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CASES
MORE INVESTMENTS
IN SUSTAINABILITY
AND TECHNOLOGIES

REVIEW
PERFORMANCE
OF BRAZILIAN
PRODUCTION AND
PERSPECTIVES



KEY TO BUILDING A SUSTAINABLE FUTURE

A NEW LEADERSHIP PROFILE, CIRCULAR ECONOMY MODELS AND RENEWABLE ENERGY SOURCES ARE EXPANDING THE PARTICIPATION OF **BRAZILIAN AGRIBUSINESS** IN THE GLOBAL GREEN AGENDA

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**EDITORIAL**

MANY REASONS TO CELEBRATE

We begin 2025 on the right foot and with plenty to celebrate. That is because, 20 years ago, Feed&Food was born, a publication that set out to work on behalf of one of the locomotives of Brazil's GDP: the animal protein sector. After two decades of dedication, following a productive balance sheet that is proving to be more prosperous and sustainable every year, we see that we have chosen the right path.

In 2024, as in previous years, Brazil reaffirmed its relevance in the global protein market, setting itself aside in protein production. According to ABPA, chicken meat production reached 15 million tons, 5.3 million of which were destined for export. In pig farming, 5.35 million tons were produced, an increase of 3.8%, while domestic consumption grew by around 4 million tons. Beef reached 2.4 million tons exported in the first ten months of 2024, representing an increase of 29.9% vis-a-vis the same period in 2023. In the farmed fish sector, Tilapia stood out with a 10% increase in supply, accompanied by a record expansion in exports, which increased more than two fold by September 2024.

It is with this productive strength and a 20-year tradition of communicating to the sector that we will be communicating with the international market for the 16th year at the International Production & Processing Expo (IPPE).

In our luggage, we will take the great figures and achievements of the Brazilian sector to Atlanta (USA), connecting brands and solutions in a work that transcends borders. That is why being a Feed&Food partner means being at the forefront of strategic communication, guaranteeing visibility and relevance in the market.

As I mentioned, there are many reasons to celebrate and a lot of work to be done in 2025 to reiterate our commitment to offering communication that matches the demands and challenges of the animal protein market. The January issue, dedicated to IPPE 2025, will be another example of our mission to offer excellent content to our readers and partners, further strengthening Brazil's leading role on the global stage. ■

Enjoy your reading!

Diogo Ciasulli
CEO





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THE ROLE OF MINERALS IN STRENGTHENING INTESTINAL HEALTH

ROBIN JARQUIN, REGIONAL DIRECTOR FOR LATIN AMERICA AT **AMLAN INTERNATIONAL**, HIGHLIGHTS HOW SCIENCE AND INNOVATION DRIVE THE COMPANY'S COMMITMENT TO SUSTAINABLE AND NATURAL SOLUTIONS FOR ANIMAL PRODUCTION

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A global reference in animal health, Amlan International has a differentiated mineral technology in the market, focusing on innovative and high added value products for the poultry, swine, beef and dairy cattle sectors. Behind the development of solutions, there is Oil-Dri's expertise of more than eight decades and a solid structure based on science.

Headquartered in Chicago, the company operates with a vertically integrated structure, which guarantees complete control of all stages of the production process, ensuring excellence in animal intestinal health on a global scale.

According to Robin Jarquin, Regional Director for Latin America at Amlan International, this approach allows for continuous advancements through research and improvement of the minerals used, combining synergistic ingredients in the formulations. These solutions meet a variety of needs, such as pathogen control, disease prevention, alternatives to antibiotics and strengthening the health and intestinal integrity of animals.

In Brazil, Amlan has focused its efforts on two strategic products in its portfolio. Among them, Varium stands out. "This solution is a product based on our patented mineral, with an added source of whole yeast cells and a natural nutrient ingredi-

ent that energizes enterocytes and intestinal cells. In practice, the solution strengthens the intestinal barrier, promoting greater resistance and efficiency, in addition to optimizing feed conversion," highlights Robin.

The second technology, Calibrin®-Z, is a mycotoxin agent developed for the poultry and swine sectors, with recent expansion into the cattle market in regions such as the Northeast and Central regions of Brazil. According to the Regional Director for Latin America, the company is also moving forward with the registration of two new products in the country.

With solutions aligned with the main demands of consumers, Robin emphasizes that the market is increasingly focused on natural products, reflecting a growing concern for the health of the global population. In this scenario, Amlan plays a strategic role by offering the industry solutions developed based on this concept. "Our

“ FEW COMPANIES IN THE WORLD HAVE AN INFRASTRUCTURE AS ROBUST AND INTEGRATED AS OURS ”

ROBIN JARQUIN, REGIONAL DIRECTOR FOR LATIN AMERICA AT AMIAN INTERNATIONAL



mission is to create products based on science and aligned with the demands of end consumers. We are committed to food safety and sustainable production practices,” he emphasizes.

DECADES OF INNOVATION. Amlan, through its “parent company”, Oil-Dri Corporation, has a track record of more than 80 years as a leader in absorption minerals, says the Regional Director for Latin America. And it was about 17 years ago that Oil-Dri started a research and development center focused on innovative solutions for animal health.

“The initial goal was to research minerals for mycotoxin absorption and develop technologies that combine the physical and chemical properties of our mineral with other elements. This allowed us to create products that enable animals to reach and maintain optimum health, reducing the effects of pathogens and promoting good animal welfare and productivity,” explains Robin.

With a multi-million dollar investment, the center is a reference in the sector and works on the integration of mineral science with advanced biotechnology. “We have technologies that allow us to analyze

how our products interact, in addition to a biological laboratory capable of performing tests with pathogenic bacteria such as E. coli, Salmonella and Campylobacter. These capabilities provide us a comprehensive understanding of the effectiveness of our products”, he highlights.

According to Robin, this unique combination of physical chemistry and biology laboratories places

“ WE ARE EXPANDING
OUR TECHNICAL
TEAM IN BRAZIL
AND STRENGTHENING OUR
NETWORK OF COMMERCIAL
PARTNERS ”

the company at a different level in the development of solutions for intestinal integrity and animal health. “Few companies in the world have such a robust and integrated infrastructure as ours,” he emphasizes.

BRAZIL AS A STRATEGIC PILLAR. Brazil occupies a central position in Amlan’s expansion strategy, which sees the region as one of the largest global

hubs for animal production. “Brazil is, without a doubt, the most important country in Latin America and probably in the world for the production of chicken, pork and beef,” says Robin.

In order to keep up with the growth in animal protein production in the country, Amlan is expanding its operations, initially focused on the poultry sector, and now with robust investments in the dairy and beef cattle segments. “We are expanding our technical team and strengthening our network of business partners. Previously, we only operated in the South, but now we have new partners in the Northeast and are seeking strategic partners in the Center of Brazil, in addition to a special focus on the beef market,” says Robin.

The company, which continually invests to be a strategic partner in global production, was also present at OVUM, an event that brings together the main poultry companies from Latin America and the world. “Participating in the meeting was essential for us. It is an opportunity to network, connect with customers from all over Latin America and reaffirm our position in a vibrant sector that drives the growth of the animal protein industry,” concluded Robin. ■



PHIBRO ANIMAL HEALTH: INNOVATION AND SUSTAINABILITY IN ANIMAL HEALTH



Phibro Animal Health's mission is to provide safe and effective solutions to its customers' unique challenges for the year 2025. Therefore, it offers a diversified portfolio of products and services that prioritize eco-productivity, animal welfare and alternative technologies, to reinforce its commitment and constant attention to the industry's trends.

Ecoproductivity, which is entirely related to unique health, is a holistic approach that seeks to sustainably balance and optimize the health of humans, animals and ecosystems. This is achieved through continuous efforts and investments in research, product development and initiatives aimed at environmental preservation.

Phibro's line of nutritional specialties is made up of products with exclusive formulations, natural ingredients and carefully selected to ensure exceptional zootechnical results, as well as contributing effectively to the principles of ESG (Environmental, Social and Governance).

Magni-Phi® stands out for being the first natural performance enhancer, composed of highly bioavailable phytomolecules that are standardized and guaranteed batch by batch in order to provide maximum livestock efficacy, especially in relation to gastrointestinal health and integrity, immunomodulation and reduction of oxidative stress.

In addition, Phibro recently received the Animal Welfare Friendly Company (AWFC) certification in the poultry species nutrition category. With

the approval of FairFood, the certification company, the seal was awarded to Magni-Phi®, which guarantees compliance with requirements that ensure animal welfare and bring confidence in production processes to the market.

"The certification has added even more value to Magni-Phi®, an effective and safe technology for promoting eco-productivity. In a scenario where animal production and poultry farming are becoming increasingly essential, it is crucial to integrate practices that prioritize animal welfare, sustainability and innovation, guaranteeing a responsible and efficient production chain that benefits producers, consumers and the environment alike," says Bruna Boaro Martins, Product & Technical Services Manager for South America - Nutritional Specialties Line.

"We believe that a partnership with our customers is essential, which is why we are always ready to offer technical support and expert advice, ensuring that the birds can make the most of the

potential of our products," says Martins.

Phibro Saúde Animal is one of the most important veterinary and animal nutrition companies in the world. Founded in 1946 in the United States, it has been in Brazil for 25 years, offering products for pigs, poultry, beef and dairy cattle, fish and shrimp, as well as solutions for the production of renewable energy sources. The company is one of the pioneering agribusiness companies to publish a full report on its actions in the area of environmental, social and governance (ESG) responsibility, giving transparency to its actions in this field on a global level. ■

“WE BELIEVE THAT A PARTNERSHIP WITH OUR CLIENTS IS ESSENTIAL, WHICH IS WHY WE ARE ALWAYS READY TO OFFER TECHNICAL SUPPORT AND EXPERT ADVICE”

BRUNA BOARO MARTINS, PRODUCT & TECHNICAL SERVICES MANAGER FOR SOUTH AMERICA - NUTRITIONAL SPECIALTIES LINE



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Phibro
ANIMAL HEALTH CORPORATION



LEADERSHIP IN TECHNOLOGY, EFFICIENCY AND SUSTAINABILITY

Brazil, the world's greatest agri-environmental power, stands out as a global leader in animal protein exports. In chicken meat exports, leadership has exceeded two decades, an achievement that reflects significant advances in technological innovation, production efficiency and the adoption of sustainable practices throughout all stages of the production chain.

The quality of Brazilian protein is recognized worldwide, consumed in 172 countries, corresponding to more than 80% of the world's nations. According to data from ABPA (Brazilian Animal Protein Association). Brazil is responsible for 38% of global trade in chicken meat, 25 % in beef and 12 per cent in pork. This performance is only possible thanks to the application of technology, integration of processes and efficient management, factors that confer a high degree of excellence on all the links, also ensuring the traceability and health status of the national herd.

In recent years, Brazil has also become a center generating innovation in agribusiness. A number of factors, including public and private institutions and ecosystems, promote constant advances in biotechnology, additives, nutrition, automation, artificial intelligence (AI), sensors, the internet of things (IoT), facilities, equipment, animal health and welfare, among others. These elements emphasize increasingly technological agricultural production, bringing even greater efficiency to production systems. Combined controlled processes and continuous search for improvement, innovations promote scale, competitiveness and excellence of Brazilian products.

Modern poultry production relies on technological tools that help with decision-making at all stages of the chain. With the implementation of new sensors, AI and IoT, it is possible to monitor bird development, be in charge of birds' management and behavior, anticipate disease detection, analyze microbiota and develop personalized solutions in the field. In packing plants, solar and wind

energy sources are being adopted, as well as intelligent systems to optimize the use of energy and water resources, reducing environmental impact.

In terms of sustainability, Brazil stands out for having one of the lowest carbon emission rates among large agricultural and livestock producers, contributing just 2.8 per cent of global emissions. Embrapa (Brazilian Agricultural Research Corporation) data shows that only 7.8 per cent of the country's territory is used for agricultural production. In addition, the Brazilian Forest Code requires producers to preserve between 20% and 80% of their properties. Another highlight is the use of waste to generate renewable energy. Many producers and agro-industries adopt sustainable practices that promote operational savings at the same time. The biomass generated is re-used as raw material for the production of biomaterials, biofuels, biofertilizers and other inputs.

Integration of traditional technologies and new trends is being implemented at all stages of animal protein production, further differentiating Brazilian agribusiness on the global stage. From genetics to slaughter, each innovation contributes to increase productivity, reduce costs and adoption of environmentally responsible practices. When choosing Brazilian meat, consumers all over the world are choosing a high-quality product, produced sustainably and using the latest technology. Brazil's vocation is to feed the world and lead the future of animal production, combining innovation, efficiency and commitment to the future. ■

FROM GENETICS TO SLAUGHTER, **EACH INNOVATION CONTRIBUTES TO INCREASE PRODUCTIVITY, REDUCE COSTS AND ADOPTION OF ENVIRONMENTALLY RESPONSIBLE PRACTICES**



Murilo C. B. Piva

has a degree in Veterinary Medicine and International Relations. He has an MBA in international business and specializations in strategic marketing and agribusiness. He is a co-founder of startups in the agricultural sector, an innovation consultant and the executive director of Piva International.



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INCREASED PRESENCE AT IPPE

WITH EXCELLENT EXPECTATIONS FOR 2025, ABIQUIFI HIGHLIGHTS ITS PARTICIPATION IN THE FAIR, ALONGSIDE EIGHT BRAZILIAN COMPANIES

Abiquifi (the Brazilian Association of the Pharmaceutical Supplies Industry) is preparing to take part in IPPE once again with the aim of finding out what's new in the sector and closing new deals.

Present since 2016 in partnership with ApexBrasil, the association has since expanded the size of the Brazil Pavilion, seen business grow, and celebrated the entry of new companies into the project.

And this year, in particular, the organization will be occupying more than 300m² at the meeting: "The pavilion is an initiative of the Brazilian Pharma & Health (BPH) project, an action focused on promoting Brazilian exports from the pharmaceutical and pharma-chemical sectors. In 2025, we will be working alongside major partners such as the Brazilian Animal Recycling Association (ABRA), the Brazilian Renderers

Sector Project and Feed&Food," says Jéssica Cerqueira, the project manager.

A reference fair for the animal protein processing sector, the meeting is an event of great relevance for the health and nutrition areas. "It operates as a connection hub, where everyone meets to talk about current issues and the main news in the market," says Jéssica.

Expectations are very high for this edition. As Jéssica shares, the association will have eight exhibiting companies and a large, structured space to welcome partners and visitors to the meeting.

According to Jéssica, another novelty is that the 2025 fair will be the first under the new agreement with ApexBrasil. Hence the confidence that companies will be able to inaugurate new markets, close deals and take advantage of the opportunity to have a productive event.

"This fair is a benchmark for the an-

imal health sector and is one of the flagships of our project. The Brazil Pavilion will be very beautiful and with extremely qualified companies participating with us, which only highlights the competence and quality of the Brazilian industrial products," says the manager of the Brazilian Pharma & Health Project.

Abiquifi and the Brazilian Pavilion will be in hall B - B31015 /B31011, B33011 /B33015 and B34009 /B34005.

THE LARGEST IN THE WORLD. The IPPE is deemed to be the largest annual event worldwide in the poultry, beef and animal origin products fair and is one of the 25 largest trade fairs of the United States. This year it will count with 1,432 exhibitors, representing 133 countries. Simply as an example, Latin America had the strongest international presence, representing 45% of the visitors. ■

“THIS FAIR IS A BENCHMARK IN THE ANIMAL HEALTH SEGMENT AND ONE OF THE FLAGSHIPS OF OUR PROJECT”

JÉSSICA CERQUEIRA, MANAGER OF THE BRAZILIAN PHARMA & HEALTH PROJECT



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Sanex Soluble Acidifier was the first compound made of soluble organic acids in the Brazilian market. Excellent tool for replacement of antibiotics and chemotherapy in nonspecific diarrhea. Practicality and safety in the application. Reduced storage space and safe transportation. Zero withdrawal period and can be used in all stages of production. Proven effectiveness in the Salmonella sp. integrated control programs.

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Nutritional additive in which zinc oxide is protected by functional oil rich in medium-chain triglycerides, reducing interaction with other dietary components, requiring a lower inclusion level, and improving digestibility and intestinal health. It provides excellent support in preventing post-weaning diarrhea and other intestinal challenges.



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FROM INTERNATIONAL SUCCESS TO LOCAL PRODUCTION: THE NEW STAGE OF AMBITINE® IN BRAZIL





WITH A SUSTAINABLE FOCUS AND IN THE FINISHING PHASE, **AMBITINE IS AGRIFIRM'S NATURAL SOLUTION THAT IS REVOLUTIONIZING THE WORLD'S SWINE PRODUCTION**, PROVIDING BETTER FEED CONVERSION AND EFFICIENT END-TO-END OPERATION

VALERIA CAMPOS

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Global swine production is changing. Currently, several demands are shaping modern activity and raising the bar of the industry to very high levels. On the one hand, the consumer demands more sustainability, transparency, and good production practices, and on the other, in the field, professionals fulfil these requests by investing in technologies, innovation, animal welfare, and development of natural products.

Aligned with the transformations in the industry, Agrifirm adopts a global vision that integrates the field with the industry, promoting a responsible food chain aimed at future generations. With this commitment, the company has intensified investments in its business areas to offer the market products that combine safety, sustainability, and high performance.

In this way, participating in the producer market, the company focuses on one of this market main challenges, the reduction of production costs. And among the factors that most impact this context, feed per kilo of pork produced in one of the major opportunities for differentiation, says Kobe Lanoo, Global Swine Director, Agrifirm.

"With this in mind, we developed Ambitine, an innovative natural solution that helps to reduce these costs and increase producers' profits. The technology's differential lies in its ability to optimize animals' natural physiology, without the need to add exter-

nal agents, such as enzymes, which increase digestibility", explains Kobe.

Originally developed in the United States by Fortiva, a subsidiary of Land O'Lakes, the product has been very successful. This result, reveals Agrifirm's Global Swine Director, was possible thanks to a solid partnership and a number of regional tests: "Ambitine is now available globally, promoting significant improvements in production efficiency, from Asia and Europe to, more recently, Latin America".

This combination of Agrifirm's global experience with the technical expertise of local teams is essential to implement effective antibiotic replacement strategies, reinforces Jorge Pacheco, Agrifirm's Commercial and Key Account Manager. And it is through this union of expertise that the company achieves one of its main objectives: to offer solutions that increase productivity and food quality.

FOCUS ON FINISHING. Developed to raise the bar for global swine production, Ambitine® is an additive that provides better feed conversion and efficient end-to-end operation. In practice, its advanced formula strengthens gut health, reduced impacts of stress and maximizes profits from global production.

By helping the sector with the main challenges, technology comes to be an ally in the finishing phase - a period that represents the highest feed costs and the lowest investment by the producer, especially at times when grains are highly valued. In other words, ►

this stage has a significant economic participation in the production system.

“The final phase of pig fattening has a very large impact on the cost of animal production, as it is the stage with the highest feed consumption and the worst feed conversion rates”, points out Jonas Bordignon, Commercial Manager of Monogastrics.

In this way, when introduced in productions, Ambitine® brings several benefits to the sector. As Rafael Grando, Technical Manager of Monogastrics at Agrifirm, shares, the product has a positive impact on performance, and can improve Daily Weigh Gain (DWG) and Feed Conversion (FC) to levels above 4%. “These gains provide a Return on Investment (ROI)

“WITH AMBITINE, THE PRODUCER CAN CONVERT LESS (CONSUMPTION) INTO MORE (PROFIT)”, HIGHLIGHTS KOBE LANOO

“IN PRACTICE, AMBITINE® HAS DEMONSTRATED AN EXCEPTIONAL RETURN ON INVESTMENT FOR BRAZILIAN PRODUCERS”, STATES RODRIGO MIGUEL

above 3. Global average data and also those obtained in Brazil”.

From the point of view of animal welfare, adds Neventon Santi Vieira, Technical Services Manager, the solution contributes to reduce the impacts of stress factors on animals. This means that more nutrients are directed and available for weight gain, resulting in pigs that grow faster.”

Through a more technical lens, Kobe explains that Ambitine® was created to improve the physiological capacity of pigs to cope with stress, taking into account the variation of various factors that cause this reaction, such as genetics, feed composition, type and intensity of stress factors, among others: “Therefore, the product has been extensively tested in different environments and situations, allowing precise adjustments in its application, according to specific needs”.

With this validation in different regions and conditions, the company has put together a robust global dossier that proves the product’s efficiency. In practice, informs Agrifirm’s Global Swine Director, what really matters is that these technical advances result in more profitable produc- ▶

AGRIFIRM BRASIL
MONOGASTRIC
TECHNICAL TEAM



Ambitine®

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MORE weight with the same feed, or the ideal weight with LESS feed?

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tion. “And that, without a doubt, is the most convincing reason for Ambitine’s® worldwide success.”

According to Fábio Málaga, Key Accounts Manager, given the growing international demand for high-quality pork, which requires technological innovations to maintain competitiveness and sustain the industry’s growth, it is necessary to prioritize the final stage of pig production: “And we are here to give all the necessary support to our customers who wish to stand out in the domestic market and to those who export. Our commitment is to increase the world’s pork production potential”.

In Brazil, the product has been used experimentally since 2022. During this period, says Jonas, the company has carried out various projects in Brazil’s main producing states.

According to the CEO of Agrifirm LATAM, Rodrigo Miguel, with the increasing value of grains, it is of paramount importance that the animal nutrition industry presents technologies that are able to maximize the use of these raw materials: “Ambitine® focuses on exactly that, and on the reality of the Brazilian producer, demonstrating high returns on the producer’s investment”.

According to Agrifirm, Ambitine® will start being manufactured in Brazil at the beginning of 2025, after rigorous local validation tests that proved the product’s high performance. According to the multinational’s Managing Director: “Local production offers a significant competitive advantage, reducing freight costs, minimizing the impact of exchange rate fluctuations and increasing the competitiveness of the solution in this dynamic market, which is pig production.”

SUSTAINABILITY AT THE CORE OF BUSINESS. As shared by Mariane Pfeifer, Technical Director at Agrifirm with expertise in innovative nutritional solutions, ensuring a responsible food chain for future generations is an essential part of our DNA. “Our mission is to deliver measurable, relevant and sustainable value, covering the field, the indus-

AGRIFIRM BRASIL
MONOGASTRIC
SALES TEAM



try and the consumer. We firmly believe that sustainability and profitability can go hand in hand, benefiting all links in the production chain”.

And the Research and Innovation department plays a key role in this process, developing sustainable solutions that meet producers’ needs. Given this robust structure, the company’s goal, says Mariane, is to offer solutions that respect the environment and add financial value to the business: “We work to ensure a production chain that is environmentally responsible and economically feasible, generating benefits for all parties involved.”

“The solutions developed by the company can be applied in specific production phases, but the best

results are achieved when working with an exclusive Nutrition and Additives Program, which encompasses all production phases”, emphasizes Neventon Santi Vieira.

And therefore, as Rafael Grando emphasizes, having a comprehensive portfolio for all production stages, with products that improve performance, generate financial return and promote environmental sustainability, a portfolio that reflects Agrifirm’s contribution to a greener production.

“We are determined to lead this movement, positioning ourselves as strategic partners of our customers to build a healthier and more sustainable future to other global food chain”, concludes Mariane. ■



Poultry



Plasson is always at the side of the poultry segment at every stage of the production process. We have complete solutions for feeding, climate, and modern civil construction systems for poultry breeders, layers, and the egg production industry. We are focused on technology, animal health, and high performance to promote the best results for farmers.

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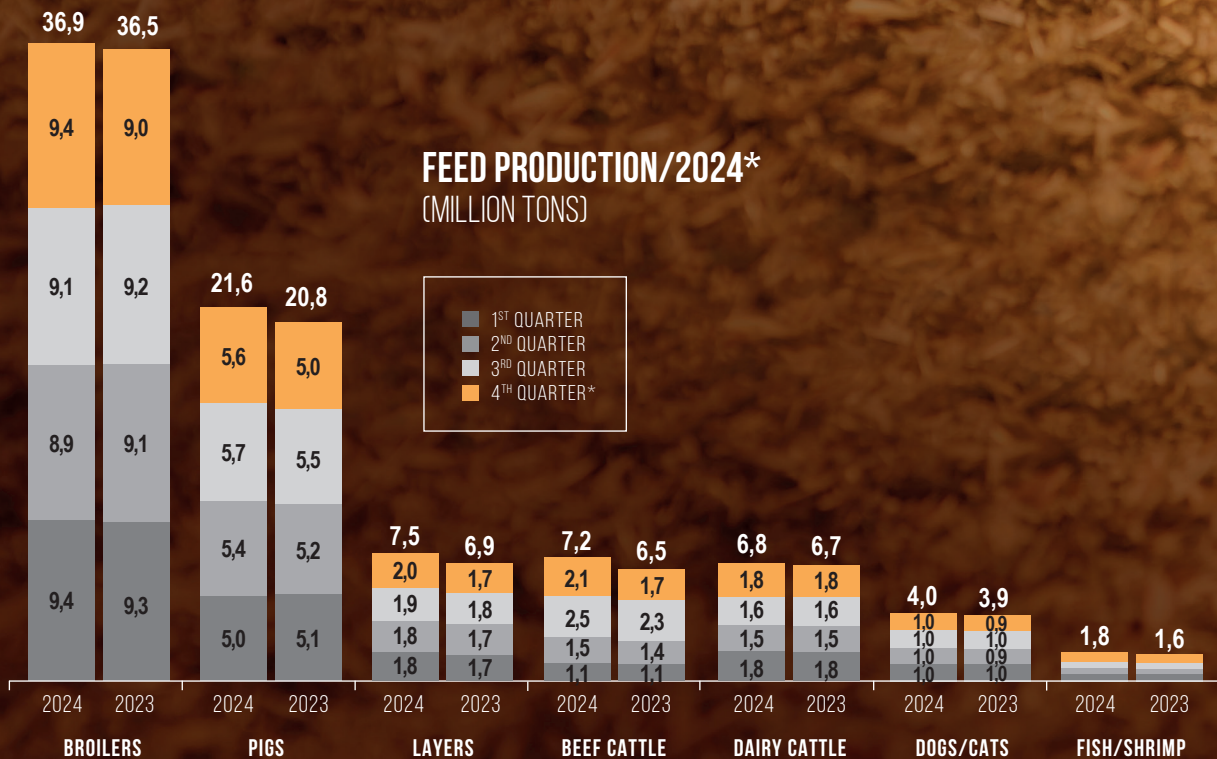


PERFORMANCE THROUGHOUT 2024

ARIOVALDO ZANI

The performance of Brazilian agribusiness, in 2024, was driven by a number of factors and supported by counterbalances of various kinds. From a domestic perspective, the strengths (adequate harvests, increase in the addition of soy biodiesel, improvement in the operating results of meat-packing plants) con-

trasted with cyclical and structural weaknesses (adverse weather conditions, catastrophe in Rio Grande do Sul, delays in the purchase of fertilizers, static storage capacity). Externally, a number of opportunities (currency devaluation for exports, expansion and opening up of new markets) compete with blatant threats (slowdown in global and Chinese con-



Except horses and others / *Forecast / Source: Sindirações

sumption, environmental pressure from activists, high sea freight prices).

In turn, the animal feed industry accumulated more than 64 million tons of feed and concentrates from January to September, 1.6% more than in the same period last year. In fact, the pace of growth continued to gain traction when looking at the results in the periods analyzed, that is, the 1.1% setback (Q2/24 vs. Q1/24) was followed by the robust 8.9% advance (Q3/24 vs. Q2/24). The expectation is for a further 8.6% advance (Q4/24 vs. Q3/23), propped up by the blatant increase in feed for layers, beef cattle, pigs and aquaculture, as opposed to more moderate

expectations for industrialized feed for dairy cattle and broiler chickens.

In detail, the demand for feed for broiler chickens reached 27.5 million tons, a somewhat stable amount (January to September/24 vs. January to September/23), while the forecast is to reach 36.9 million tons and then advance 1% over the course of 2024. The same reasoning applied to the other species establishes the following percentage: regarding layers, 5.5 million tons and a 6.2% increase by September; 7.5 million tons with an 8.9% increase over the year. As for pigs, 16 million tons and 1.1% increase; 21.6 million tons and growth of 3.7%. In the case of beef cattle, 5.1 million tons and 6.8% in-

crease; 7.2 million tons and an annual increase of up to 10%. As for dairy cattle, approximately 5 million tons and an increase of 1.1%; 6.8 million tons and an increase of 1.5% over the course of the year. For aquaculture, just over 1.2 million tons and 8.8% increase; 1.76 million tons and 9% growth. Finally, regarding dog and cat feed, 3 million tons and 3% growth; 4 million tons and an increase of 3.5% this year.

It is important to note that the likely increase seen over the last quarter suggests that production could exceed 90 million tons of feed, concentrates and mineral supplements, and that we could see an increase of around 3.5% by the end of 2024. ■

FEED PRODUCTION

SEGMENTATION - ANIMAL FOOD (MILLION TONS)

SEGMENT	2022	2023*	%	2024**	%
POULTRY	43,4	44,4	2,3	45,6	2,7
BROILERS	36,5	36,9	1,0	37,9	2,7
LAYERS	6,90	7,51	8,9	7,70	2,4
PIGS	20,8	21,6	3,7	22,0	2,0
CATTLE	13,2	14,0	5,8	14,6	4,1
DAIRY	6,7	6,8	1,5	6,9	1,0
BEEF	6,55	7,22	10,2	7,73	7,0
DOGS AND CATS	3,88	4,01	3,5	4,17	4,0
EQUINES	0,640	0,640	0,0	0,643	0,4
AGUACULTURE	1,62	1,76	8,8	1,83	4,0
FISH	1,43	1,57	9,8	1,63	4,0
SHRIMP	0,190	0,193	1,6	0,200	3,8
OTHER	0,620	0,625	0,8	0,631	1,0
FEEDS TOTAL	84,3	87,1	3,3	89,5	2,8
MINERAL SALT	3,37	3,61	7,0	3,86	7,0
GRAND TOTAL	87,6	90,7	3,5	96,4	3,0

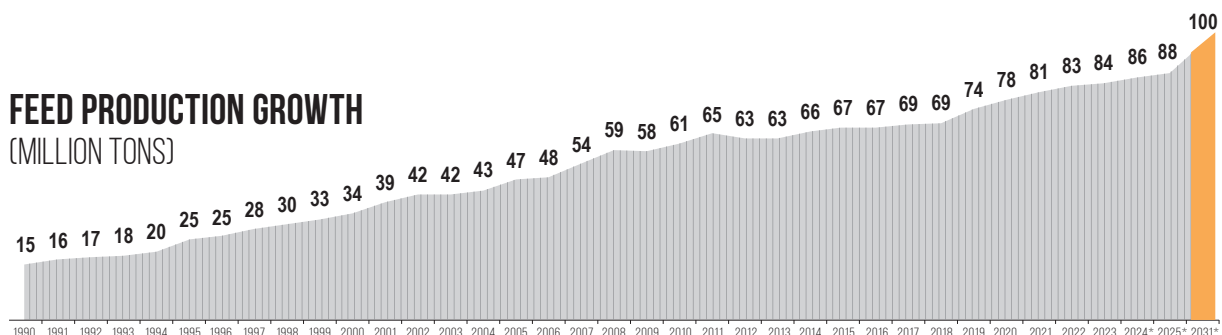
*Estimate / **Forecast / Source: SINDIRAÇÕES



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Animal Welfare Chamber/ABPA
President of the Agricultural Inputs
and Extractive Industry Advisory
Council/SENAI SP

FEED PRODUCTION GROWTH

(MILLION TONS)



*Estimate / **Forecast / Source: SINDIRAÇÕES



Maurício Moraes e Fábio Pereira

AGRIBUSINESS OUTLOOK IN 2025

In 2025, the Brazilian agribusiness outlook is shaped by a combination of internal and external factors that offer both opportunities and challenges for one of the country's most important sectors. Reflecting on this first quarter of the 21st century, Brazil has increased grain production by more than 200 million tons, whereas in the 1999/2000 harvest, production was below 100 million tons in an area of less than 40 million hectares. The 2024/2025 harvest is projected at 322 million tons in an area of 81 million hectares, according to the last survey by the National Supply Company (Conab).

While the cultivated area has doubled, considering that approximately 1/3 is second-crop, which means it is cultivated in the same calendar year (corn after soybean, for example), the production expansion tripled in this 25-year period, demonstrating the competence of the sector that has become a reference in the crop yield at tropical region, consolidating itself as a global supplier of grains, fibers, bioenergy and animal protein, exporting to the most demanding consumer markets and preserving much of the native vegetation.

The factors that contribute to this advance are related to the adoption of agricultural technologies, such as precision farming and biotechnology, innovations in crop management that increase productivity, controlled expansion of arable land with two crops in the same year and respecting environmental regulations, in addition to the growing global demand, especially in Asia.

A point of attention may be the European Union Deforestation Regulation (EUDR), which has been extended and imposes restrictions on the import of products associated with deforestation. This represents a challenge for Brazil, especially regarding soybean and beef, but it can leverage traceability, aiming to ensure that exported products are not linked to illegal deforestation and the adoption of sustainable practices that preserve biodiversity and respect socio-environmental standards. On the other hand, the re-

cent Mercosur-European Union trade agreement, which remains unratified, can bring new opportunities by facilitating access to this market.

In 2025, the United Nations Climate Change Conference (COP30) will be held in Brazil, highlighting the country's position at the center of global discussions on sustainability and climate change. This offers opportunities for the country to demonstrate leadership in sustainability, through Brazil's initiatives and commitments to sustainable agricultural practices and environmental conservation, while at the same time attracting investors interested in the Brazilian model of sustainable production, based on no-till farming, crop-livestock-forestry integration, use of bioinputs and other practices that aim at a more resilient agricultural production in the face of climate change.

However, the country still needs to consider some challenges that are bottlenecks and impact the competitiveness of national agribusiness, especially in relation to infrastructure and logistics. The impact of storage and grain flow deficiencies can be amplified because the soybean harvest is in a more concentrated harvest window. This demonstrates the need for investments to ensure that the harvest result will not be lost due to the lack of silos or deficiencies in transportation, which has been recurring over the years.

Despite the challenges, agribusiness has great opportunities, as the country can expand its global presence, accessing new markets, with trade agreements and compliance with international regulations. Innovation and sustainability are already part of this agenda, with investments in technologies, digital solutions, and sustainable production practices. In addition, the strategic position in global discussions can make Brazil a leading nation in sustainability in agribusiness.

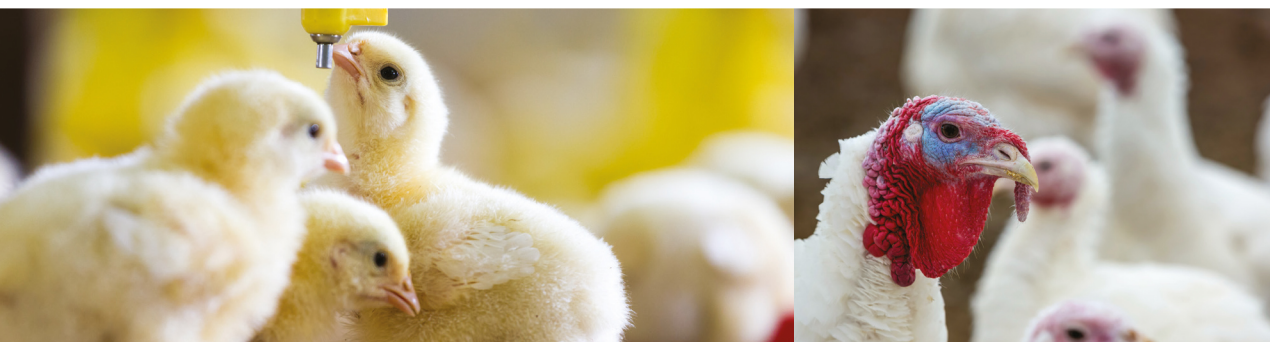
Brazilian agribusiness has significant growth potential over the next 25 years, but it will need to carefully navigate an environment full of international regulations and expectations in terms of sustainability and socio-environmental responsibility. ■



Maurício Moraes
partner PwC Brasil and
Agribusiness leader

Fábio Pereira
director PwC Brasil and
Agribusiness expert

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PROTAGONIST IN THE GLOBAL SUSTAINABLE AGENDA

**CIRCULAR ECONOMY MODELS, RENEWABLE ENERGY SOURCES
AND A NEW LEADERSHIP PROFILE** ARE STRENGTHENING THE
PRESENCE OF BRAZILIAN AGRIBUSINESS IN GLOBAL DISCUSSIONS
ABOUT THE FUTURE OF THE PLANET

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The market's view of sustainability has changed over time. Unlike some years ago, today the concept has a bias towards competitiveness, increased productivity, access to markets and reputational positioning. To get to this point, the industry has gone through a gradual process that has required profound transformations in the way corporate leaders think and act. And some milestones were important for this turning point.

In this list, we can highlight the Rio Conference (1992); the United Nations Convention on Climate Change (1992), consolidating global agreements for sustainable development; the Kyoto Protocol (2005), when greenhouse emissions became an issue and popularization of ESG took place; the Paris Agreement (2015), a global framework to limit the increase in global temperature to 1.5°C; and the Sustainable Development Goals (SDGs, 2015), establishing 17 integrated goals to eradicate poverty, protect the planet and ensure prosperity for all by 2030.

More recently, in the 2020s, there ►



has been a strong movement in favor of green investments, sustainable technologies, among others: “Today, it is remarkable how far companies have come in terms of education, awareness and aligned legislation,” says Marcos Fava Neves, a professor at the Ribeirão Preto School of Economics, Administration and Accounting (SP, Brazil) and at the Harven Agribusiness School.

In this scenario, innovation is also very much in line with this evolution of sustainable thinking, since whenever the market is unsettled, a new era of innovation begins. According to Fava Neves, the world is currently experiencing climate change, and society, as well as companies, are alert to this global challenge that includes rising temperatures and puts life on Earth at risk: “It is very important. Organizations that don’t adapt will lose the competitiveness game and will be extinct, just as it has happened in other phases in the most varied sectors.”

In practice, this urgency to adopt sustainable initiatives is driving companies to rethink their business models, products and processes. That is, innovative companies have realized that incorporating ESG criteria is essential to meet the demands of increasingly more mindful consumers, investors attentive to corporate responsibility, and demanding regulators.

“The transition to a low-carbon economy, for example, is generating new markets, technologies and strategic partnerships. Circular economy models, nature-based solutions and renewable energy sources are examples of how companies are positioning themselves to lead in the new economic era,” adds Harven Agribusiness School’s professor, Dr. Letícia Franco Martinez.

According to her, the organizations spearheading these changes will reap the rewards of a solid and lasting competitive advantage.

THE ADVANCES MADE BY BRAZILIAN AGRIBUSINESS. Aware of the environmental challenges and determined to promote a more sustainable business, Brazilian agribusiness has made significant progress in incorporating sustainability and ESG guidelines, playing a crucial role in mitigating climate change.

“The 26th CEO Survey, a PwC survey carried out with the top leaders of agribusiness organizations, showed that this sector’s companies are, in average, more advanced than the companies of other sectors in Brazil and the rest of the world with regard to climate initiatives: 81% of agribusiness companies have implemented or are implementing actions to reduce their emissions, compared to 63% of the national average and 66% worldwide,” points out Martinez.

This process can be seen in the fast-grow-



FOR DECADES, BRAZILIAN AGRICULTURE HAS BEEN INVESTING IN GOOD AGRICULTURAL PRACTICES, MANY OF WHICH AIMED AT INCREASING CARBON CAPTURE IN PRODUCTION SYSTEMS

ing use of agricultural technologies, such as sensors and artificial intelligence (AI), which improve agricultural production efficiency and reduce waste. In addition, Fava Neves points out, there is a new leadership profile emerging among rural producers, made up of increasingly more connected and informed individuals, capable of making data-based decisions guided by sustainability.

At the same time, public policies have also been supporting this movement by promoting sustainable practices in the countryside. Additionally, agribusiness has incorporated the use of renewable energy, such as solar and wind power, an investment that contributes to reducing carbon emissions and also reinforces the sector’s commitment to global climate goals.

As a result of these actions, low-carbon agriculture has been strengthened, minimizing environmental impact, promoting job creation and boosting economic growth on a global scale, thus positioning the activity as a key player in building a more sustainable future.

Exemplifying the ESG concept, the Carbon Neutral Meat (CNM), a concept brand created by Embrapa Mato Grosso do Sul, has become a reference worldwide. The initiative, explains Fava Neves, implements the CLFI (Crop-Livestock-Forest Integration) technique in the countryside, reducing carbon



SOME IMPORTANT FIGURES FOR AN INCREASINGLY MORE SUSTAINABLE AGRICULTURE

emissions through an integrated and sustainable chain: “Marfrig was the first company to take part in this process and today the CNM seal can be seen on the brand’s packaging, guaranteeing a carbon-neutral process and boosting production traceability as well.”

On the social side, Bom Futuro, like other large agricultural groups, has been investing in social projects that have had a positive impact on the organization’s surroundings. Examples include: Sementes do Futuro, Costurando o Bem, and Voluntários Bom Futuro. Meanwhile, at JBS, the “Inclusive Community Economies Program” is part of the “Amazon Fund”, strengthening the açai bioeconomy, promoting forest conservation, health and education in the communities and increasing the income of local families.

As far as governance is concerned, one of the benchmarks on the subject is the B-Corp certification, which evaluates company sustainability and ESG criteria by generating a score that compares the organization’s score with the sector’s average. Moreover, shares Martinez, this certification attests to the companies’ compliance with high performance standards, accountability and transparency, covering aspects such as employee benefits, donations to charities, ethical practices in the supply chain, and the use of sustainable inputs. ▶

Precision-agriculture practices can reduce the use of fertilizers and pesticides by up to

30%

contributing directly to sustainability, according to the Confederation of Agriculture and Livestock of Brazil (ALB)

It is projected that by 2030,

MORE THAN 70%

OF LARGE BRAZILIAN FARMS

will have adopted some kind of sustainable technology, with significant economic and environmental returns, according to the ALB

MORE THAN 18 MILLION HECTARES

in Brazil are already managed by using sustainable practices, such as CLFI and crop rotation, according to Embrapa

Brazil was the country with the highest proportion of preserved land, equivalent to

60%

OF ITS ENTIRE TERRITORY IN 2020

Sources: Marcos Fava Neves and Leticia Franco Martinez



ONE OF THE WORLD LEADERS IN BIOENERGY. As a result of decades of investment in research, public policies and infrastructure aimed at the sustainable use of natural resources, Brazil has become one of the world leaders in biotechnology.

Over the years, many advances have been made, and Martinez gives some examples. Among them is the National Alcohol Program (Pró-Álcool), which promoted the development of ethanol as an alternative to fossil fuels: “Today, Brazil is one of the world’s leading ethanol producers, with sugar cane as its main raw material, thanks to its high agricultural and industrial efficiency.”

Moreover, adds Fava Neves, Brazil is a leader in biofuels because it produces ethanol from agricultural waste, such as sugarcane bagasse, using advanced technologies that increase the efficiency of the process: “It is also a benchmark in bioelectricity, using sugarcane bagasse and straw in thermoelectric plants to generate electricity, which is incorporated into the national electricity grid.”

Another aspect of this theme are the public policies issued to support sustainability, such as RenovaBio (2006), which encourages decarbonization through a program that adopts emission reduction targets and encourages the production of biofuels by issuing Decarbonization Credits (CBIOS): “In addition to this, the country has the Social Fuel Seal, which encourages the inclusion of family farmers in the production of raw materials for biodiesel.”

With all these investments and initiatives, Bra-

MARCOS FAVA NEVES IS AN AGRICULTURAL ENGINEER AND AUTHOR AND ORGANIZER OF 80 BOOKS PUBLISHED IN 10 COUNTRIES, AND **LETICIA FRANCO MARTINEZ** IS A SPECIALIST IN AGRIBUSINESS SUSTAINABILITY AND OF CONTENT AND LEARNING COORDINATOR AT HARVEN AGRIBUSINESS SCHOOL

zil has the potential to lead the way in the development of innovative solutions, especially with the growth of the low-carbon economy, and by considering other clean energies as high-potential opportunities, much like the production of biogas.

FOCUSING ON THE CARBON MARKET. According to Fava Neves, the debate on the creation of a regulated carbon market in Brazil is long-standing. The idea is for the country to be able to sell carbon credits to nations that need to meet mandatory emission reduction targets. In that respect, experts highlight Brazil’s potential to become an important exporter of these credits.

In this scenario, Brazilian agriculture plays a key role. The reason being that the sector has been investing in good agricultural practices for decades, many of them aimed at increasing carbon capture in production systems. “Besides, Brazil is internationally recognized for its experience in sustainable management techniques, such as Carbon Neutral Meat.”

“The Low Carbon Agriculture Plan (LCA Plan), created by the federal government, is an example of policy that aims at promoting sustainable technologies that contribute to reducing greenhouse gas (GHG) emissions. Between 2010 and 2020, the program encouraged practices such as no-till farming, the recovery of degraded pastures, animal waste management, integrated production systems, the planting of forests and the use of bio-inputs,” said Fava Neves.

The program is currently known as “ABC+”, which will continue until 2030. This

stage of the program aims at implementing eight strategic actions to reduce carbon even further. “Experts are unanimous in saying that the future of agriculture depends on adopting sustainable practices,” says Martinez.

A PROMISING FUTURE. For Fava Neves and Martinez, the opportunities for Brazilian agribusiness are linked to decarbonization initiatives, which are already underway with the use of precision agriculture, investments in renewable energies, and technologies focused on strategic and sustainable management. All of this combined with the use of Artificial Intelligence (AI) in decision-making, making it easier to understand data and streamlining processes.

Additionally, the initiatives must continue to focus on keeping the planet’s biodiversity alive by choosing more sustainable management alternatives. “They will prioritize a greener production chain from end to end, taking into account people’s engagement, correct management of natural resources, and decision-making guided by ESG criteria,” they conclude. ■



IN THE NEAR FUTURE, THE MAIN GREEN PRACTICES THAT BRAZIL HAS THE POTENTIAL TO LEAD ARE THE FOLLOWING



BIOFUELS AND BIOENERGY

Production of clean energy, such as ethanol and biodiesel, to reduce carbon emissions



CARBON MARKET

Trading credits from emissions reduction and environmental conservation



REGENERATIVE AGRICULTURE

Recovers the soil and captures carbon, promoting sustainability



SUSTAINABLE FOOD PRODUCTION

Practices that minimize environmental impact and guarantee efficiency



INTEGRATION SYSTEMS

Integrates crops, livestock and forests, increasing productivity and preservation



TRACEABILITY

Guarantees transparency in product origin and sustainability



PRECISION AGRICULTURE

Uses technology to optimize inputs and reduce environmental impact



CERTIFICATIONS

Sources: Marcos Fava Neves and Leticia Franco Martinez

Vaxxinova celebrates the approval of the new vaccine production facility for coccidiosis in Brazil.

São Paulo, November 2024 Vaxxinova Brasil has approved its new vaccine facility in Ibiúna, São Paulo, dedicated to the production of live vaccines against avian coccidiosis. With 4,000 m² of constructed area and an annual production capacity of more than five times the current one, the project, which began in 2020 and was completed in October 2024, has recently been approved by the Brazilian Ministry of Agriculture (MAPA).

We are very pleased with MAPA's approval of this plant. This project reflects Vaxxinova's commitment to providing safe and effective solutions for animal health, strengthening our presence in the animal health poultry market, says Hugo Scanavini Neto, President of Vaxxinova Brasil. The new facility will enable Vaxxinova to produce coccidiosis vaccine for different poultry segments with specific vaccines for broiler, commercial layers, and breeders. The Brazilian vaccine production will supply the domestic market, Latin America and international markets.



**It is biological control.
It is simple: It is a vaccine.**

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MODERN AND SUSTAINABLE LEADERSHIP

LUCIANA DALMAGRO TELLS HOW SHE TURNED A FAMILY BUSINESS INTO A SUSTAINABLE BENCHMARK

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For 15 years, Luciana Dalmagro worked in São Paulo as a researcher in the pharmaceutical area. And at a certain point there was a key change in her career. By aiming for another lifestyle, her agricultural DNA began to speak louder, and Luciana returned to her roots. From the capital, she returned to the countryside, where she started a new journey as a rural producer alongside her family.

Representing the fifth generation of rural producers on the same land, Lu-

ciana embraced change and returned with an open heart to learn from the experience of her father, Paulo Portugal, who led the business, and from the entire team at Fazenda Alta Conquista.

“I came in with my mind focused on innovation. My goal was to do things differently and really imprint Luciana’s role on the property, not only as an heiress, but as someone who could contribute to setting up a true ecosystem on the farm”, she shares.

And since then, about 10 years

ago, a sustainable journey started in the farm. As the Rural and Entrepreneurial producer explains, this project was designed from the first moment to be an ally to the processes. “So, we started with a very practical and pragmatic outlook.”

All this joint work began with the generation of solar energy, using solar panels. With some thousand modules, the farm generates 50 thousand kWh/month, which corresponds exactly to the farm’s demand. Having mastered the subject, the team began to look at water and, as a result, more than 9 million liters of water are currently stored and reused every year.

“We have a cistern with the capacity to store 3 million liters of rainwater”, adds Luciana. This collective effort was another big step for her, which later led to a careful approach to the company’s waste: “In every industrial operation, waste is a problem. And it’s no different on a farm - much less so.”

As a result, today the property makes biocomposite from all the waste that leaves the farm. In practice, all chicken carcasses and litter become fertilizer - an organic fertilizer used on the property’s own crops: “And from there on we enter the concept of circular economy, an important arm of sustainability.”

Within this framework, when recycling process materials, everything that is taken from the farm is sent to the “junkyard”: “We jokingly call this



place the junkyard. And before we build anything new, we go there to see if there's anything we can reuse".

For the effects of all this work to be positive, Luciana comments that sustainability is a key change within each person. In other words, as a leader or manager, you have to incorporate the concept: "With this, we can break it down and disseminate it to the whole team, transforming the discourse into a true and cultural issue within the business."

MAKING THE DIFFERENCE. With a career focused on broiler farming, urban agriculture and sustainability, Luciana brought the concept to the farm as the core of the business. In addition to initiatives focused on the environment and animal welfare, she turned her attention to people. "Employees involved in our business are treated with care. Today, the people who teach me the most are those in my team. I have a lot of pride and admiration for their work."

The company has a program for first-time employees, initiatives for inclusion and diversity, and development of people according to their affinity for different areas. According to Luciana, this sustainable culture makes all the difference in the results, 60% of the farm's team is currently made up of women.

Outside the company, this outlook remains. Luciana actively participates in projects that contribute to the engagement of women in agribusiness, as well as to the preparation of producers for succession transition and an increasingly sustainable industry. As a result of all this involvement, she was the first runner-up in Women in Agriculture - Large Farms 2020 award, a Bayer and ABAG prize, and was recognized as one of the 500 most influential persons in Latin America by Bloomberg Linea.

"These recognitions are very important, as they reinforce that we are on the right track", emphasizes the Rural and Entrepreneurial producer.

FARM STRUCTURE. A property with multiple cultures, Fazenda Alta Conquista is diversifying its activities. With regard to poultry farming, the company now houses 3 million birds in 14 highly technological dark houses. And the entire operation is carried out by a team of 15 people.



DIVERSITY AND INCLUSION ARE VALUES PRACTICED BY THE FARM. CURRENTLY, 60% OF THE FARM'S TEAM IS MADE UP BY WOMEN

This structure is in line with the current state of the industry - a technological and innovative environment: "And this leads us, as producers, to no longer think of precision poultry farming, but rather about decision making". And I give you some examples. We are using cameras to weigh animals using artificial intelligence (AI). So we left behind the manual weighing and use an equipment that does all this work using algorithms".

Still in the AI area, sensors are used in the silos. These models assess the volume of feed inside the storage equipment, providing logistics optimization.

In this range of technologies, there are many new developments in the construction market. Glass wool ceiling insulation, for example, is one of them as it maintains the ideal temperature for the animals. "Speaking a little about heating, today the farm's most efficient furnaces and boilers use peanut shell pellets - which is also in line with our sustainable journey".

In this context, poultry farming has many possibilities. And thinking once again about the future, the farm's team created a new business and founded "Vida de Granja" (FarmLife), a content generation platform for rural producers.

"We communicate our daily routine clearly and objectively, sharing with great transparency and sincerity what went well and what didn't turn out the way we had planned. It was a deal that the team carried out. And so we began to reach another sphere of work - the digital one. It's been an interesting exchange with the entire poultry community", says Luciana.

According to the Rural and Entrepreneurial producer, the outlook for the coming years is good. According to her, there is a more optimistic market and a positive horizon. "And I truly hope that, with this, we, rural producers can also make all the necessary and outlined investments for the maintenance and growth of our activities. As the successor, I'm also thinking about the sixth generation coming up on the farm. We need to think about how to perpetuate and make that environment attractive," she concludes. ■

"WE CAN'T JUST TALK WE HAVE TO DO. AND WE'RE JUST AT THE STAGE OF DOING IT," SHARES **LUCIANA DALMAGRO**, ABOUT THE IMPORTANCE OF SUSTAINABLE PRACTICES





POULTRY AND PIG PRODUCTION GROWS IN 2024

SECTORS ENDED THE YEAR WITH HIGH PRODUCTION, STRONGER EXPORTS AND WARMED DOMESTIC CONSUMPTION; **FOR 2025, NEW RECORDS ARE PROJECTED**

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Brazilian poultry and pig farming closed 2024 with impressive figures, reinforcing the sectors' strategic role in the domestic economy and the global protein supply. Driven by a scenario of production increase and foreign market diversification, the sectors are getting ready for a new leap in 2025, expecting to open up markets and increase domestic consumption, as projected by the Brazilian Animal Protein Association (ABPA).

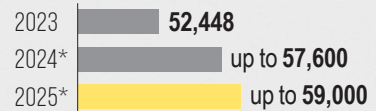
CHICKEN MEAT production is expected to reach 15 million tons in 2024, an increase of 1.1% relative to 2023. Of this to-

tal, 9.7 million tons were destined for the domestic market, with per capita consumption of 45.6 kilos, also 1.1% higher than the previous year. The volume exported should reach 5.3 million tons, an increase of 3.1% compared to 2023, when 5.139 million tons were shipped.

For 2025, ABPA projects production of up to 15.3 million tons of chicken meat (+2.7%), with the domestic market consuming 9.9 million tons (+2.1%) and per capita consumption rising to 46.6 kilos (+2.2%). Exports could reach 5.4 million tons (+1.9%), spotlighting new trade openings in Central America and African countries. "Brazil's econom-

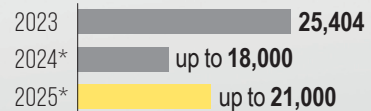
EGG PROJECTIONS

PRODUCTION (BILLION UNITS)



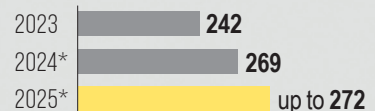
- VAR. 2024/2023 → up to +9.8%
- VAR. 2025/2024 → up to +2.4%

EXPORTS (TONS)



- VAR. 2024/2023 → up to -29.1%
- VAR. 2025/2024 → up to +16.7%

PER CAPITA CONSUMPTION (UNITS/IN HABITANT)



- VAR. 2024/2023 → up to +11.2%
- VAR. 2025/2024 → up to +1.1%

ic situation should keep the domestic market's consumption levels sustained, maintained by the sector's continued competitiveness," says Ricardo Santin, president of ABPA.

PIG FARMING also exhibited significant results. In 2024, production reached 5.35 million tons, an increase of 3.8% compared to 2023, with 5.156 million tons. Domestic availability of pork protein will total around 4 million tons, 1.9% higher than the previ-

ous year's availability of 3.926 million tons. Per capita consumption in the sector in 2024 will grow by up to 3.8%, and could reach 19 kilos per capita.

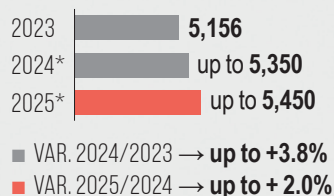
The sector's exports are expected to close the year with 1.35 million tons shipped, up 9.8% compared to 2023, with 1.23 million tons. In 2025, the Brazilian pig sector projects production of up to 5.45 million tons (+2%), with domestic availability of 4 million tons (stable), per capita consumption of 19 kilos (stable) and ex-

ports of up to 1.45 million tons (+7.4%).

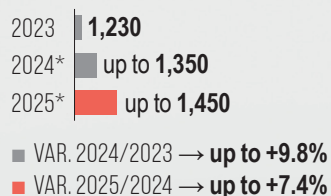
"As for the foreign market, there are expectations of improvement in the flow to China, along with the licensing of new plants for Latin American destinations, which will add to the continued demand from pre-listed markets, such as the Philippines and Chile. Domestic pork consumption should be positively influenced by the product's good level of competition among meats, and by balanced production costs," explains Santin.

BRAZILIAN PORK PROJECTIONS

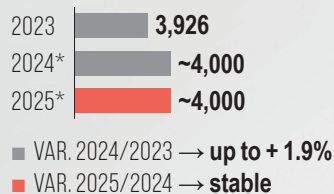
PRODUCTION (MILLION TONS)



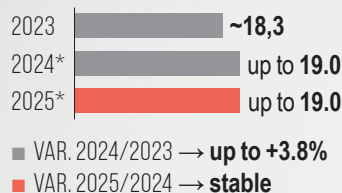
EXPORTS (MILLION TONS)



AVAILABILITY (MILLION TONS)

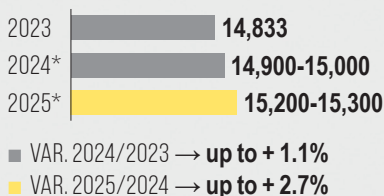


PER CAPITA (KG)

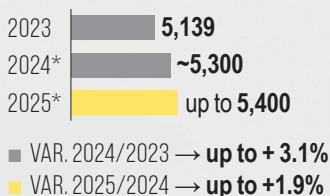


BRAZIL'S CHICKEN MEAT PROJECTION

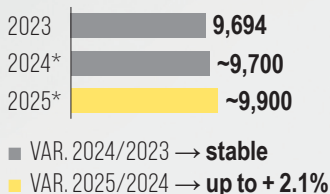
PRODUCTION (MILLION TONS)



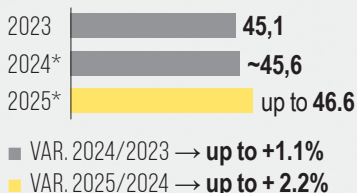
EXPORTS (MILLION TONS)



AVAILABILITY (MILLION TONS)



PER CAPITA (KG)



THE EGG sector also recorded significant growth. In 2024, production reached 57.6 billion units, an increase of 9.8% on the previous year. Per capita consumption reached 269 units, an increase of 11.2%, consolidating eggs as an essential item in the Brazilian diet. However, the sector's exports dropped, amounting to 18,000 tons (-29.5%) compared to 2023.

ABPA's projections for 2025 forecast production of 59 billion units (+2.4%), with per capita consumption of up to 272 units (+1.1%) and shipments of 21,000 tons (+16.7%). "There are optimistic expectations regarding the increase in egg consumption in Brazil, reaching levels never experienced before, which reinforces the consolidation of that source of protein as a basic consumption item in the country. In the international market, the European bloc and the United Kingdom are expected to open their markets to the product next year, which should change the flow of exports to positive levels", points out the president of ABPA. ■

"BRAZIL'S ECONOMIC SITUATION SHOULD KEEP THE DOMESTIC MARKET'S CONSUMPTION LEVELS SUSTAINED, MAINTAINED BY THE SECTOR'S CONTINUED COMPETITIVENESS," HIGHLIGHTS RICARDO SANTIN



COMMITMENT TO SUSTAINABILITY

PAMPLONA ALIMENTOS ADOPTS INNOVATIVE PRACTICES THAT INTEGRATE ENVIRONMENTAL RESPONSIBILITY, ANIMAL WELFARE AND PRODUCTION EFFICIENCY FOR A SUSTAINABLE FUTURE

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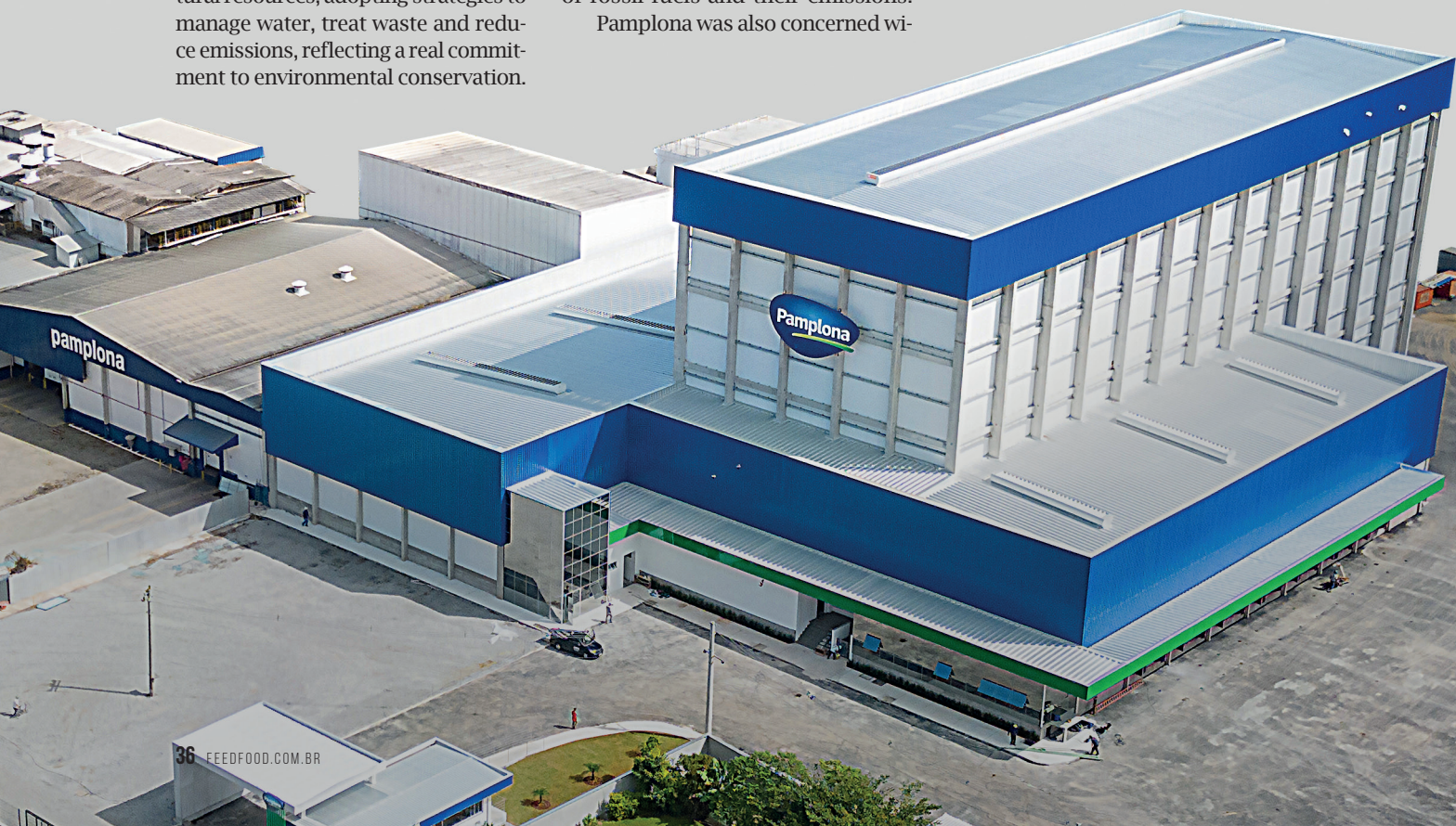
“**W**e believe that sustainability is the ability to meet the needs of the present without jeopardizing the needs of future generations.” It was based on this approach by Irani Pamplona Peters that sustainability was incorporated as a key factor in Pamplona Alimentos’ production. With actions that are far from conventional, the company devises a production model that respects the environment and promotes the preservation of natural resources, adopting strategies to manage water, treat waste and reduce emissions, reflecting a real commitment to environmental conservation.

Pamplona’s CEO points out that the company invests in training programs for producers and farm employees, covering topics such as environmental management and bio-fertilizer management technologies. In 2024, 50 integrated farms took part in these programs, which also encourage the adoption of renewable energy systems, such as photovoltaic panels and biodigesters. In addition, the use of wood from reforestation helps to reduce the use of fossil fuels and their emissions.

Pamplona was also concerned wi-

th managing atmospheric emissions, and 2023 marked the first year in which emissions from its own farms were measured. This allowed the company to size up these emissions and seek more effective solutions. The inclusion of nutritional enzymes in pig feed, such as phytases, proteases and carbohydrases, has resulted in greater feed efficiency and, consequently, lower greenhouse gas emissions.

“Over the years, Pamplona has encouraged integrated producers to



use alternative energy sources, such as photovoltaic panels and biodigesters,” says Irani. By applying a “bonus checklist”, professionals who adopt these solutions receive an incentive in their remuneration. Today, 43% of the integrated producers have photovoltaic panels on their premises.

ANIMAL WELFARE. This principle is the central pillar of the sustainability strategy and is present in all stages of the production process, reflecting the company’s ethics and responsibility, since it adopts a robust animal welfare policy, supported by a permanent committee that integrates the farm, transportation and processing areas. This approach guarantees the adoption of good practices and the application of methods that promote positive interactions between humans and animals. In 2024, more than 1,900 employees took part in training on topics such as humane handling, animal behavior and current legislation.

On the farms, the pigs receive high-quality feed, adapted to each stage of their productive life cycle, and are monitored in regard to environmental conditions, such as temperature, humidity and ventilation, to ensure thermal comfort. Gentle management and environmental enrichment in the facilities stimulate natural behaviors and reduce animal stress.

“I would also like to highlight the transition to collective gestation systems, which now include 94% of our herd. This model allows the sows to express social behavior and movement, reducing stress and promoting a more natural life. In transportation, modern vehicles with isothermal roofs and drinking fountains guarantee thermal comfort and hydration. Additionally, a satellite tracking system monitors travel conditions, while detailed reports help maintain compliance with welfare standards,” says Irani.

In his sector, continuous training is a priority. In 2024, training was reinforced with MAPA (Ministry of Agriculture, Livestock and Food Supply)-accredited courses focusing on humane handling. Humane practices are maintained through constant monitoring and training programs, ensuring an ethical production process in line with the best animal welfare practices.



“WE CONSTANTLY STRIVE TO BE MORE EFFICIENT IN OUR USE OF NATURAL RESOURCES, SETTING CONSUMPTION REDUCTION TARGETS AND PROMOTING GOOD ENVIRONMENTAL PRACTICES”

IRANI PAMPLONA PETERS,
PAMPLONA'S CEO

THE FUTURE IS NOW. Pamplona Alimentos has strived to integrate sustainability into its production model, reflecting a commitment to future generations and the preservation of the environment. The company adopts Environmental, Social and Governance (ESG) criteria as an essential part of its operations, including everything from environmental practices to community well-being and corporate governance.

By focusing on sustainable practices, training and awareness-building programs to educate employees on environmental management is also a priority, contributing to increased efficiency in production processes and waste reduction.

And to foster this context, Pamplona has created an environmental performance index that covers various aspects, such as water consumption, legal requirements, effluent and solid waste management, energy resources and gas emissions. This indicator allows the company to monitor the progress of its initiatives and set specific targets for each issue identified.

“When the projects and actions are completed and the results achieved, the company’s index also advances. Since it is totally flexible, new objectives and targets can be set as the level of maturity regarding the issues increases. This is a strategy used to define the priorities related to environmental sustainability at Pamplona,” concludes Irani. ■





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TRACEABILITY IN THE BRAZILIAN LIVESTOCK

THIS TOOL IMPROVES HERD MANAGEMENT, OPENS DOORS TO GLOBAL TRADE AND MEETS SUSTAINABILITY REQUIREMENTS

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Have you ever thought about how it is possible to trace the origin of the protein we consume? The key lies in cattle traceability, a system that allows you to follow every step of the animal, from its birth to the moment it arrives at the consumer's table, in the pan or barbecue pit. It's like an individual "logbook", where important information is recorded at each stage of the process.

In Brazil, traceability in the beef cattle chain is becoming increasingly important, as its mission is to guarantee the quality and safety of prod-

ucts. Together with the Confederation of Agriculture and Livestock of Brazil (CNA), the Ministry of Agriculture and Livestock (MAPA) is at the forefront of this initiative, leading efforts to develop a comprehensive traceability system, in which CNA contributes with the producer's vision of the process.

Francisco Pugliesi de Castro, president of the CNA's National Beef Cattle Commission, emphasizes that the Confederation has been an active voice in the construction of norms and regulations aimed not only at including the entire national herd, but also at valuing rural producers in this

process. The entity is determined to show producers that traceability can be a competitive advantage, able to open doors to new markets and ensuring consumer confidence.

"It's an essential tool to add value to Brazilian beef in the global market," says Francisco. He recognizes, however, the challenges faced by cattle breeders, especially those located in remote regions with less access to technology. "The cattle breeder understands the importance of traceability, but he needs to be convinced that it will generate some value for him. If traceability doesn't generate value, he'll soon be



discouraged from using it,” he says.

Social and environmental traceability is emerging as a growing requirement, and the global market needs to be willing to pay for these benefits, with resources reaching producers directly. If the production cost increases due to traceability and this growth is not translated into direct profit, it will be difficult to convince them to adopt the practice. In addition, according to the president of the Commission, the imposition of legal measures without an adequate compensation could harm cattle producers.

CURRENT SCENARIO OF TRACEABILITY IN BRAZIL. Brazil exports about 1/4 of its beef production, the remainder is consumed within the country, especially in the more densely populated Southeast region. Climate changes have increased the demand for animal traceability in countries exporting to the European Union and China, as deforestation of the Amazon Rainforest, although not the most relevant factor, may have some something to do with the increase in beef production. “With the worsening of the greenhouse effect and recurrence of extreme weather phenomena, the demand for traceability in domestic markets is also expected to increase in the near future. From this perspective, digital technologies should emerge to meet these demands”, explains, Thais Basso Amaral, researcher at Embrapa Digital Agriculture and Deputy Head of the Research Center. Also, according to Thais, in countries like Brazil, whose production is characterized by movements between properties with different breeding systems, the individual identification of animals from birth is important to ensure the traceability of the system. However, for the producer, even before traceability itself, individual identification of the animals in the herd makes it possible to optimize the internal control of the livestock activity, facilitating the management of the rural company.

“Another advantage of in-

“TRACEABILITY MAKES IT POSSIBLE TO CERTIFY SUSTAINABLE PRACTICES, ADDING VALUE TO THE PRODUCT AND MEETING THE REQUIREMENTS OF INTERNATIONAL MARKETS”, SAYS **THAIS BASSO AMARAL**



“THE SUCCESS OF INDIVIDUAL TRACEABILITY IMPLEMENTATION IN BRAZIL WILL DEPEND ON THE CATTLE BREEDER SEEING SOME REAL VALUE IN THE CHAIN AND THAT IT REACHES HIM”, SAYS **FRANCISCO PUGLIESI DE CASTRO**

dividual animal identification is its fundamental role in the success of actions to protect animal health which, depending on the system being used, can provide relevant information in real time, incases of disease outbreaks for example. It is also worth highlighting the importance of an efficient traceability system in relation to international trade requirements and health conditions regulated by the World Organization for Animal Health (OIE),” she said.

INTERNATIONAL MARKET, CONSUMERS AND THE FUTURE. In the beef cattle production chain, traceability is more than a requirement, “it is a fundamental tool to ensure the meat’s

safety and quality”, says Paulo Dias, master in Livestock Production, specialist in High Performance Livestock Management and CEO of Ponta Agro. He emphasizes that, as well as making it possible to quickly identify and remove products with health risks, this practice ensures the origin and excellence of the product.

“Another important benefit is access to international markets. Many countries, such as members of the European Union, require traceability systems for meat imports, which makes this practice fundamental for global competitiveness. Finally, cattle traceability increases transparency and consumers trust, strengthening their relationship with beef brands”, explains Paulo.

In the CEO’s view, cattle traceability offers a number of significant benefits to cattle breeders, and can be divided into two main categories: internal and external. Internally, within the farm, traceability provides a more in-depth knowledge of the herd, recording a detailed history of each animal. This detailed monitoring improves management, makes it easier to monitor animal health and performance, and guides decision-making related to productivity and genetic improvement.

“To maintain and expand its participation in world trade, Brazil must continue to improve its traceability systems and ensure compliance with international protocols. These improvements are essential to guarantee the products origin, meet the quality and sustainability requirements, and maintain Brazil’s competitiveness against the main competitors in the global market”, concludes Paulo Dias. ■



“FOR BRAZIL TO MAINTAIN ITS POSITION IN THE GLOBAL MARKET, IT IS ESSENTIAL TO IMPROVE TRACEABILITY AND COMPLY WITH INTERNATIONAL PROTOCOLS”, POINTS OUT **PAULO DIAS**

BRAZILIAN LIVESTOCK SECTOR GROWS AND EXPANDS GLOBAL PRESENCE

THE SECTOR REGISTERS AN INCREASE IN PRODUCTION, **EXPORTS AND ADOPTS SUSTAINABLE PRACTICES** TO STRENGTHEN COMPETITIVENESS IN 2025

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Brazilian beef cattle recorded a remarkable performance in 2024, consolidating its position as one of the main sectors of national agribusiness. By November, production had increased by 1.5 million tons of carcasses in the formal market, vis-a-vis the same period in 2023. Exports grew by 754,700 tons, while domestic availability to consumers rose by 770,000 tons. In percentage terms, production rose by 18.7%, exports by 28.3% and domestic availability by 14.08%.

This performance is attributed to the sector's technological advances, which have been intensifying in recent decades. Maurício Nogueira, director of Athenagro and coordinator of the Livestock Rally, points out that recently, the stimulus of exports to China has

accelerated the adoption of technologies in livestock farming. "This acceleration explains the year's performance, which is well above average when you consider only the effects of the increase in female slaughter, typical of the low phases of the livestock cycle," he says.

The most important markets for Brazilian exports in 2024 were China, the United States, the United Arab Emirates and Chile, which jointly accounted for 62% of Brazilian meat imports. In terms of turnover, these four countries accounted for 65% of total exports between January and November. Additionally, there was growth in exports to emerging markets such as Algeria, Mexico and Turkey, demonstrating the diversification and expansion of the global presence of Brazilian meat.

SUSTAINABILITY AS THE COMPETITIVE EDGE. Productivity is directly linked to sustainable practices, says Maurício, underscoring the importance of meeting the demands of the foreign market. He explains that in Brazil's tropical context, with poor soils and a higher incidence of pests, the use of inputs is necessary to guarantee production. "There is confusion between sustainable practices and an agenda against the use of inputs. The goal of sustainability, as well as production efficiency, is to maximize the efficient use of inputs, adopting bio-inputs, integrated pest management and integrated production systems," he explains.

The results are proof of the progress made by Brazilian livestock farming. Between the early 1990s and the



period from 2021 to 2024, meat production grew by 150%, while the herd increased by 30.4%. This significantly reduced carbon emissions per kilogram of meat produced. Exports increased by 640%, while there was a 98% increase in the availability of meat on the domestic market. As a result, the estimated per capita consumption of beef increased by 45% over the period.

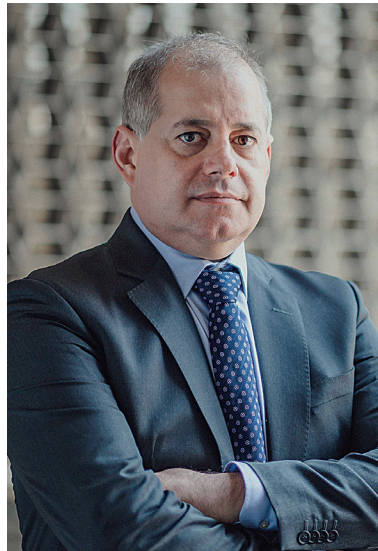
During the same period, the pasture area decreased by 14.6%, considering all the deforestation in the period as new pasture areas. Average productivity, on the other hand, increased by 190%, demonstrating the sector's efficiency gains. "This proves that beef cattle are not demanding for new areas and can be combined with the commitments formalized by the Brazilian government when it comes to the recovery and conversion of pasture areas, states Mauricio.

OPPORTUNITIES AND CHALLENGES FOR 2025.

Brazilian beef continues to gain prominence in the global market, driven by a series of initiatives and advances that position Brazil as one of the main exporters of animal protein. Roberto Perosa, president of the Brazilian Association of Meat Exporters (Abiec), points out that by 2024, Brazil is expected to export almost 3 million tons of beef, generating revenues close to 13 billion dollars. This figure reflects significant growth in exports, consolidating the country as a major player in the global meat market. "We're at a very positive moment, with the prospect of an increase in both production and exports next year," says Perosa.

Brazil is expanding its footprint in markets that previously did not have much space, especially in Asia. According to Maurício Nogueira, this achievement is the result of a joint effort between the private sector, led by Abiec, and government bodies such as the Ministry of Agriculture (MAPA), the Brazilian Trade and Investment Promotion Agency (ApexBrasil) and the Ministry of Foreign Affairs (MRE). "We continue to have great opportunities ahead of us, but it is essential that the sector balance the growing demands of the international market with the ability to produce evermore and more within the country," he says.

Despite the progress achieved



MAURÍCIO NOGUEIRA IS THE DIRECTOR OF ATHENAGRO AND COORDINATOR OF THE LIVESTOCK RALLY

over the last three decades, Maurício points out that average productivity in Brazil is still low compared to the most technologically advanced farms. He also points out that one of the biggest threats to Brazilian livestock farming in 2025 is related to health issues. "The land structure and the distribution of the herd make the country highly vulnerable to health emergencies," he warns. These challenges demand additional attention to strengthen the sector's competitiveness and guarantee its sustainable expansion in the global market.

Brazil has shown great potential when it comes to meeting the growing demands of the foreign market by 2025. "And it has been very successful in the process. As well as being serious in its efforts to open markets, the sector has been able to guarantee the reliability of supply and the quality of the product on offer," says Athenagro's director. Between 2018 and 2024, many achievements were consolidated, especially regarding the age and finishing quality of the animals coming onto the market. "Despite the amount of misinformation associating national livestock with illegal practices, such as criminal or unauthorized deforestation, the market is increasingly recognizing the differentiation of what is being delivered by Brazilians," says Maurício.

Roberto Perosa, meanwhile, is optimistic about the future and says that



ROBERTO PEROSA IS THE CHAIRMAN OF THE BRAZILIAN ASSOCIATION OF BEEF EXPORTING INDUSTRIES (ABIEC)

Abiec's focus will lie in opening new markets, such as Japan, Vietnam, South Korea and Turkey, which jointly account for 30% of the world's beef protein trade. "We are working to guarantee access to these markets, while at the same time preserving the sustainability and health of Brazilian beef. I'm confident that these markets are fundamental for Brazil to take a leap in export volumes."

In the domestic market, Abiec's president reiterates the importance of beef being included in the basic food basket, a measure that aims to increase the population's access to the protein. "The idea of keeping beef in the basic food basket, with the tariff reduction, is to allow more people access to this protein," he says. The measure has generated positive expectations, and Abiec is awaiting the regulations currently being debated in Congress.

Roberto also points out that Brazil has a vocation for agribusiness, with fertile land, dedicated people and an ideal climate for protein production. "We would never think of attacking the climate, because we depend on it for the success of our business," he states. The country has proven to be safe, with high health and production capacity, which guarantees its position as a reliable food supplier to the world. "Brazil is doing serious work in the field, and our mission is to feed not only the Brazilian people, but the entire world as well, always with a focus on sustainability and continuous growth," he concludes. ■

A photograph of two men shaking hands in a dairy barn. The man on the left is younger, wearing a blue polo shirt and dark pants. The man on the right is older, wearing a light blue button-down shirt and dark pants. They are standing in a dirt aisle between rows of black cows. The barn has a metal truss roof structure. The background shows green trees outside.

THE BANDOLI FARM IS AN EXAMPLE OF QUALITY IN DAIRY PRODUCTION

UNDER THE LEADERSHIP OF **CARLOS AND PEDRO BANDOLI**, THIS PROPERTY BRINGS TOGETHER TRADITION AND TECHNOLOGY TO REMAIN AT THE TOP OF THE NATIONAL GIROLANDO BREEDING RANKING

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From an early age, Luiz Carlos Bandoli Gomes looked upon his father, a rural producer, as an example of dedication and love for the land. This admiration shaped his life and thrust him to pursue dairy farming, turning his passion into a successful venture. Today, at the head of Fazenda Bandoli Agropecuária, he and his son Pedro lead the National Ranking of Girolando 1/4 HOL + 3/4 GIR Breeders.

It was in the 1980s that Luiz Carlos began his journey in the dairy cattle industry. "I started out of inspiration and admiration for my father. I fell in love with country life and decided that this was a path I wanted to follow," he says. His passion for farming developed over the years and, over time, he realized that he could turn this vocation into a thriving business.

The fascination with agribusiness and dairy farming in particular, was

what guided Luiz Carlos on his path. "The beauty of growing crops and the sweetness of dairy cattle are but a few examples; it's impossible not to feel happy in this environment," he says. This affection for the land and the animals led to the founding of Fazenda Bandoli Agropecuária, located in Natividade (RJ), where the businessman, alongside his son Pedro Bandoli, began to invest heavily in breeding programs to improve the herd.

In 2005, the opportunity arose to raise the quality of the herd by means of Embryo Transfer (ET), a method that was emerging in the market and which enabled the pursuit for better quality, adding value to the herd. This innovative process allowed the farm to breed animals with superior genetics, especially when crossing pure Holstein cows with Girolando bulls, resulting in the highly valued 1/4 HOL + 3/4 GIR.

This arduous and visionary work put Fazenda Bandoli at the top of the National Ranking of Girolando Breeders, a position it maintains with pride and dedication. Nowadays, the property is an example of success, uniting passion, innovation and tradition in a trajectory that began with a son's admiration for his father.

GENETICS AND RESULTS. Excellence in genetic selection has been one of the fundamental pillars for successful production. Attention to detail and rigorous selection of animals for breeding are aspects that have had a direct impact on the results achieved by the farm.

Pedro Bandoli explains that the screening of the animals is based on stringent genetic criteria. "They are selected based on their breeding value. We monitor them by weighing their milk every two weeks enabling us to have data and make the best decisions, generating safe results," he says. This practice allows the farm to maintain precise control over the productivity and quality of the milk produced, as well as ensuring that the best animals are chosen to continue the herd.

Recognition for the work done has come in the form of several awards, including the top position in the National Ranking of Girolando Breeders. For Pedro, these achievements are more than trophies; they represent the validation of years of effort and dedication. "The awards are recognition of the long work we've been doing at the farm, it's legitimization that all our efforts to be better every day are paying off and showing we're on the right track," he stresses.

Additionally,

PEDRO AND LUIZ CARLOS BANDOLI CELEBRATE THE SUCCESS OF MANAGEMENT THAT BRINGS TOGETHER A FAMILY TRADITION AND GENETIC INNOVATION IN THE DAIRY INDUSTRY

according to Embrapa's latest annual evaluation, Fazenda Bandoli is also responsible for 16 of the top 24 places in the TOP 1,000 Girolando Breed ranking for milk production.

DEVELOPMENT AND EXPANSION. Besides excelling in milk production, Bandoli has consolidated its position as a benchmark in the sale of high-quality animals and embryos. This diversification of activities has been fundamental for the farm's sustainability and continued growth. "Our donor bank for sale has been very carefully selected for milk production, and we are nationally recognized for the animals we have, which gives us a guarantee in the sale of animals and embryos," he explains.

Fazenda Bandoli also has ambitious expansion plans, with the aim of doubling its daily milk production over the coming two years. Currently, the herd is made up of around 700 animals - 150 of which are lactating cows, with an average of 33.6 kg of milk/day; 50 pre-calving animals; and the rest, young cattle. The farm produces an average of 5,000 liters of milk a day, with 439 births in 2023 alone.

This growth is supported by a series of strategic investments, such as the expansion of the property's physical structure and the implementation of technologies. "We've been increasing the annual number of births since 2022 to enable us to reach this goal," says Luiz Carlos. To this end, improvements were made to the infrastructure, including the construction of two Com-

post Barns with capacity for 350 animals, which provides greater comfort and well-being for the herd and, consequently, better productivity rates.

VISION AND FUTURE. Luiz Carlos looks upon the future of Fazenda Bandoli with optimism and determination. For him, the secret to continuing as a leader in the dairy cattle industry lies in paying meticulous attention to every aspect of the business. "I believe that you need to have a 360° view of the business, paying attention to every detail so that the whole develops with mastery. And, in addition to this, investing in people is fundamental," he says.

In addition, the cattle producer reflects on the factors that drive Fazenda Bandoli's continued success in such a competitive market, highlighting, above all, the importance of humility and the constant search for improvement. "Having the humility to learn from other stories is one of those principles; wanting to be better day after day and transform people's lives is a great personal goal," he reveals.

This work philosophy, combined with a commitment to advanced genetics, quality nutrition, animal welfare and sustainability, has allowed Fazenda Bandoli to stand out nationally. "With this business vision, we have won national recognition in various productivity rankings and prizes in track competitions," says Luiz Carlos. The combination of these factors ensures that Fazenda Bandoli will continue to be a benchmark in the industry, paving a path of growth and innovation for the future. ■



CONSISTENT GROWTH

RECOVERY IN CONSUMPTION AND LOW DAIRY PRICES MARKED
THE ACTIVITY'S PERFORMANCE IN 2024. FOR THIS YEAR,
THE OUTLOOK IS TO ENTER 2025 WITH A HIGHER PRODUCTION

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For Brazilian milk producers, 2024 was a year of lower margins in the first semester, mainly due to lower prices in the countryside. In this scenario, with the growth in demand throughout the year, prices rose and so did producer margins, ending the year with the Revenue Minus Food Cost indicator (IRMCA). (See graph 1)

Valter Galan, a partner at MilkPoint Ventures, is the one who brings this information. According to him, in addition to the two very different scenarios of production profitability between the two semesters, the sector was impacted in the first half of the year by flood disasters in Rio Grande do Sul (RS). This led to a drop in production in that state, being offset by production in Minas Gerais and other regions. (Graph 2).

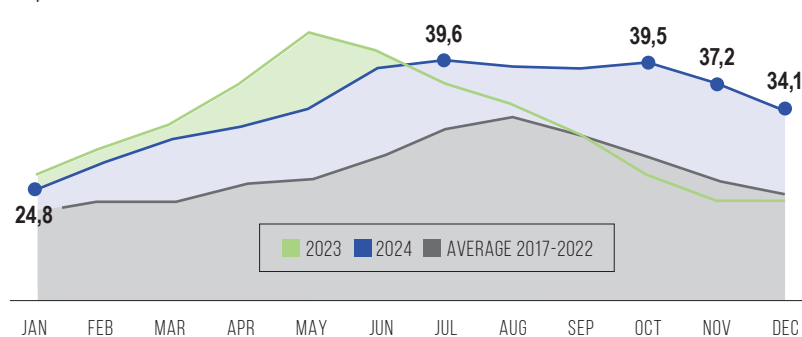
“Production is therefore expected to grow modestly in the year (+1% to +1.5% vs. 2023),” Galan said. Another important factor, he adds, was the recovery in consumption generated mainly by the economic environment and low dairy prices in the first half of the year.

In the second semester of 2024, milk production reacted in the main dairy basins, as shown by the Milk Production Index (IPL), which anticipates and closely correlated with the official IBGE figures. (Graph 3). “On the demand side, we saw some slowdown as dairy prices rose, but a recovery when they indicated again a downward movement”, highlights the MilkPoint Ventures partner.

In the field of opportunities, 2024 was marked by a year where the producer had soybean and corn prices/costs well under control, which generated possibilities for future locking in commodity prices (which together account for up to 50% of the cost of milk production), using futures contracts on the São Paulo Stock Exchange (B3) and the Chicago Stock Exchange (CBOT).

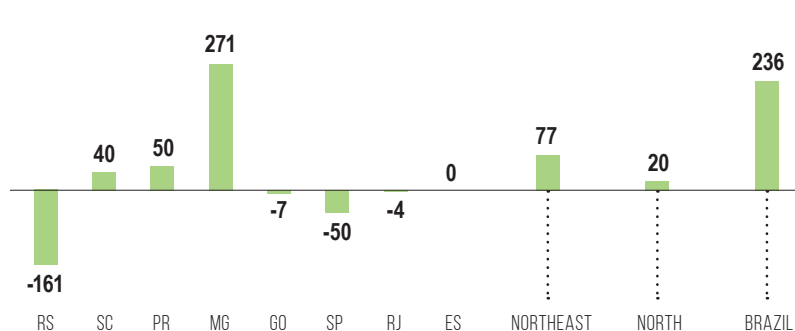
On the other hand, the producer’s challenges were linked to the management of his activity in a year with two very different semesters in

GRAPH 1.
EVOLUTION OF THE RMCA (REVENUE MINUS FOOD COST) INDICATOR (R\$/COW/DAY)



Source: MilkPoint Mercado

GRAPH 2.
BRAZIL – VARIATION IN MILK COLLECTION ACCUMULATED JANUARY TO SEPTEMBER, 2024 VS 2023 (MILLION LITERS OF MILK)



Source: Prepared by MilkPoint Mercado based on data from IBGE’s IPL (Milk Production Index)

terms of prices received and profitability. “It’s worth pointing out that dairy farming is a long-term activity (at least 12 months) and therefore needs to be managed from this perspective and not from the short-term thinking that market discussions usually put forward,” says Galan.

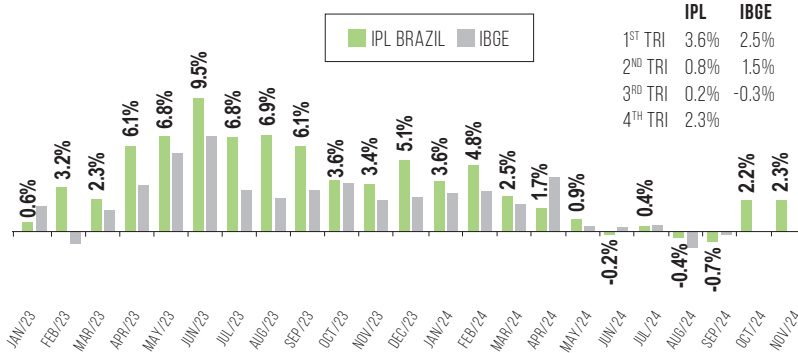
By 2025, the sector enters the new year carrying a reasonable amount of price inflation - for example, in the case of producer prices. Given this context, 2025 should start at around R\$2.64/liter (Brazil Cepea average), while 2024 started at around R\$2.03/liter - an “entry” inflation of around 30%. The same will happen with the

retail prices to the final consumer and this effect tends to make it more difficult to maintain demand. (Graph 4).

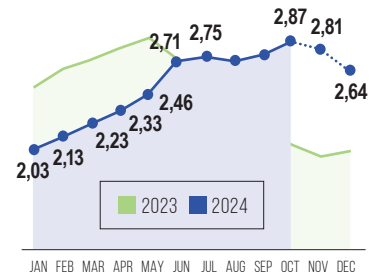
On the other hand, says Glan, with higher prices and higher profitability at the start of the year, milk production tends to increase more consistently I the country - in other words, the prospect is of entering 2025 with more production and not so heated demand, which could hold back the growth momentum of the price curve along the production chain.

SUSTAINABILITY IN THE DAIRY SECTOR. The adoption of sustainable practices is an unquestionable trend ►

GRAPH 3.
BRAZIL MILK PRODUCTION INDEX (IPL)
MONTHLY VARIATION VS SAME MONTH OF THE PREVIOUS YEAR



GRAPH 4.
MILK PRICES TO PRODUCER
(2023 & 2024)



Source: Prepared by MilkPoint Mercado based on data from Cepea

in the activity, highlights the director of Communication and Marketing of Abraleite (Brazilian Association of Milk Producers), Maria Antonieta Guazzelli. For her, the tripod of the concept - environmental, economic, and social - is essential for the efficient management of a farm. "This is the focus, the basis that organizes management. And it is something infinite, there is always room to improve, innovate, and make better use of resources", she reinforces.

With this in mind, Brazilian producers invest on several fronts in the production system to advance on im-

portant issues. On this list, welfare and the integration of livestock farming and agriculture are daily commitments. "Regenerative agriculture is intrinsic to the production of milk and roughage and we need to improve it, including the use of biofertilizers and utilization of biomass", she adds.

Another crucial point, Maria Antonieta points out, is the treatment of waste. According to her, waste can be transformed into clean energy, such as biogas, and solids used in composting, promoting a direct connection between sustainability and productivity in the dairy sector.

COMMITMENT TO THE SECTOR'S GROWTH.

Abraleite plays a strategic role in strengthening the activity, especially by integrating practices aligned with ESG principles. As Maria Antonieta shares, the organization's work covers several fronts, with emphasis on public policies: "We defend the interests of the sector in the executive, legislative, and judicial spheres, with a focus on structuring measures that benefit, above all, small and medium-sized producers, who represent the majority of milk production in Brazil".

Another fundamental pillar is investment in marketing and communication. For 2025, Abraleite plans to launch a communication network aimed directly at the end consumer, seeking to bring society closer to

the sector and enhance the value of national dairy products. "We believe that effective and dynamic communication is essential to connect producers, institutions

"FOR 2025, ABRALEITE PLANS TO LAUNCH A COMMUNICATION NETWORK AIMED DIRECTLY AT THE END CONSUMER", STRESSES MARIA ANTONIETA

and suppliers more effectively", highlights Maria Antonieta.

In addition, the association will continue to prioritize access to knowledge and technology, promoting constant learning to foster the sustainable growth of the production chain. "Our strong performance in public policies and support for technological development are differentials that consolidate Abraleite as a leading actor in the sector," she concludes. ■

"WITH HIGHER PRICES AND HIGHER PROFITABILITY AT THE START OF THE YEAR, THE ACTIVITY TENDS TO HAVE A MORE CONSISTENT INCREASE IN MILK PRODUCTION IN THE COUNTRY", HIGHLIGHTS VALTER GALAN



HEALTH, NUTRITION AND ANIMAL WELL-BEING: A GLOBAL CONNECTION



ALIVIRA

Alivira Animal Health Limited, part of Carlyle Group Company, has emerged as India's largest and 1st Global integrated animal health company specialising in manufacturing of Active Pharmaceutical Ingredients (API) and Finished Dosage Formulations (FDF) with presence in 100+ countries. We offer a comprehensive portfolio across formulations, animal health Active Pharmaceutical Ingredients (API), and provide analytical services to the pharmaceutical and life sciences industry. In Brazil, Alivira is one of the most important companies in the veterinary segment and operates in the meat production chain and in the companion animals market.

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VIDARA DO BRASIL: TRANSFORMING COMMERCIAL RELATIONSHIPS INTO LIFELONG PARTNERSHIPS

*SOLUTIONS THAT COMBINE INNOVATION, SUSTAINABILITY
AND COMMITMENT TO THE FUTURE*

Since 1996, **Vidara do Brasil Ltda.** has consolidated its history as being more than merely a supplier: **it is a lifelong partner!** With headquarters in JUNDIAÍ, São Paulo, acting in several strategic areas, such as Animal Nutrition, Premix, Ruminants, Pet Food, Aquaculture, Human Nutrition, Pharmaceuticals, Aromas and Fragrances, it has been building a trajectory of reliable and sound growth in the market.

Vidara not only meets the demands of its customers, but walks side by side with them, providing indispensable solutions for the different phases of their journeys. Through its robust infrastructure, which includes six distribution centers strategically located in Brazil, the company guarantees expeditiousness, efficiency and proximity to its partners. This commitment to excellence is one of the reasons why Vidara is seen as a benchmark for trust and innovation in the sector.

Guided by the **Mission** of “engaging with its partners to create and supply indispensable materials and services”, the company integrates sustainability and diversity into all its operations. This purpose reflects its dedication to making a meaningful contribution to the lives of people, companies and communities, establishing connections that go beyond the market.

With the **Vision** of “Being a vital part of your life”, it reinforces its role in transforming commercial relationships into long-term partnerships. The company does not limit itself to offering products or services, but seeks to create value in every interaction, positively impacting all those involved - employees, customers, suppliers and society.

The foundation for this commitment lies in its **Values**. Respect for people, professionalism, encouraging innovation and humility are the principles that guide its decisions and strengthen its relationship with its partners. This ethical and collaborative basis enables Vidara to position itself as a company that not only grows but also fosters joint growth.

In the Animal Nutrition market, where the company has made a name for itself, some of the items in its portfolio are noteworthy:

Butirex - NOVATION: Chemically protected sodium butyrate, focused on promoting intestinal health, helping to maintain intestinal integrity and control intestinal permeability efficiently. This product was developed with an exclusive protection system that releases butyric acid in the initial portion of the small intestine, so as to contribute to better absorption and use of nutrients.

Celmanax - ARM & HAMMER: Source of highly bioavailable functional carbohydrates (RFC™), developed to prepare the immune system for a better response to challenges. Based on MOS and Beta-glucans, this prebiotic developed with an exclusive enzymatic process is especially indicated to strengthen the animal's immune system,

acting on pathogenic bacteria as a strategic tool for animal production.

Kolin Plus FC - NATURAL REMEDIES: Plant-based phyto-genic additive as a natural alternative to choline chloride in diets. With the exclusive NR SBP™ technology for quantifying and standardizing active ingredients, the product contains, in addition to phosphatidylcholine, different bioactive compounds focused on fat mobilization and metabolism, supporting hepatoprotection.

LithoNutri - OCEANA: An additive composed of Lithothamnium seaweed, especially characterized by being rich in highly bioavailable calcium, among other microelements. Its highly porous structure increases the digestibility and absorption of nutrients. In ruminants, it acts as a long-acting buffer and in monogastric animals, a more bioavailable source of calcium, in both of which it demonstrates better zootechnical indices.

MaxChelat, MaxActivat and MaxBios range - PROVITA: Complete range of chelated organic minerals based on glycinate, with high bioavailability for greater efficiency in nutrient absorption. Alongside the MaxActivat line made up of activated Zinc and Copper, they act as a more effective substitute for conventional sources, improving intestinal permeability and reducing the excretion of minerals and contaminants into the soil. In addition to MaxBios, a spore-forming probiotic based on *Bacillus subtilis*, with a focus on *Clostridium* control. It promotes the stabilization of intestinal flora for efficient and sustainable swine and poultry production.

Vidara also invests in research and partnerships that guarantee customized solutions to meet the growing demands of the market. With a team of specialists who work to align innovation and efficiency, offering specialized technical support and guaranteeing the success of each partner. This approach not only optimizes production results but also promotes more integrated and assertive management of production systems.


Throughout its history, Vidara has become an essential partner, translating **trust** and **excellence** into its processes. Whether in its products, technical support or proximity to its customers, it reaffirms its role as an indispensable ally for success. **More than a supplier, a lifelong partner. ■**

ÁGATA CLÉCIA DA SILVA,
TECHNICAL SALES
COORDINATOR AT VIDARA
DO BRASIL. WITH A DEGREE
IN ZOOTECHNICS FROM THE
FEDERAL UNIVERSITY OF
SÃO JOÃO DEL REI (MG)





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PARTNERING FOR LIFE

TOWARDS THE TOP OF THE WORLD

THE COUNTRY HAS THE POTENTIAL TO LEAD GLOBAL FISH PRODUCTION, AND THE ADOPTION OF **SUSTAINABLE PRACTICES** IS THE KEY TO ACHIEVING THIS POSITION

GLAUCIA BEZERRA

glaucia@dc7comunica.com.br

Aquaculture is consolidating itself as a strategic alternative to meet the growing global demand for proteins in a sustainable way. In a scenario marked by climate change and the search for greater production efficiency, the industry presents solutions that expands the supply of food and contribute to the conservation of natural resources.

For Natasha Seravali Flauzino Castellan, export director of Brazilian Fish of the Ambar Amaral Group, the future of aquaculture in Brazil and in the world is promising, especially considering the untapped potential of the national market. "The per capita consumption of fish in Brazil is still low compared to other proteins, such as chicken, beef and pork. This represents a huge market to be stimulated through marketing actions in

partnership with government agencies, aiming to increase and popularize the consumption of this protein", she says. And points to tilapia as an example of success, gaining ground among Brazilians because of its practicality, taste and healthy profile.

Natasha stresses that the opportunities in the international scenario are directly linked to the quality of the products and meeting the strict requirements of foreign markets. High-end products, with sustainability, social responsibility and food safety certifications are essential for demanding markets such as North America.

Because of its production profile, aquaculture has the potential to be one of the most sustainable forms of animal protein production, since it emits less greenhouse gases and uses resources such as water and land more

efficiently, in addition to reducing pressure on natural fish stocks and promoting the conservation of species in the oceans. This ability to produce on a large scale with reduced environmental impacts positions aquaculture as an important solution for the food security of growing populations.

NEW DIRECTIONS FOR AQUACULTURE. Brazilian activity is at a crossroads between growth potential and the need to adopt practices that promote sustainability and productive efficiency. As fish consumption increases, driven by global trends in healthy and sustainable food, the industry seeks to integrate technological innovation and environmental strategies to consolidate its position in the domestic and foreign market.

Juliano Kubitza, business director at Fider Pescados, points out that innovations in precision nutrition are redefining production processes in aquaculture. The search for carcass yield and zootechnical performance remains one of the main objectives. However, environmentally-oriented formulation is already an irreversible trend. Producing quality food efficiently and contributing to environmental improvement will be the natural path in the coming years," he says.

The use of emerging technologies, such as artificial intelligence and automation, is also transforming aquaculture, allowing greater precision and agility in decision making. "Biometrics that don't interfere with farming, efficient feed delivery based on fish behavior and real-time measurements have revolutionized production. Anyone who doesn't evolve at the necessary speed will lose competitiveness very quickly," warns Fider's director.

Beyond technology, consumer expectations are driving significant changes in the market. Although fish consumption in Brazil is still low, about 10 kg per inhabitant per year, the trend is for growth. The percentage of fish in the total protein consumed is ex-



"THE FUTURE OF AQUACULTURE IN BRAZIL IS PROMISING, WITH POTENTIAL FOR GROWTH IN FISH CONSUMPTION AND TECHNOLOGICAL INNOVATIONS", HIGHLIGHTS **NATASHA CASTELLÁN**

pected to increase significantly over the next 10 years, with consumption rising by at least 50%. Productions that follow protocols to protect the environment, animals and people will gain more and more prominence.

SUSTAINABLE EXPANSION. The advancement of aquaculture in Brazil faces significant challenges, but it also presents great opportunities, especially for small- and medium-sized producers who are adopting affordable and innovative solutions. According to Waldemar Silva Júnior, owner of the Gran Fish processing plant, more accessible practices such as the use of efficient aerators and genetically improved strains, are boosting productivity in the country.

"Apps for basic water quality monitoring and feed management systems, which are simplified tools, have been revolutionary for small producers. These advances make technology more inclusive and adaptable to local realities," explains Waldemar.

Meeting the increasing demand for transparency and traceability is another focus of the industry. International certifications – BAP (Best Aquaculture Practices) and ASC (Aquaculture Stewardship Council) – have gained strength, helping to position products in the international market. "However, more advanced solutions, such as blockchain, are still future



"SIMPLIFIED TOOLS, SUCH AS APPS FOR BASIC MONITORING OF WATER QUALITY AND FEED MANAGEMENT SYSTEMS, HAVE BEEN REVOLUTIONARY FOR SMALL PRODUCERS", SAYS **WALDEMAR SILVA**

goals, especially due to the high cost and lack of technical training among small producers," he points out.

Waldemar has an optimistic view for the industry's future: "Brazil is in a position to lead the global aquaculture market, thanks to its abundance of water resources and biodiversity, but this requires regulatory modernization, consumer awareness of fish benefits and larger investments in research and development. Public-private partnerships can be decisive to accelerate this progress and make aquaculture one of the main economic forces in the country". ■

"PRODUCING QUALITY FOOD EFFICIENTLY AND CONTRIBUTING TO ENVIRONMENTAL IMPROVEMENT WILL BE THE NATURAL PATH IN THE COMING YEARS", PROJECTS **JULIANO KUBITZA** **WALDEMAR**





A SEA OF OPPORTUNITIES

GROWTH IN TILAPIA PRODUCTION, **ADVANCES IN SUSTAINABILITY AND TECHNOLOGY** CONSOLIDATE BRAZIL'S LEADERSHIP IN FISH FARMING

GLAUCIA BEZERRA
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The farmed fish sector in Brazil experienced a year of transition in 2024, marked by significant advances and challenges. The highlight was the tilapia production chain, which saw a significant increase in supply, with growth estimated at around 10%. This advance, however, generated an oversupply, causing prices to fall – from an average R\$9.50/kg to approximately R\$7.50/kg – affecting the profitability of many producers. Conversely, the scenario encouraged a record expansion in exports, which more than doubled by September compared to the same period in 2023 and could triple by the end of the year.

In addition to growth in production and foreign trade, 2024 was also marked by a significant increase in investment in the fish farming sector.

Companies and cooperatives stepped up their efforts to strengthen the production chain, with Brazilian Fish, Fider Pescados and the Cvale Cooperative leading the way. An important milestone was Copavel's entry into the fish market, with the acquisition of a slaughterhouse in Cascavel, Paraná.

According to Altemir Gregolin, a veterinarian, FGV professor, consultant and former Minister of Fisheries, the tilapia market is undergoing a specialization process, with gains in scale, the opening up of new markets and greater concentration, typical characteristics of maturing chains. However, this progress has its challenges: several small producers are leaving the activity, impacted by the difficulty of competing in a scenario of low prices. "In the case of tambaqui, 2024 accounted for a recovery with better prices

and increased stocking, pointing to a more promising 2025," he adds.

For 2025, the outlook for the fish sector in Brazil is optimistic, driven by a combination of economic and market factors. The expectation of economic growth of around 3%, with an increase in employment and income, should stimulate fish consumption in the domestic market. In addition, the reduction in supply, the result of lower stocking in recent months, may contribute to a recovery in prices, bringing relief to producers.

In the global scenario, fish consumption will continue to expand, according to FAO projections, which should further strengthen Brazilian exports. The American market remains the main destination for Brazilian tilapia. For Gregolin, the United States continues to be the main driver of Brazilian exports of fresh tilapia fillets. "If there are no protectionist measures on the part of the American government, Brazil could consolidate its position as the largest exporter of fresh tilapia fillet to that country, reaching the US\$ 100 million mark in exports, an unprecedented feat for the sector."

EXPORTS WITH HISTORIC PERFORMANCE. In 2024, the fish farming sector in Brazil made significant progress, driven by a significant increase in production, especially of tilapia, and a recovery in the prices paid to native fish producers. According to Francisco Medeiros, executive pres-

ident of the Brazilian Fish Farming Association (Peixe BR), the year was atypical compared to 2023, reflecting both climatic and economic factors.

"In the Southeast and South, we had milder cold weather, which allowed the fish to continue feeding and growing in the colder seasons, increasing the supply of fish on the market," Medeiros explains. This climatic peculiarity, combined with the increase in production, shaped the scenario for the sector in 2024.

In the field of exports, the performance was historic, driven mainly by tilapia, consolidating 2024 as "the best year in history" for the sector's foreign trade, according to Medeiros.

Brazilian exports of farmed fish, led by tilapia, performed remarkably well in 2024, especially in the US market, which consumes more than 90% of exported production. Tilapia, an international commodity, has consolidated its presence in the United States, the world's largest importer of fresh fillet of this species and a market geographically close to Brazil.

"In 2023, we were the fourth largest exporter of fresh tilapia fillet to the United States; this year, we are already second. By 2025, we will certainly be number one," predicts Francisco. This rise reflects both the competitiveness of Brazilian tilapia farming and the strategic efforts made by organizations such as Peixe BR, the Ministry of Agriculture and Livestock (MAPA) and the Food and Drug Administration (FDA).

A technical change promoted by the FDA, which waived the requirement for an International Health Certificate for fresh fillet to enter the US, was decisive for this expansion. "The bureaucracy often delayed our flights, affecting the swiftness required for a product that must reach its destination within 48 hours of leaving the water," explains Medeiros. The measure, added to an increase in logistical efficiency and product quality, has significantly increased Brazil's share of the American market, and points to even greater growth by 2025.

LOOKING TO THE FUTURE. Technological innovation is emerging as one of the main pillars for boosting the productivity and competitiveness of the fish sector in 2025. Among the most promising



"WE'RE THE WORLD'S FOURTH LARGEST TILAPIA PRODUCER, BUT THE FIRST IN TECHNOLOGY," SAYS FRANCISCO MEDEIROS

trends are genetic improvement, which already allows for more precocious, disease-resistant and better-converting fish varieties, and precision nutrition, with more effective feeds and additives that promote performance gains.

In addition, digital technology is transforming fish farming with the use of artificial intelligence, automation and the internet of things, such as automatic feeders and aerators, sensors connected to applications that monitor water quality and technologies for measuring fish biomass. "The industry is also following the Industry 4.0 modernization trend, in search of competitiveness," says Gregolin.

Brazil is already the fourth largest producer of tilapia in the world, second only to China, Indonesia and Egypt, but in order for the country to consolidate its position as one of the global leaders in fish production and exports, Gregolin points to the need to overcome structural challenges. He highlights the approval of the tax reform as an important milestone to stimulate investment, since fish became part of the basic food basket, with zero tax, and fish farming achieved tax equality on feed, comparable to poultry and pig farming. "In addition, it is essential to overcome hurdles in environmental licensing and move forward with credit policies and technical assistance for small producers," he says.

As warned by the expert, the big challenge for the coming period is to be able to grow in the face of a very prom-

ising but increasingly competitive market. "The trend is, as in other chains, to move towards professionalization and concentration. Therefore, faced with the opportunities that lie ahead, it is necessary to adopt increasingly robust strategies for technological modernization, efficient management of enterprises and cooperation. Both companies and producers need to implement measures in the field of associations and cooperatives. We have a 'sea of opportunities' ahead of us and we need thousands of people to reap the fruits that this sector will produce," said Gregolin.

BRAZIL AT THE FOREFRONT. According to Medeiros, regarding innovation, Brazil leads the way worldwide in tilapia farming technology, surpassing big producers in efficiency and innovation. "We are the world's fourth largest tilapia producer, but the first in technology," says Medeiros. This leadership is palpable in productivity per excavated pond, which reaches record levels in western Paraná, and in the use of advanced solutions in genetics, feed and health.

The automatic tilapia vaccination machine, developed in Brazil and a pioneer in the world, is an example of the country's leading role. "This technology is emblematic of the sector's innovative capacity, which continues to attract investment and increase its global competitiveness," says Francisco, who concludes: "In terms of innovation, especially in tilapia farming, we are at the forefront of the segment and we should continue to be so in the coming years due to the entrepreneurial profile of our producers, who work with a focus on scale, technology and quality." ■

"TECHNOLOGICAL INNOVATION IS EMERGING AS ONE OF THE MAIN PILLARS FOR BOOSTING THE PRODUCTIVITY AND COMPETITIVENESS OF THE FISH SECTOR IN 2025," SAYS ALTEMIR GREGOLIN





ASPECTS OF WORLDWIDE AND BRAZILIAN SHRIMP FARMING IN 2024 AND PROSPECTS FOR 2025

ITAMAR ROCHA

Within the context of the farmed marine shrimp international production and marketing, the *Penaeus vannamei* species, which originated in the Pacific Ocean, was introduced to the Asian continent, the birthplace of the *Penaeus monodon*, by China, only in 1999. However, it has spread to Thailand, Indonesia (2002), Vietnam (2004), India (2005) to such an extent that it now accounts for 80% of the sector's worldwide production.

Conversely, in the face of the global low demand and prices crisis, which has worsened in the wake of the post-pandemic global economic crisis, the Global Shrimp Forum was created. At its 2nd Conference, held in India in July 2024, the central theme hinged around concerns on how the farmed marine shrimp industry, which produces and supplies a healthy and ecologically sustainable protein, can continue to grow to meet growing world demand, and with the indispensable economic and financial sustainability.

In fact, among the several suggestions that emerged from these discussions, the need to associate farmed marine shrimp with the benefits and attractions related to the "blue food" agenda consistently stood out, drawing attention to the need for shrimp to follow the example of salmon with the purpose of becoming one of the noble and sustainable proteins of the future, so that, by following the same path, "pink can meet orange".

In that respect, among the suggestions for a global marketing campaign to encourage shrimp consumption, the following stood out: (1) creating a global brand; (2) highlighting the health benefits of eating shrimp; (3) teaching consumers about the right

preparation of shrimp as a delicacy; (5) turning shrimp into a delicious gastronomic experience; (6) highlighting shrimp on menus in the food service sector; (7) turning shrimp, in addition to its mere recognition as a gastronomic preference, into a brand of love, in order to evoke strong emotional connections and loyalty on the part of consumers; (8) contributing to increase in consumption, in order to benefit the entire shrimp production chain; and (9) making the shrimp industry stronger and more profitable.

As far as the international market is concerned, there is no doubt that the biggest challenge will be to increase shrimp consumption in the sector's current leading markets, notably China, the US, the EU and Japan, but also, obviously, paying greater attention to and focusing on opening up and expanding consumption in emerging markets with growth potential, such as Indonesia and India. The latter has

the world's largest population and consumes only 100 grams of shrimp per capita per year, but, like China and Brazil, it has promising conditions to become important consumer markets.

In Brazil's specific scenario, between 2016 (60,000 t) and 2024 (210,000 t) the role of the domestic market was crucial for the recovery of production and the sector's growth (250%), considering that domestic consumption of farmed marine shrimp has risen from 200 grams in 2003 to 900 grams in 2023 (450%). It is worth bearing in mind that 60% of its entire production has been offered in the form of fresh shrimp, which has a shelf life of 4-6 days, and combined with the fact that, out of the 5,500 Brazilian cities, 5,250 have less than 100,000 inhabitants (i.e., 100 million people), who are not served with fresh shrimp (in natura).

That's why we believe that increasing Brazil's per capita shrimp

SITUATION OF FARMED SHRIMP PRODUCTION IN BRAZIL IN 2024

Nursery area
35,000 HA

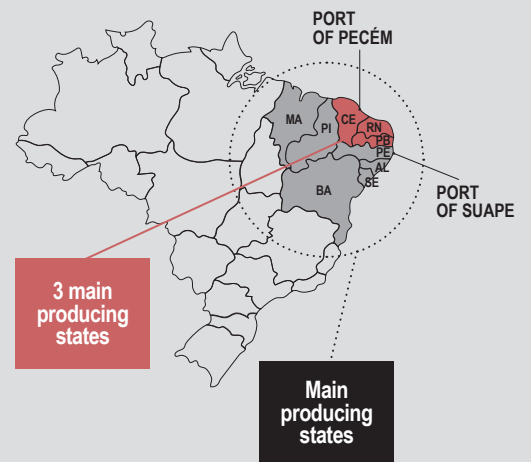
Sales (local market)
100%

3,500 producers
2,450 micro (70%)
525 small (15%)
350 medium (10%)
175 large (5%)

Production
210,000 TON

Fresh Shrimp **60%**
Frozen Shrimp **40%**

150,000 jobs created
RS 6.3 BILHÕES Total production chain revenue in 2024



consumption must primarily involve increasing the supply of processed, value-added shrimp, with a shelf life of up to 24 months. However, given the exceptional capacity for growth, already demonstrated between 1998 and 2003, especially with the increase of inland consumption, a return to exports will be inevitable in the medium term, for fear of having a strangling of the market, or even the sector's collapse.

As regards the international scenario, the priority for Brazilian shrimp farming will be to export at least 40% of its whole shrimp production in the small-medium classifications (70-80, 80-100 and 100-120) by 2030, especially to China, in order to supply its consumer pyramid's huge base, without competing with Ecuador (25-45 grams) and India (18-25 grams), that country's main shrimp suppliers in 2023 and 2024.

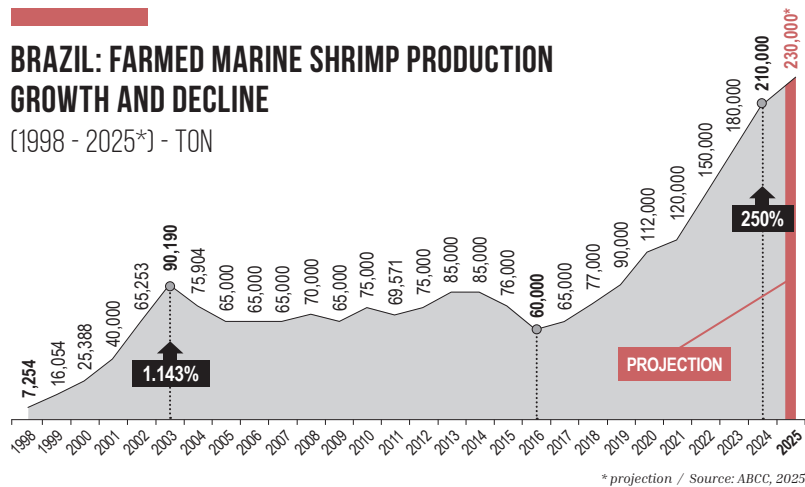
On the domestic front, the challenges in the short and medium term will be to increase the percentage of processed shrimp from the current 40% to 80%, so that its projected production of 500,000 tons (2030) is exported by at least 40% (200,000 tons). This will reduce the pressure on the domestic market, which in turn will be supplied with 20% fresh shrimp and 80% processed shrimp, with added value, whose increased shelf life will allow its distribution and consumption to be widely spread inland.

In fact, when you consider that marine shrimp farming has real prospects of becoming a new and solid economic order in the Brazilian primary sector and, even though it is 100% focused on supplying the domestic market, due to the impossibility of interfering in and controlling its production, it will soon have to turn back to the international market, whose history of successful participation began to materialize in the late 1990s and early 2000s. At that time, on one hand, the production of farmed shrimp grew from 3,600 tons (1997) to 90,190 tons (2003) and, on the other, the exports went from 400 tons / US\$ 2.8 million in 1998 to 58,455 tons / US\$ 226.0 million in 2003.

So, foregoing any pretense of competing with Ecuador, or any other country, but based on robust expe-

BRAZIL: FARMED MARINE SHRIMP PRODUCTION GROWTH AND DECLINE

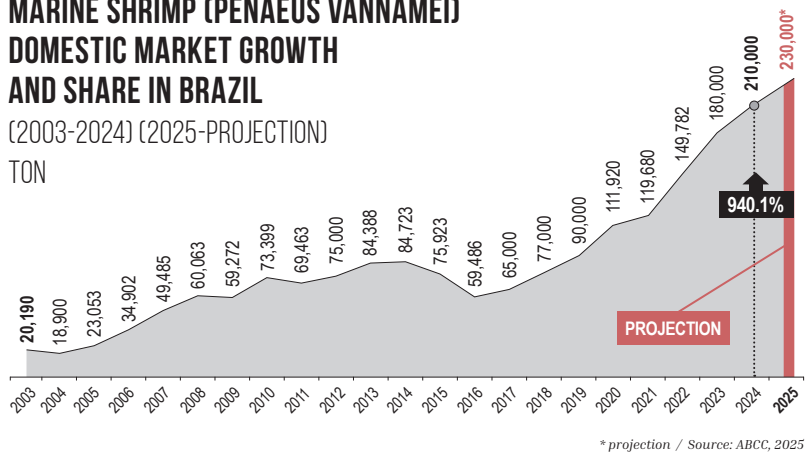
(1998 - 2025*) - TON



MARINE SHRIMP (PENAEUS VANNAMEI) DOMESTIC MARKET GROWTH AND SHARE IN BRAZIL

(2003-2024) (2025-PROJECTION)

TON



rience and knowledge of both the Brazilian and the worldwide potential, as well as the comparative and competitive advantages that Brazil has in all of its macro-regions when it comes to the production of farmed marine shrimp, we have no doubt that the attention of international investors will soon be aroused. Therefore, in the very short term, Brazil will start receiving greater attention from its state governments and the more than 300 municipalities, which are looking at having marine shrimp farming on their lands as a new economic order, one that does not depend on structural investments or rainfall, but rather on the granting of environmental licenses and incentives to attract abundant international capital, which will in turn establish a solid and attractive enough economic order capable of reversing the rural exodus. ■



Itamar Rocha, Fisheries Engineer, CONFEA 1805055020 (1st Class of Brazil - UFRPE-1974), presidente da ABCC, director of DEAGRO/FIESPE, councillor of CONAPE and CSPA



CEVA GENESYS: REVOLUTIONIZING GENDER SORTING FOR BROILER CHICKENS

*CUTTING-EDGE TECHNOLOGY ARRIVES IN BRAZIL TO
ENHANCE HATCHERIES WITH IMPROVED PRECISION
AND BATCH UNIFORMITY*

Ceva Animal Health, a global leader in animal health and a specialist in poultry solutions, proudly announces the official launch of Ceva Genesys in Brazil. This groundbreaking technology redefines the automatic and precise sorting of male and female broiler chicks during hatching.

According to Giankleber Diniz, executive of Ceva Brazil, the new technology underscores the company's commitment to disruptive solutions that address the current needs

of the poultry sector. "As a leader in animal health and a pioneer in hatchery technology, we are continuously investing in innovation to offer products that promote sustainability and efficiency in the industry. Ceva Genesys is yet another testament to our innovative DNA and our ability to meet global and local demands with excellence," the executive emphasizes.

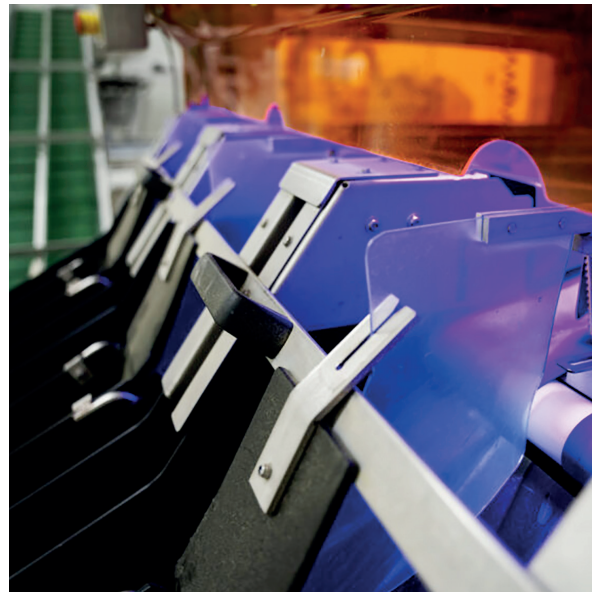
This advancement is particularly significant given the exponential growth in demand for poultry meat, accompanied by increasing pressure for productive efficiency



and sustainable practices. In this challenging context, Ceva reaffirms its leadership in the poultry sector, supported by a history of disruptive innovations such as Laser Life, a benchmark in candling technology, and Egginject, the market leader in in-ovo vaccination. With Ceva Genesys, the company solidifies its pioneering position by offering a solution that not only enhances precision and efficiency but also improves the quality and productivity of partner hatcheries.

Ceva Genesys goes beyond being a mere innovation: it sets a new standard of precision and efficiency in automatically classifying male and female chicks at hatching, ensuring greater uniformity within batches. This precision directly impacts batch performance, delivering superior results across all stages of the production chain.

Since the third quarter of 2024, the technology has been implemented in commercial projects worldwide, further strengthening the global market's trust in its efficiency and tangible benefits.



KEY BENEFITS OF CEVA GENESYS

- **Automatic and precise sorting:** High-speed and consistent classification of male and female chicks.
- **Innovative technology:** Enhanced efficiency for hatcheries, with a direct impact on batch quality and uniformity.
- **Precision-focused:** Superior results to meet the needs of both poultry and consumers.

Now, with Ceva Genesys' arrival in Brazil, the company is opening a new chapter in the history of national poultry innovation, offering producers a technology that combines precision, efficiency, and sustainability. "With this state-of-the-art tool, Ceva Animal Health reaffirms its commitment to supporting the industry in overcoming current challenges and achieving exceptional results. More than a technical solution, Genesys represents Ceva's vision to transform global poultry farming, delivering real value at every stage of the production chain," the executive of Ceva concludes, emphasizing that "the future of broiler chicken production has already begun, and Ceva is leading this movement with technology, expertise, and a constant eye on what lies ahead." ■

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BRAZILIAN FAMILY FARMS AND TROPICAL TECHNOLOGY IN BRAZIL - A GLOBAL OPPORTUNITY

Over the last 50 years, Brazil, which is located between the tropics of Cancer and Capricorn, has learned how to turn tough and harsh tropical conditions into food, energy and environmental resources.

The numbers speak for themselves. Previously an importer of most things, Brazil has taken a leap to become a major global supplier; a country where science enables access to tropical technologies, and home to family farms of all sizes, a thriving agribusiness community, entrepreneurs, cooperatives and outstanding academic institutions. This is what led Brazil to become the 4th largest agricultural country on the planet and a leader in animal protein production.

There is something unique and spectacular about Brazil. It's already grown considerably, but there is yet more room for growth. This means that Brazil will necessarily be a focal point of business, investment and development over the next 12 years. In my view as a Brazilian agribusiness analyst and professor since the 1970s, the country's agribusiness will double in the next 12 years.

Currently, Brazilian agribusiness transactions add up to approximately US\$500 to US\$600 billion a year (depending on the dollar exchange rate) including all those before the farm gate, crop and livestock farming itself, plus those outside the farm and ranch gates, agro-industries, trade and services.

Nevertheless, if we consider all Brazilian production systems, from A for avocado to Z for zebu, every single one of them, without exception, even those where Brazil already ranks first as producer and exporter, point to po-

tential growth in the coming years. We will reach US\$ 1 trillion to US\$ 1.2 trillion within 12 years. Income is increasing in hugely populated areas around the globe, such as Asia, and creating even more demand for animal protein. In addition to those we know well, such as beef, pork, poultry, dairy, and eggs, we will also see a boom in fish, seafood, water, and even algae protein.

In addition to being a leading competitive food exporter, Brazil is firmly on its way to showing solid growth in biofuels. Its enormous domestic market places it among the five largest markets on the planet for any consumer item, an analysis that can be easily verified by checking the main destination markets for multinational corporation products.

Therefore, when analyzing Brazil, in addition to focusing on its current relevance and future potential, I believe it is essential for business development strategists and investors to also consider what I call the "tropical belt" - an area that includes all the countries within the planet's tropical zones and which will drive the planet into the future from now on. These countries, regions of large nations, such as China and India, parts of Asia, Australia, as well as Latin America and Africa, based on the scientific agro-tropical and environmental knowledge developed in Brazil, will be the great prosperity "hub" for this entire mega-region.

Genetics, bioinputs, inputs, equipment, irrigation, machinery, storage, transport, agroindustrialization, trade, digital services, satellites, finance, insurance, traceability, supermarkets, education, etc.

I would also add to this the actuality and potential of biogas from an-

imal protein agricultural waste. Right now, a cooperative in the city of Toledo, in West Paraná, is spearheading a remarkable initiative. Primato is creating a joint venture with Tupy MWM, the energy and decarbonization arm of the machinery and generator company, to produce and sell biofertilizers, bioelectricity and biomethane.

Through the joint venture, 11 thousand farming families will be able to have a new business, a new source of income and more prosperity coming from this "bioplant", which will inspire thousands of biogas centers across the vast area covered by Brazil, the 5th largest country in the world. On closer inspection, we see that Brazil has the largest useful space per hectare on the planet; not to mention its carbon market.

The cooperative system in Brazil is well-developed and will be essential to its plan to include some of the large areas in the North and Northeast of the country, as well as the plan to develop 40 million hectares of degraded pasture land, where practically nothing is being done, into sustainable crops and activities without removing a single tree; on the contrary, planting forests according to integrated agriculture, livestock and forestry (ILPF) models.

Any strategic global plan must necessarily include an analysis of Brazil. And when it comes to agribusiness, the country is a priority and must be considered as a focal point of intelligence.

Brazil, the only country in the world named after a tree. Come join us, grow your crops and set up your business here. Agribusiness will double in size in the next 12 years and expand into the entire "tropical belt". ■

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We believe that even small steps can lead to significant impact. At ADM AN, we're on a mission to change the world, one farm at a time, to sustain our future generations. **We cherish our legacy of nutritional experience and working with farmers and for farmers for more than 120 years. We think in SUCCESSFUL Generations: past and future. This is what makes us unique.** With our global reach and unwavering passion for nutrition, innovation and problem solving, we're here to show our customers and farmers how to sustain their future generations through thriving businesses and feed the world sustainably. We bring Next Generation thinking to solve this challenge: Solutions and Services to take our customers to the next level of efficiency and sustainability. Let's sustain the future together, where every farm and business counts towards a brighter tomorrow.

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