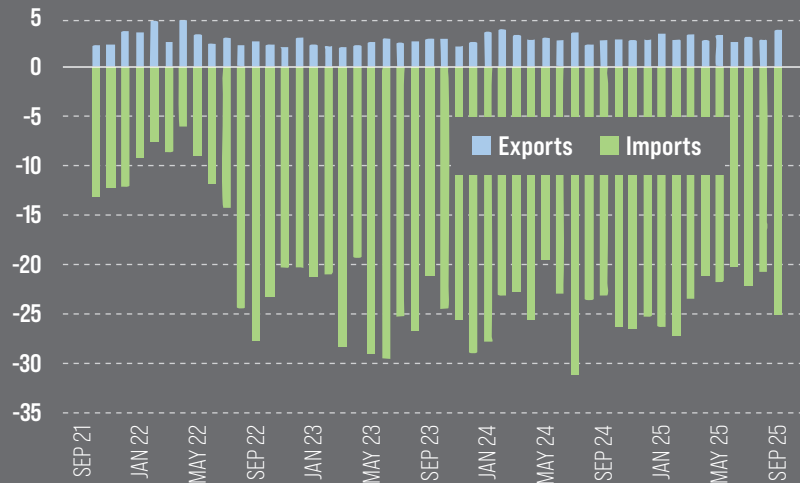
This increase will be driven by improved margins for global producers and by the recovery from disease outbreaks recorded in the United States and Europe. The absence of extreme adverse weather conditions in most regions throughout 2025 allowed producers to rebuild margins and prepare their herds for the current cycle of rising production. In Europe and Oceania, prices paid to producers are close to record levels at the end of 2025, while feed costs are expected to remain favorable through 2026.

In Mercosur, Argentina and Uruguay are expected to show a slowdown in production growth in 2026 due to tighter margins. However, domestic consumption in Argentina is not expected to grow significantly, supporting the country's export potential. In Brazil, the combination of slightly lower international prices and rising domestic supply may lead to a further decline in dairy imports in 2026 compared to 2025 levels.

For prices paid to producers in Brazil, 2026 is expected to begin at a lower level than 2025, with the possibility of further declines in the fourth quarter of the year. Despite moderate grain costs, lower milk prices should limit the potential for margin expansion in the first half of the year. Price behavior throughout the year will depend on supply and demand factors and may show greater volatility compared to 2025, which was an atypical year of low-price volatility.

Despite this, Brazil's milk produc-

## BRAZILIAN DAIRY TRADE BALANCE IN THOUSANDS OF TONS



## GLOBAL MILK

GLOBAL milk production has shown continuous growth among the main exporting regions, with solid expansion in the United States, Europe, and South America. In the second half of the year, milk production also increases in the Southern Hemisphere due to seasonal factors.

In the Brazilian market, the dairy trade balance continues to show elevated import levels, although lower than those recorded last year. From January to August, imported volumes declined by approximately 6% compared to the same period in 2024.

In contrast, inspected domestic milk production is accelerating, reflecting improved profitability in recent years. The second quarter of 2025 recorded a strong increase of 9.3% compared to the same period in 2024, marking the tenth consecutive quarter of production growth.

Brazil reached a historical record in the annualized 12-month series, with 26.1 billion liters produced, and the outlook is for this volume to continue rising, especially driven by investments from large-scale pro-

ducers. This increase in production resulted in greater domestic milk availability, putting downward pressure on prices.

The external environment presents a scenario of uncertainties that warrant close attention in the coming months. The deterioration of Argentina's political environment, with impacts on the exchange rate, should be closely monitored, as Argentina is Brazil's main trading partner in the dairy market. The United States and China also remain at the negotiating table, and the outcome of this trade agreement could have significant impacts on the Brazilian market, which is highly dependent on China across several commodities.

Positions taken by the Trump administration toward Brazil generate significant uncertainty regarding bilateral trade relations and potential demands for concessions, which could also affect Brazil's dairy sector.

Therefore, the current scenario—both domestic and external—suggests prudence and caution in the coming months.

Source: Embrapa - Dairy Intelligence Center

tion is expected to grow throughout 2026, albeit at a more modest pace than in the previous year. Slightly lower margins and a high comparison base lead RaboResearch to project an increase in supply of around 2.5% in 2026, compared to 6.8% in 2025.

With respect to domestic demand, several factors point to the continuation of a moderately positive scenario for dairy and food consumption in general. The start of an interest rate-cutting cycle in 2026 appears highly likely, which, combined with elevated public spending, could support continued and positive growth in the Brazilian economy. Even with inflation still high and above target, unemployment is expected to remain low. The continuation of the economic growth cycle is expected to keep unemployment at low levels, supporting consumption and allowing for additional volume gains.

**POINTS OF ATTENTION.** Increases in income transfer programs and persistently low unemployment are expected to continue limiting the availability of rural labor in 2026.

In line with global trends, Brazilian dairy producers are expected to increase the production of cross-bred calves using beef bull semen as an additional source of revenue. *(With information from Rabobank)*



**MARCOS TANG**, PRESIDENT OF GADOLANDO, TAKES A STRONG STANCE IN CALLING FOR URGENT MEASURES SUCH AS REDUCING IMPORTS OF MILK AND DAIRY PRODUCTS

## GADOLANDO POINTS TO A DIFFICULT YEAR FOR PRODUCERS AND SUGGESTS MEASURES FOR IMPROVED RESULTS IN 2026

INCREASING PRODUCER REMUNERATION, REGULATING IMPORTS, CAMPAIGNS TO BOOST CONSUMPTION, AND THE PURSUIT OF EXTERNAL MARKETS **ARE AMONG THE DEMANDS AIMED AT REVERSING THE DIFFICULTIES FACED BY THE DAIRY SECTOR**

**M**arcos Tang, president of the Association of Holstein Cattle Breeders of Rio Grande do Sul (Gadolando), presented an assessment of 2025 for the dairy sector, as well as perspectives for the year ahead. While Tang acknowledged that milk producers worked with great effort and dedication, supported by Gadolando's partnership and technical assistance, he stated that 2025 will end as a very difficult year, mainly due to the low remuneration paid per liter of milk.

Tang emphasized that operating at very low prices makes the activity economically unfeasible. "We love our cows, we love the Holstein breed, we love the dairy sector, but we cannot live on passion and love alone. We need income; we need profits for our own livelihood," he warned. He argued that dairy farming is one of the main economic activities, one that keeps men, women, and young people in rural areas, and therefore needs to be properly recognized and better remunerated. "We need to stop just delivering milk; we need to sell milk. I have always defended this," he stressed.

Regarding 2025, Tang noted that dairy imports surged after August, worsening an already challenging scenario marked by rising domestic production. "This culminated in a poor outcome for 2025. Higher local production combined with high import levels resulted in a very difficult year-end," he explained.

As a result, the president of Gadolando has taken a firm position in advo-

cating urgent measures such as reducing imports of milk and dairy products and imposing anti-dumping rules—an agenda defended in partnership with the National Confederation of Agriculture (CNA). "We also advocate joint efforts involving producers, industry, retail, and authorities to clarify the benefits of milk consumption. Our position is that Brazil should not be an importer of milk. We have a quality product and can even become exporters," he added.

Looking ahead to 2026, Tang said the goal is to urgently regulate imports, place greater value on domestic and local producers, and open new external markets. "We need to move forward, mature the supply chain, and become an exporting country. But at this moment, as an urgent measure, we call on political and administrative authorities to take action to regulate imports geared to saving local producers," he emphasized.

Finally, the president of Gadolando reiterated that even in a challenging environment, producers should continue registering their animals, conducting milk recording, and performing morphological classification. "Even amid the crisis, producers have carried out outstanding work, as we can see in our year-end highlights—the genetic progress our producers are achieving. This truly honors us and shows that the producer, especially the Gadolando member, is a maestro in the activity of producing milk and raising Holstein cows from birth to maturity with excellence and animal welfare," he concluded. ■

# ASBRAM ANTICIPATES GROWTH IN LIVESTOCK PRODUCTION IN 2026

MEETING OF THE BRAZILIAN ASSOCIATION OF MINERAL SUPPLEMENT INDUSTRIES (ASBRAM) PRESENTS DATA SHOWING A DECLINE IN SALES; **HOWEVER, THE ASSOCIATION REMAINS OPTIMISTIC ABOUT GROWTH OUTLOOK IN 2026**

The Brazilian Association of Mineral Supplement Industries (ASBRAM) presented, in December, an overall assessment of 2025, its projections for the coming year, and announced its newly elected board of directors.

President Fernando Penteadó Cardoso Neto expressed his optimism: "I am very optimistic about livestock production in 2026; however, there will be some developments that could negatively affect the scenario, such as economic issues and political disputes," he noted.

According to ASBRAM data, the mineral supplement industry is expected to close 2025 with a 4.5% decline in sales. "Nevertheless, we expect a year of

growth in 2026. The main positive development identified in 2025, one that should continue into the coming year, is a more profitable livestock sector, with more stable cattle prices. The main points of concern are high interest rates, which limit access to capital for small and medium-sized producers," he said.

Elizabeth Chagas, Executive Vice President of ASBRAM, explained that the decline seen in mineral supplement sales falls within the expected range of variation. "2025 was an extremely challenging year, with U.S. tariffs and political difficulties that adversely affected our segment," she said. "We remain committed to supporting the sector by improving our communication. We achieved direct

engagement with 4,394 participants in our in-person and virtual meetings, based on a comparative analysis of 2024 and 2025," she added.

She also highlighted the growth in membership. "We closed the year with a total of 100 member companies, an increase of 18 members compared to the end of 2024," she said.

Elizabeth Chagas also pointed out three factors likely to affect Brazilian livestock production in the coming year. "We must remember that next year we will have elections, the World Cup, and a calendar with many extended holiday periods," she stated. "I am confident that Brazilian producers will keep their steady advancement in management practices.



ASBRAM remains fully committed to their efforts and is working ever more closely with producers,” she added.

Luis Adriano Teixeira, LATAM Commercial Director at ABS, explained that today data are critical to effective corporate management, strategic decision-making, and business direction. “Understanding how farmers are using technology is key to market growth and value creation for companies. However, this information is fragmented, and there is no single, unified database in Brazil. We are all aware of the limitations of IBGE-produced data or any single official source,” he stated.

Teixeira is a veterinarian graduated from the University of São Paulo (USP) and holds an MBA in Agribusiness Management from Fundação Getulio Vargas (FGV). He has 30 years of experience in beef cattle genetic improvement, marketing, and business management, having worked in both national and multinational agribusiness companies, including as CEO Brazil for the CRV Group, manager of the Montana Program, and livestock manager at Agropecuária CFM. He currently serves as President of ASBIA, the Brazilian Association of Artificial Insemination, which represents more than 95% of the sector, and as LATAM Commercial Director at ABS, a global leader in bovine genetics.

“ASBIA has been developing the ASBIA Index for more than 40 years, monitoring the use of beef and dairy genetics all over Brazil, with data segmented by production system (beef and dairy), breeds, and regions at the municipal level. This forms the foundation of beef and dairy production, since everything starts with the cows,” he stated.

According to Teixeira, the ASBIA Index provides a clear snapshot of Brazilian cattle producers who adopt technology, and shows where they are located and, more importantly, it anticipates what the next calf crop entering the market will look like; it is information that is ‘worth more than gold’ for companies operating in the sector. “This is why several companies that are not directly linked to genetics, such as animal health companies, slaughterhouses, and nutrition companies have become ASBIA members: to gain access to this information. Successful companies are those that antic-

ipate market trends and respond with appropriate products and services to meet customer demand. After all, data are the ‘new oil’, and the ASBIA Index provides companies with that level of information and market visibility to companies,” he emphasized.

And how can ASBRAM members benefit further from ASBIA? Teixeira reinforced his thesis that data are the ‘new oil.’ “Imagine an animal nutrition company knowing, almost two years in advance, what the upcoming crop of F1 crossbred animals will look like, both in volume and by region, to plan its product, service, and workforce strategies accordingly. Imagine your company being able to identify which dairy regions use the highest level of technology, reflected, for example, in the greater adoption of sexed versus conventional genetics. All of this information, generated for ASBIA members, has the potential to support better strategic and commercial decisions, ultimately enabling companies to better serve their customers and increase profitability,” he concluded.

According to Hyberville Neto, a veterinarian and Managing Director of HN Agro, expectations for the beef cattle sector are positive. “We are seeing replacement and finished cattle prices trending higher, remaining above 2024 levels for much of the year,” he said.

Despite record slaughter levels and beef production, finished cattle prices have remained firm throughout the year, according to Neto, as the market absorbed the levels reached in the second half of 2024. “We expect an initial decline in the supply of females in 2026, which should lead to lower beef production. With exports remaining at strong levels, we expect less beef availability in the domestic market. From our perspective, this creates room for the market to remain firm even in a weaker economic environment,” he stated.

#### **RODRIGO MIGUEL TAKES OFFICE AS PRESIDENT OF ASBRAM.**

During ASBRAM’s most recent meeting, Marcos Whitaker chaired the Extraordinary General Assembly to elect the members of the Board of Directors. Running on a single slate, Vice President Rodrigo Miguel was elected to serve for the 2026–2027 term.

Rodrigo Miguel is LATAM General

Director and a member of the Technical and Strategy Committee at the Royal Agrifirm Group. He holds an MBA in Business Management from Fundação Getulio Vargas (FGV), has a strong global network, and brings solid negotiation skills with key accounts. He currently serves as LATAM General Director and a member of the Global Technical and Strategy Committee at Royal Agrifirm Group, where he has helped the company achieve its strategic objectives while considering all stakeholders.

Over more than 20 years, he has built his career at leading agribusiness companies, particularly in the animal nutrition protein production segment, with a strong focus on sales management, marketing, and the leadership of technical and commercial teams. As a C-level executive, he has gained extensive international experience, coordinating and participating in strategic projects across Latin America and Europe. He specializes in the development of strategic plans, with a deep understanding of consumption trends and both family-owned and corporate governance, consistently seeking to develop new business perspectives.

He stated that he intends to build on the solid work already accomplished by the association. “We will continue to be a reference in the mineral supplementation market in Brazil, a market that has been undergoing structural shifts in product profiles, technology adoption, and the concentration of meat production nationwide,” he said.

According to Rodrigo Miguel, mineral supplementation has evolved to keep pace with changes in the livestock market. “Today, 70% of the country’s mineral supplementation is represented by ASBRAM. This is a significant responsibility and positions us as a benchmark not only for the domestic market but also for export markets,” he emphasized.

He also pointed out that 2026 is likely to be a very positive year for Brazilian livestock production. “Brazil’s meat production has surpassed that of the United States, placing us as the world’s leading producing country. Exports also continue to grow strongly, with the opening of new markets. The outlook for 2026 is excellent, driven by the livestock cycle and the dynamics of exports,” he concluded. ■



# ABIEC CLOSES 2025 WITH HISTORIC RECORDS, SANITARY PROGRESS, AND CONSOLIDATION OF BRAZILIAN BEEF IN THE INTERNATIONAL MARKET

FROM JANUARY TO NOVEMBER, BRAZIL EXPORTED 3.15 MILLION TONS, **UP 18.3% COMPARED WITH THE SAME PERIOD IN 2024**, GENERATING REVENUES OF USD 16.18 BILLION, AN INCREASE OF 37.5%

The Brazilian Beef Exporters Association (ABIEC) closes 2025 with a historic performance for Brazilian beef, marked by strong export growth, expanded international presence, and structural advances for the sector. From January to November, Brazil exported 3.15 million tons, representing an 18.3% increase compared with the same period in 2024, with revenues of USD 16.18 billion, up 37.5%. This partial performance already exceeds the total export volume and value recorded in 2024, consolidating 2025 as one of the most significant years in the historical series.

The expectation is that the country will end the year with close to 3.5

million tons exported and approximately USD 17 billion in revenues, setting records in both volume and value. This outcome reflects not only the recovery in global demand but also a more strategic positioning by the Brazilian industry, with expanded institutional presence, diversification of destinations, and strengthened recognition of Brazil as a reliable supplier of beef protein.

One of the most relevant milestones of 2025 was Brazil's recognition as a country free of foot-and-mouth disease without vaccination, granted by the World Organization for Animal Health (WOAH/OMSA). This new sanitary status represents

a historic advance for national livestock production, raising Brazil's level of international credibility and expanding its potential access to more demanding markets, with a direct impact on competitiveness, predictability, and value addition to exports.

Even amid a challenging international environment—marked by events such as the tariff hikes imposed by the United States and safeguard investigations conducted by China—ABIEC maintained a strong international presence, actively participating in technical, diplomatic, and governmental meetings in Brazil and abroad. Throughout the year, the association engaged in agendas with the Ministry



of Foreign Affairs (Itamaraty), the Ministry of Development, Industry, Trade and Services (MDIC), and foreign authorities, as well as meetings in Washington with representatives of the USDA, MICA, and sectoral entities, and frequent dialogues with Chinese authorities, reinforcing technical and institutional engagement.

The trade promotion agenda was another pillar of 2025's performance. ABIEC held eight Brazilian Beef Dinners, five Brazilian Beef Business Rounds, and three editions of The Beef on the Road, in addition to expanding its participation in trade fairs and business missions worldwide. In total, there were 39 international actions across 23 countries, with a strong presence in Asia, the Middle East, Africa, Europe, and the Americas. The inauguration of ABIEC's office in Beijing reinforced the strategy of maintaining a permanent presence in key markets and further brought the sector closer to major decision-making and consumption centers.

On the technical front, 2025 was marked by concrete advances in opening and expanding markets for Brazilian beef. Throughout the year, new destinations were opened, including the Solomon Islands, the Bahamas, El Salvador, Vietnam, Guatemala, Suriname, Kenya, Bhu-

tan, Tanzania, and Azerbaijan—the latter for thermally processed products. Additionally, markets that already had bilateral agreements defined specific sanitary certification models in 2025, such as Papua New Guinea, Bosnia and Herzegovina, Sarawak (Malaysia), and the United Arab Emirates, increasing predictability and legal certainty for exports.

There was also an expansion of scope in strategic markets, with authorization for new products—including offal and bone-in beef—in destinations such as Morocco, Indonesia, the Philippines, and Israel, broadening Brazil's export portfolio and adding value to operations. In parallel, ABIEC monitored a significant volume of international audits at meatpacking plants, with more than 170 facilities audited over the year by authorities from countries including China, the United States, the European Union, Japan, Mexico, Indonesia, Iran, Malaysia, and Tanzania, reinforcing the high sanitary, industrial, and traceability standards of the Brazilian supply chain.

In institutional communications, 2025 marked a consistent repositioning of ABIEC, strengthening the public presence of this sector and enhancing its capacity to respond to strategic issues. Throughout the year, the association produced more than 100 press releases, gave approximately 150 interviews, and issued over 50 official statements, increasing the visibility of Brazilian beef. The new ABIEC and Brazilian Beef websites—available in four languages—combined with an average of 200,000 monthly social media views, expanded the reach of information, along with the launch of the Beef Report in Spanish and Mandarin, in addition to Portuguese and English.

The sustainability agenda gained prominence in 2025, with ABIEC participating in numerous initiatives, studies, and events, including an active role at COP30 in Belém, bringing topics such as traceability, decarbonization, and food security to the international debate. This engagement was reinforced by the launch of the Beef Report - Sustainability (COP30 Special Edition) and by ABIEC's approval as a Participating Partner of the FAO LEAP Partnership—recognition that consolidates the associa-

tion's international technical dialogue and the sector's commitment to science-based approaches, harmonized metrics, and sustainable production.

According to ABIEC President Roberto Perosa, 2025's performance demonstrates the sector's resilience and maturity. "2025's performance was extraordinary. After a very positive 2024, we managed to expand volume, value, and international presence. Even with temporary impacts, such as the tariff hikes imposed by the United States, the industry responded quickly, demonstrated resilience, and emerged even stronger. Normalization restored predictability and reinforced Brazil's role as an indispensable supplier in the global beef supply," he stated.

The 2025 results further reflect the joint efforts of ABIEC, its member companies, and the public sector.

The partnership with ApexBrasil, through the Brazilian Beef Sector Project, was essential to strengthening trade promotion and the product's international presence. The association also maintained ongoing dialogue with the Ministries of Agriculture and Livestock; Development, Industry, Trade and Services; and Foreign Affairs, in addition to institutional engagement with the Parliamentary Front for Agriculture, reinforcing the coordination required to advance the export agenda.

#### **FOR 2026, ABIEC'S OUTLOOK COMBINES OPTIMISM WITH REALISM.**

The expectation is for stability at a high level following two consecutive years of strong growth. At the same time, the environment is deemed to be favorable for advancing access to strategic markets. "We enter 2026 with active negotiations and a concrete prospect of progress in markets such as Japan, South Korea, and Turkey, which have high potential and have been addressed through technical and continuous efforts in partnership between the private sector and the government. The vision is for more qualified growth, with predictability, competitiveness, and higher value added," Perosa concluded.

ABIEC brings together 47 companies that account for 98% of Brazil's beef exports and works to defend, promote, and expand access for Brazilian beef in international markets. ■

# THE SECTOR ENDED 2025 STRENGTHENED AND AIMS FOR STRATEGIC ADVANCES IN 2026

IN 2025, FISH FARMING RECORDED A RECOVERY IN PRICES, CONSOLIDATION OF CONSUMPTION, AND POLITICAL MOBILIZATION

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**B**razilian fish farming ended 2025 with a scenario marked by significant challenges, structural advances, and a strengthening of the consumer market. This assessment comes from Francisco Medeiros, president of Peixe BR, who highlights a year of contrasts and transformations for the industry.

According to Medeiros, 2025 was marked by two distinct moments. “We had a first semester with a large supply

of products, which pushed prices down. Industries also reduced prices in food service and wholesale”, he explains.

The trend reversed in the second semester, when demand began to grow again. “In the last quarter, there was a significant recovery in the prices paid to producers. However, the industry found it difficult to pass these values on to the market immediately,” he points out.

In spite of the oscillations, the sector

closes the year with a positive perspective. The inclusion of farmed fish in the basic basket of tax reform is considered a milestone. "This inclusion represents a strategic gain for competitiveness in the domestic market", he says.

The consumer has also become an important ally, "The period of lower prices brought new consumers, who became loyal. Today, in search of healthiness and flavor, they prefer farmed fish, especially tilapia" he adds.

**IMPACTS OF THE MASSIVE TARIFF.** Regarding the massive tariff imposed on exports, Medeiros recognizes that the effects were uneven. "The volume exported by Brazil represents only 3% to 5% of total production, so the overall impact was limited. But for exporting companies, which have dedicated investments, the effect on cash flow was very significant", he reflects.

The mandatory migration of the product to the domestic market required adjustments. "Transferring

3% to 5% is not difficult. But transferring 30% is a big challenge. Even so, the sector managed to adapt and cope with this scenario", he evaluates.

**THE RAMIFICATIONS OF IMPORTS FROM VIETNAM.** Another critical point was the increase in fish imports from Vietnam. Medeiros points out distortions in the process. "Imports should occur when there is a shortage of product, which is not the case with tilapia. This happened precisely in the year with the largest harvest and lowest prices for producers," he notes.

According to him, the episode raised concerns about health risks and the lack of competitive equality. "There are protocols allowed in Vietnam that are not authorized in Brazil. There is also no tax, environmental or labor equivalence. We are demanding that the authorities correct these non-conformities to ensure fair competition", he reinforces.

Despite the adverse scenario the

president of Peix BR remains confident: "The Brazilian product is resilient. I am sure that we will win this battle too".

**COMPETITIVENESS AT THE HEART OF THE 2026 AGENDA.** For 2026, the association maintains competitiveness as its guiding principle. "Our goal has always been to improve access to national fish farming markets. The producer needs to feel these gains on the property - and this has been happening over the last 11 years", says Medeiros.

Government regulation remains the biggest obstacle for the sector. To address this challenge, Peixe BR is working at the state and federal levels to reduce the regulatory impact on the industry.

In addition to political and regulatory actions, the association works on crucial technical fronts. "We have accelerated projects in genetics, marketing, and technology, from production to processing, all aimed at increasing efficiency and strengthening the sector," he concludes. ▶

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# IMPACT OF U.S. TARIFFS REDEFINES BRAZILIAN TILAPIA FARMING AND ACCELERATES TRANSFORMATIONS OF THE COMING YEARS

**2025 BROUGHT** and unprecedented combination of challenges for Brazilian fish farming: sudden changes in international trade, internal price dynamics that surprised the market, health advances driven by needs, and the urgency to diversify our production destinations. Juliano Kubitza, a veterinarian from the University of São Paulo, finance specialist from the Getúlio Vargas Foundation, and director of Fider Pescados, explains this issue.

According to him, it was an intensive year, which required rapid adaptation, strategic repositioning, and a broader view of Brazil's role in this ex-

panding sector. Tilapia production, specifically, entered 2025 with high expectations and ends the year with lessons learned that should shape the pace of growth in the near future.

Among these challenges, the most significant change came, of course, from the tariffs imposed by the United States", he points out. "The jump from around 10% to 50% in import tariffs altered the natural course of Brazilian expansion in a country with high demand, insufficient domestic production, and high purchasing power. The impact was immediate: Brazil's share fell from approximately

5% to close to 3% of total U.S. imports. This reaction reinforced the need to review the strategy, putting diversification back at the center of the production chain agenda," he highlights.

In addition to the U.S., he pointed out that the sector had to revisit its map of global opportunities. "Market analysis has shown that each destination offers different limitations and possibilities—and that none of them, individually, can replace the potential of the United States," he says.

China, for example, despite being one of the world's largest fish consumers, is self-sufficient and maintains practical barriers for importers. Canada, on the other hand, even with high purchasing power, has more restricted consumption habits. "Given this scenario, the European Union emerges as a more promising alternative, while the prospection of new markets becomes essential to sustain the pace of growth in Brazilian production," he says.

In the domestic market, according to Kubitza, the effects were also different from what was expected. "Instead of falling, prices continued to rise, even in the face of lower export flows. According to the Center for Advanced Studies in Applied Economics (Cepea), linked to the University of São Paulo (USP), tilapia close November at R\$ 9.29/kg, above the R\$ 8.02/kg recorded shortly after the tariffs were announced, and R\$ 7.75/kg at the end of 2024. This shows that the supply is not large enough to cause significant devaluation, reinforcing that Brazil is its beginning its trajectory as a relevant producer and exporter," he said. At the same time, 2025 stimulated important advances in the health sector: more robust biosafety practices, strengthened immunity protocols, increased use of vaccines and nutraceuticals, and investments in preventive management. Health maturity is no longer a trend, but rather a strategic pillar for sustaining productivity and competitiveness," he concludes. ■

**FRANCISCO MEDEIROS:** "AFTER A YEAR OF OSCILLATIONS, THE SECTOR REGISTERS A RESUMPTION OF PRICES, CONSOLIDATION OF CONSUMPTION, AND POLITICAL MOBILIZATION ON CRITICAL ISSUES AS MASSIVE TARIFFS, INVASIVE SPECIES AND IMPORTS"



**JULIANO KUBITZA:** "2025 WAS AN INTENSE YEAR THAT DEMANDED RAPID ADAPTATION, STRATEGIC REPOSITIONING, AND A BROADER VISION OF BRAZIL'S ROLE IN THIS EXPANDING SECTOR"



## IN A YEAR OF MANY MILESTONES, AGRIBUSINESS MOVES FORWARD WITH STRATEGY AND CLARITY

Every new year brings with it a quiet sense of renewal. In agribusiness, this feeling is not accompanied by disruption, but rather continuity. The field never stopped to start over. It simply carries on, adjusting, observing, and maturing.

January is a time for planning and scenario reading. This is when the agribusiness chain organizes priorities, revisits strategies and observes more closely the environment in which it will operate. It is also at this time that seasonal trends and occasions that influence the rhythm of the country and consumption are anticipated. A year that brings together elections, the World Cup, and a sequence of holidays, changing communication windows, periods of public attention, and market dynamics. For agribusiness, being prepared for these milestones does not mean guiding you communication by then, but understanding how they impact behavior, perception, and timing, adjusting presence, language, and strategy throughout the year.

The agribusiness market enters the year with familiar challenges and growing expectations. Transparency, responsibility, animal welfare. Sustainability, and traceability remain at the center of conversations. The difference is in the way these themes are presented and, above all, in the consistency with which they are lived out. It is not enough to communicate well. It is necessary to sustain,

with attitude, what is put into words. When communication and practice go hand in hand, the market takes notice. When they drift apart, trust is weakened.

Throughout the year, care in communication will be decisive to sustain relationships, preserve credibility, and strengthen positions. In an essential sector, every message carries responsibility for those who produce, those who consume, and society as a whole.

In the end, January doesn't call for haste. It calls for direction, it calls for consistency. And, in agribusiness, consistency has always been synonymous with results. Those who start the year with clarity about what they deliver, what they sustain and how they position themselves, go through cycles with more strength. Because the harvest is not measured solely in terms of productivity. It is also measured in terms of trust. ■

IT IS NOT ENOUGH TO COMMUNICATE WELL. IT IS NECESSARY TO SUSTAIN, WITH ATTITUDE, WHAT IS PUT INTO WORDS. **WHEN COMMUNICATION AND PRACTICE GO HAND IN HAND, THE MARKET TAKES NOTICE.** WHEN THEY DRIFT APART, TRUST IS WEAKENED



**Larissa Spricigo**  
Veterinarian, specialist in strategic marketing for agribusiness, branding, communication and brand positioning



# OVERVIEW OF BRAZILIAN SHRIMP FARMING: CHALLENGES AND OUTLOOK FOR 2026

IN THE SHORT TERM, IT IS BELIEVED THAT ALTHOUGH EXPECTATIONS POINT TO THE MAINTENANCE OF FIRM PRICES IN THE INTERNATIONAL MARKET, **THERE WILL VERY LIKELY BE EPISODES OF VOLATILITY**





## ITAMAR DE PAIVA ROCHA

**B**efore addressing the core subject of this article, it is essential to highlight that, in the global context — despite the gloomy forecasts presented in Ho Chi Minh City (Vietnam) and Utrecht (Netherlands) in 2023 regarding the future of farmed marine shrimp production and prices — the sector has continued to grow. In 2025, an increase of approximately 7% in volume and 10% in value was recorded. Even in the face of the new reality of U.S. tariff hikes, imports expanded in 2025 not only by the world's largest importing market (China), but also — most notably — by the European Union (the second-largest global importer) and the United States of America (the third-largest global importer). This outcome was, in fact, a welcome surprise and has contributed to the continued expansion of production and exports by the world's leading producers (Ecuador, China, India, and Vietnam) and exporters (Ecuador, India, and Vietnam).

However, from a realistic perspective, it is believed that in the short term, although international prices are expected to remain firm, there will very likely be intermittent volatility. In the medium term, there are concrete prospects of supply adjustments that should ease the pressure on producer prices in countries experiencing rapid production expansion.

On the other hand, in the Brazilian context — having stood out in 2003 as the largest producer and exporter of farmed shrimp in the Americas, and in 2004 as the largest exporter of tropical shrimp to the European Union — domestic shrimp consumption, which was just over 0.3 kg per capita in 2003,

increased to 1.3 kg per capita in 2025. This figure includes farmed production (230,000 tons), an additional 25,000 tons of wild-caught shrimp fully absorbed by the domestic market, and 3,160 tons of imported shrimp. As a result, Brazil became the world's fourth-largest shrimp consumer, behind only China, the United States, and Japan.

This strong consumption performance in Brazil, considering its population of approximately 210 million inhabitants, has drawn the attention of several shrimp-producing countries — such as Ecuador, India, Vietnam, Argentina, and Peru — which have begun exporting shrimp to Brazil despite a history of contamination by viral and bacterial variants, and without the proper Import Risk Analysis (IRA). This practice runs counter to the provisions of Normative Instruction No. 02/2018. Consequently, after exhausting all administrative measures to dissuade the Ministry of Agriculture and Livestock (MAPA) from these voluntary and illegal imports, the Brazilian Shrimp Farmers Association (ABCC) filed a lawsuit against acts of the Federal Government NM3 carried out by MAPA, which authorized the importation of shrimp originating from the aforementioned countries.

In this context, ABCC sought to substantiate its legitimate and well-founded concern with solid and irrefutable technical arguments. To this end, it relied on Brazil's sanitary authority, recognized for its highest level of technical and sanitary expertise, regarding the health risks associated with the introduction of exotic pathogens — including viral and bacterial variants — through imports. Such risks, beyond jeopard- ►

# STATUS OF FARMED SHRIMP PRODUCTION IN BRAZIL – 2025

Nursery Area

**43,000**  
HECTARES

Production

**230,000**  
TONS

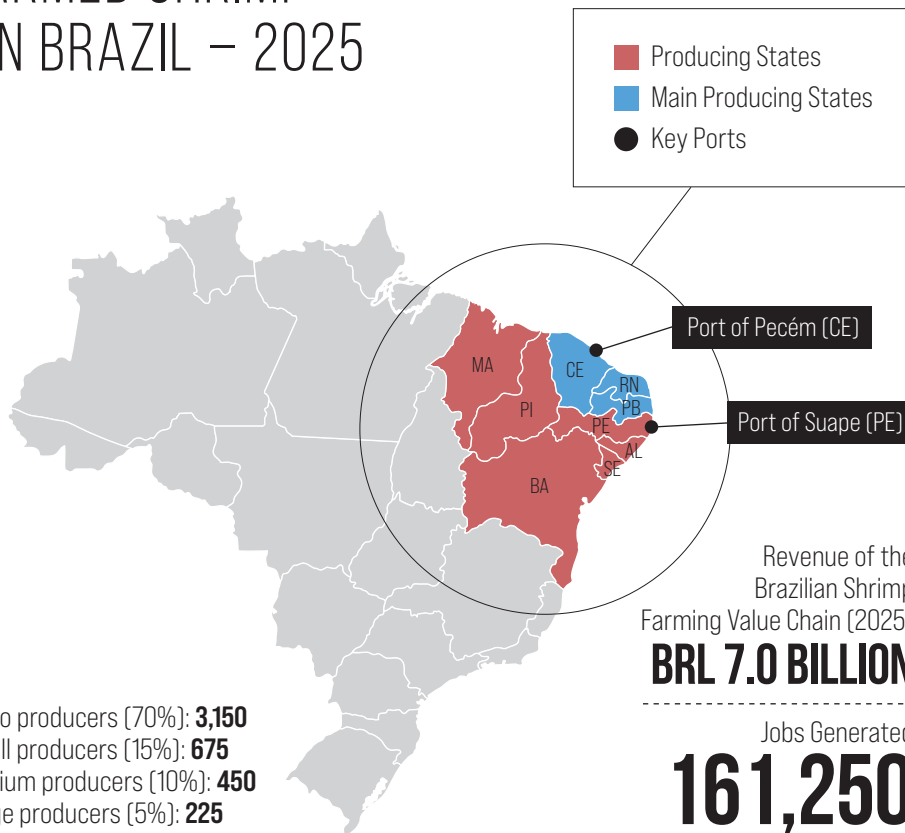
Sales (Domestic Market)

<b>70%</b>	<b>30%</b>
Fresh shrimp	Frozen shrimp

Number of Producers

**4,500**

- Micro producers (70%): **3,150**
- Small producers (15%): **675**
- Medium producers (10%): **450**
- Large producers (5%): **225**



Revenue of the Brazilian Shrimp Farming Value Chain (2025)

**BRL 7.0 BILLION**

Jobs Generated

**161,250**

dizing the sustainability of Brazilian shrimp farming, would irreversibly affect the country’s rich biodiversity of native crustaceans. The comprehensive Technical Rationale on the Risks Associated with Brazil’s Imports of Shrimp from Ecuador, Vietnam, India, and Peru will serve as the basis for ABCC’s legal challenge before the Federal Court in Brasília.

Returning to the core subject of this article, it is first worth noting that after reaching its most critical point in the productive performance of farmed *Penaeus vannamei* shrimp in 2016 (60,000 tons), Brazil’s shrimp farming sector resumed sustainable growth from 2017 onward, reaching production of 230,000 tons in 2025 — an increase of 283% compared with 2016. Of particular significance, 85% of Brazilian shrimp farmers are micro and small producers, operating individual areas of up to 10 hectares. The state of Ceará leads both in number of producers (2,500 producers) and production (121,000 tons), followed

by Rio Grande do Norte (550 producers and 40,000 tons) and Paraíba (521 producers and 27,000 tons). Together, these states accounted for 82% of national farmed marine shrimp production (230,000 tons) in 2025.

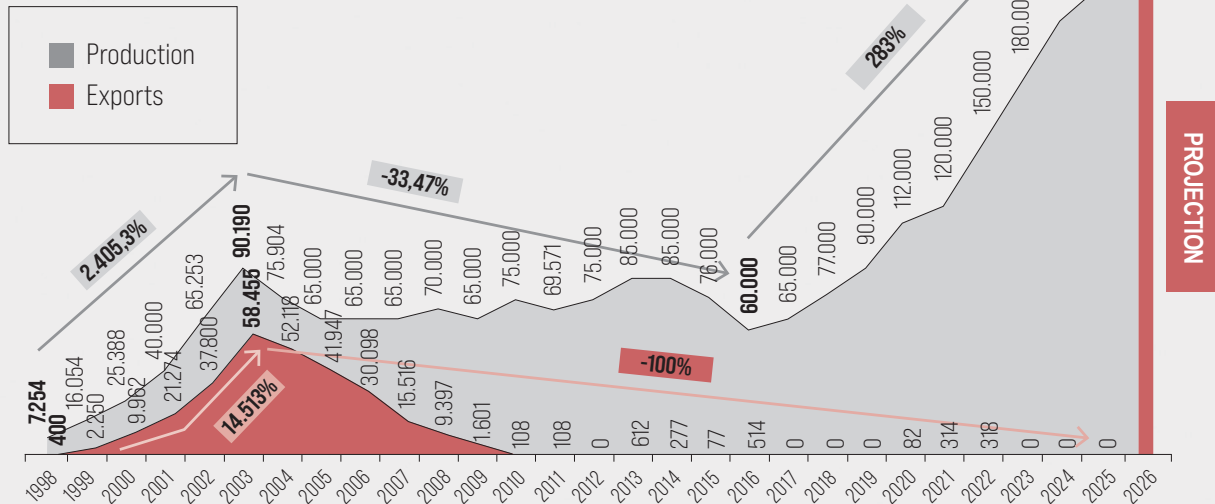
Another relevant point worth highlighting is that 100% of Brazil’s marine shrimp production — both farmed (230,000 tons) and wild-caught (25,000 tons) — was destined for the domestic market. This occurred even though 70% of this production was marketed as fresh product preserved on ice, with a shelf life of only 5 to 7 days, which hinders its distribution inland. As a result, Brazil’s 5,250 cities with fewer than 100,000 inhabitants—home to approximately 100 million people — rarely have access to farmed or wild-caught shrimp sold in fresh form.

Naturally, the Brazilian shrimp production chain has been closely monitoring the opportunities offered by cold-chain logistics to improve the sector’s economic performan-

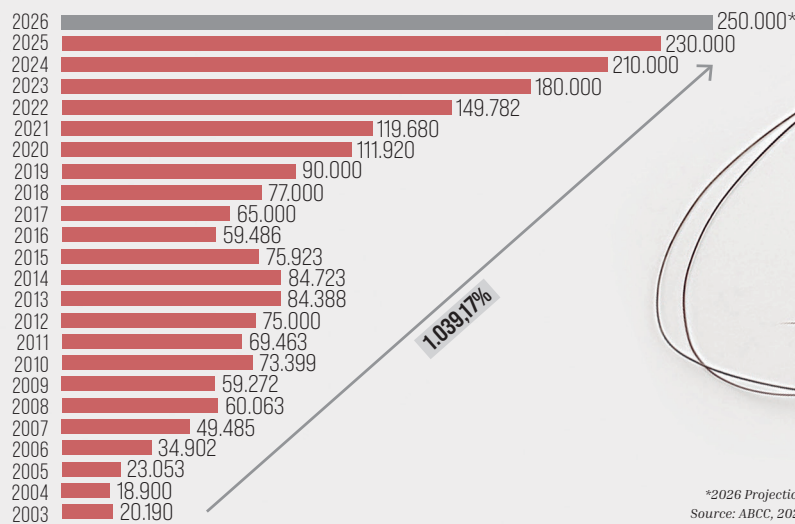
ce. With the simplification of SISME and SISB, several small and medium-sized processing plants have begun to be implemented and brought into operation. This process has also been encouraged by requirements from the School Meal Consumption Network, which only accepts processed products (fillets), as well as by the growing demand from specialized restaurants for processed shrimp in fillet form. These factors have driven improvements in product presentation, increased food safety, and enabled broader inland distribution — contributing, in turn, to higher per capita shrimp consumption in Brazil.

Therefore, there is little doubt that Brazil has the capacity to consume twice the current volume of shrimp, even at prices competitive with those prevailing in the main importing markets. At the same time, given the country’s vast and exceptional areas suitable for shrimp farming with *P. vannamei*— notably in inland regions, including Brazil’s northeastern semi-arid areas, using

BRAZIL: EVOLUTION (1998–2003), DECLINE IN PRODUCTION AND EXPORTS (2003–2016), AND PRODUCTION RECOVERY (2017–2025 AND 2026 – PROJECTION)



EVOLUTION OF THE PARTICIPATION OF FARMED MARINE SHRIMP (*PENAEUS VANNAMEI*) IN THE BRAZILIAN DOMESTIC MARKET: 2003–2025 – (2026 PROJECTION) (TONS)



abundant water resources such as oligohaline, brackish, estuarine, and marine waters — there will be a considerable increase in production. Consequently, a return to the international market, where Brazilian shrimp has historically held a prominent position, is expected.

This must be addressed as a priority in order to ensure competitiveness and biosecurity for Brazil's shrimp farmers. In fact, Brazil's po-

tential, as well as its comparative and competitive advantages in the cultivation and production of farmed marine shrimp — whether in terms of edaphoclimatic conditions, grain production, operational logistics, or geographic location relative to the main importing markets — are so highly favorable that, if Brazil overcomes its misguided "bureaucratic" constraints and the actions deliberately driven by

so-called "false environmentalists" acting in the service of opposed international interests, the country will certainly once again stand out on the international stage of farmed marine shrimp production and exports. ■

*Itamar Rocha, President of ABCC; Director of DEAGRO/FIESP; Full Member of CONAPE; and Full Member of MAPA's CSPA*



## THE FIRST “P” OF MARKETING IS RESEARCH

Marketing follows a formula, as taught by renowned thinkers such as Kotler, Raimar, Gracioso, Cobra, Drucker, and Madia. It is easy to visualize:  $R + STP + 4Ps + I + FB = M$  (Research + Segmentation, Targeting, Positioning + Promotion, Pricing, Product, Point of Sale + Implementation + Feedback = Marketing Formula). The starting point is research.

Understanding existing markets, demand, still-untapped potential, and competition. Recognizing uncontrollable factors and human perceptions and feelings about brands, categories, countries, cities, regions, and populations. The “R” in research tracks, for instance, investments in science and technology that transform entire value chains, as seen in poultry and pork production, when genetic improvement began to focus on chickens sold in cuts, and pigs with higher carcass value.

In the egg sector, we have seen dramatic shifts in perception, from the “villain egg” to the “egg-satisfaction”. Today, animal protein supply chains include dozens of segments, niches, targets, and distinct positioning strategies. At its core, the marketing formula does not change. What does change are database technologies and artificial intelligence, which now support the classic marketing analyst and enable extraordinarily precise media strategies. Even so, the communication formula remains the same: sender + message + media + decoders + targets + feedback. For this reason, the rise of digital channels should not be confused with “digital marketing” itself, but rather viewed as digital media platforms.

That is why the time has come for a Brazilian agribusiness marketing plan designed for global markets. To make this happen, we must begin with the first step: “R”, research into perceptions. We need to understand how global markets perceive the “Brazil brand.” What is embedded in the minds of current and potential customers, as well as in the views of key stakeholders across Brazil’s target markets. The true starting point requires an honest assessment of positive, neutral, and negative perceptions, not just the voices of isolated critics or promoters.

And this work has already begun. At this

moment, in approximately 24 countries, the first international study on the perceived image of the Brazil brand is underway. The research is being conducted by OnStrategy, a branding and brand research firm, and is expected to be completed by April 2026. This initiative reflects OnStrategy’s experience with thousands of corporate brand studies and its understanding that country brands directly influence organizational brands and their origins in the same way. Brazil has received this unique opportunity, and through our curation we will present insights and opportunities for Brazilian businesses, and for tropical agribusiness in particular.

The Brazilian Marketing Foundation (FBM) and other organizations are providing support to this research, including Alagro, FECAP, Audencia Business School in France, Tupy MWM, CNN, Biomarketing, and others.

Building on this first step of a marketing plan – the “R” of research – we will work to bring together organized private-sector civil society alongside responsible government agencies to create the first Brazilian strategic marketing plan for the global marketplace.

It may sound impossible. But whenever I am told something is impossible, I believe even more strongly in its full potential. Together, we will make it happen. Not everything in the world was created because the majority asked for it; rather, it has often been the result of the bold efforts of a few, as demonstrated by Brazilian agribusiness through its innovative tropical revolution over the past five decades.

“Never in the field of human conflict was so much owed by so many to so few,” said Winston Churchill. With this article, I pay tribute to the greatest living symbol of marketing in Brazil, Professor Dr. Marcos Cobra, also known as the “Brazilian Kotler”, who played a leading role in shaping the field of marketing at FGV for many years.

Let’s get to work. Research into people, hearts, and minds: that is marketing. And the new CMO is a designer of dreams, dreams meant to be lived and to advance human life on Earth. ■



### José Luiz Tejon

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A columnist for Rádio Eldorado and Estadão Online, he is the author and coauthor of 37 books.

He serves as academic coordinator of the Master of Science in Food & Agribusiness Management at Audencia (Nantes, France) and FECAP (Brazil).

He is a managing partner at Biomarketing and TCA International, Vice President of the Brazilian Marketing Foundation (FBM), Head of Agribusiness at ANEFAC, and recipient of the 2023 ABAG Agribusiness

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