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Cultivar Semanal

CVT transmission and fuel efficiency

Table of Contents

Table of Contents

Table of Contents

There are technologies to mitigate climate risks in soybean production

Less than 5% of the area cultivated with soybeans in Brazil has irrigation

13.01.2025 | 15:05 (UTC -3)

Cultivar Magazine

Jose Salvador Foloni and Jose Renato Bouças Farias

The impacts of adverse weather conditions, such as prolonged droughts and unevenly distributed rainfall patterns, have caused significant losses in soybean production in Brazil. Researchers José Renato Bouças Farias and José Salvador Foloni, from Embrapa Soja, explain that it is possible to minimize losses by using technologies that are already available.

Brazil grows soybeans on about 45 million hectares, of which less than 5% are irrigated. The country's dependence on rain makes it vulnerable to the effects of climate change, which has intensified adverse conditions such as dry spells — prolonged periods of water shortages combined with high temperatures.

Available technologies

To mitigate the effects of drought, Farias and Foloni highlighted a series of technologies divided into short, medium and long-term strategies.

Some of the short-term strategies:

- **Good agronomic practices:** high-quality sowing, adequate phytosanitary management, balanced nutrition and staggered sowing season.
- **Agricultural Climate Risk Zoning (ZARC):** tool that uses climate and soil data to guide the best planting time, reducing climate risks.

Medium and long-term strategies:

- **Soil and water conservation:** practices such as terracing, contour lines, crop diversification and vegetation cover. These measures increase water infiltration into the soil and reduce evaporation.
- **Genetic improvement:** development of cultivars better adapted to high temperatures and water deficit.
- **Soil management practices:** use of organic matter, direct planting systems and management to increase soil water reserves.

Challenges in adoption

Despite the existence of these technologies, many producers still face difficulties in implementation due to initial costs and lack of information.

According to Foloni, it is essential to intensify technology transfer to ensure that good practices reach farmers.

In addition to technologies, researchers highlighted the importance of public policies such as agricultural insurance and affordable financing. These measures help mitigate financial losses caused by extreme weather events and ensure the sustainability of the sector.

RETURN TO INDEX

John Deere launches JDLink Boost in Brazil

The system uses SpaceX's Starlink satellite network

13.01.2025 | 14:35 (UTC -3)

Cultivar Magazine, based on information from Danielle Morcelli Romanelli

Cristiano Correia

John Deere announced the start of commercialization of JDLink Boost in Brazil. The system uses SpaceX's Starlink

satellite network to ensure connectivity in remote rural areas, allowing continuous monitoring of agricultural machinery anywhere and at any time.

According to the company, JDLink Boost connects both new and existing machines, transmitting real-time data to the John Deere Operations Center, a free digital platform that helps producers monitor performance, correct faults and optimize agricultural operations.

The technology allows the continuous exchange of information, even in regions without cellular coverage or with an unstable signal.

Features

The system offers:

- Real-time monitoring: Farmers can track whether the machine is operating, moving or idle, and quickly correct faults.
- Quality and precision: work plans and prescriptions can be sent remotely to machines, avoiding overlaps and increasing operational efficiency.
- Connected support: diagnostics and updates can be performed remotely, reducing the need for in-person technical visits.
- Collaboration in the field: A built-in secondary Wi-Fi network allows mobile devices to connect,

improving communication between teams.

How JDLink Boost Works

A modem installed in the machines collects operational and agronomic data, which are sent to a satellite terminal via Wi-Fi.

This terminal uses the Starlink satellite network to transmit information to the cloud, making the data accessible at the John Deere Operations Center.

Messages sent to machines follow the reverse process, ensuring uninterrupted operations.

Cristiano Correia, vice president of production systems for Latin America at John Deere, highlighted the importance of the solution: “With JDLink Boost, Brazilian producers will be able to take full advantage of precision agriculture technologies, even in remote regions. Our goal is to democratize connectivity in the field, contributing to the productivity, profitability and sustainability of farmers.”

For more information, click: “John Deere enters into agreement with Starlink for rural internet”

RETURN TO INDEX

AGCO Brands Win Five 50 AE2025 Awards

The entity recognizes agricultural industry products for innovation

13.01.2025 | 11:15 (UTC -3)

Flavia Amarante, Cultivar Magazine edition

AGCO has received five 50 AE2025 awards from the American Society of Agricultural and Biological Engineers (ASABE). Each year, the organization

recognizes products in the agricultural, food and biological industries for innovation, engineering advancement and market impact. AGCO’s 2025 awards include products from AGCO Parts, Fendt, Precision Planting and PTx Trimble brands.

“AGCO’s winning solutions in the 50 AE2025 build on the momentum established by our innovations over the past five years, delivering farmer-focused solutions that save time, reduce costs and increase productivity,” said Eric Hansotia, AGCO chairman, president and CEO.

“I am especially proud that these awards span our brands, demonstrating our continued commitment to serving the

needs and values ??of farmers.”

Elevation of parts application

This system allows operators to efficiently lift and change application systems on-site, increasing machine utility, versatility and return on investment.

Prior to this solution, additional equipment such as cranes and loaders were required for these changes, increasing cost, time, difficulty and personnel requirements.

The application lift system can take advantage of the Fendt Rogator applicator’s adjustable suspension to perform most of the changeover. Optional

chain hoists are available for final adjustments or lifting of machines that do not include adjustable suspensions.

Fendt ErgoSteer

The Fendt ErgoSteer is an adaptive steering joystick for Fendt 500 to 1000 series tractors that offers precise and intuitive ergonomic control for field operations.

Operated with the left hand from the seat armrest, ErgoSteer allows comfortable and efficient control of the tractor with minimal driver movement.

Compatible with all FendtONE Profi+ wheeled tractors with the latest software,

ErgoSteer features adjustable steering sensitivity and a return-to-center function for straight-line steering.

Fendt Momentum Planter

The Fendt Momentum 30-foot planter brings advanced planting benefits to smaller farms with a 100-bushel seed capacity and 800-gallon liquid fertilizer capacity.

Factory-installed precision planting options include Conceal and EMHD fertilizer openers for precise liquid control. The Load Logic system and high-flexion tires reduce compaction, and the SmartFrame

toolbar provides 52 inches of row unit travel for uniform planting depth, leading to better emergence and optimal yields.

ReconBlockage Blockage Sensor

Precision Planting’s ReconBlockage prevents skips and yield losses when seeding and fertilizing by using acoustic sensors to detect flow variation per section, instantly alerting operators to obstructions, preventing productivity losses.

ReconBlockage sensors act like stethoscopes, capturing and interpreting sounds and alerting operators via a

wireless app to buildup issues that would otherwise affect optical sensors.

PTx Trimble OutRun

OutRun is an autonomous solution that allows tractors to pull grain tanks without drivers during harvest. It is a standalone kit that supports older tractor models and helps maintain or improve productivity when labor is scarce.

The OutRun interface allows operators to position trailers in fields and autonomously match speed and distance with combines for on-the-go unloading and unloading in designated zones.

The solution avoids unharvested land and uses previously traveled paths to minimize

soil compaction. OutRun operates using its own communications system for reliable operation regardless of cellular coverage in the field.

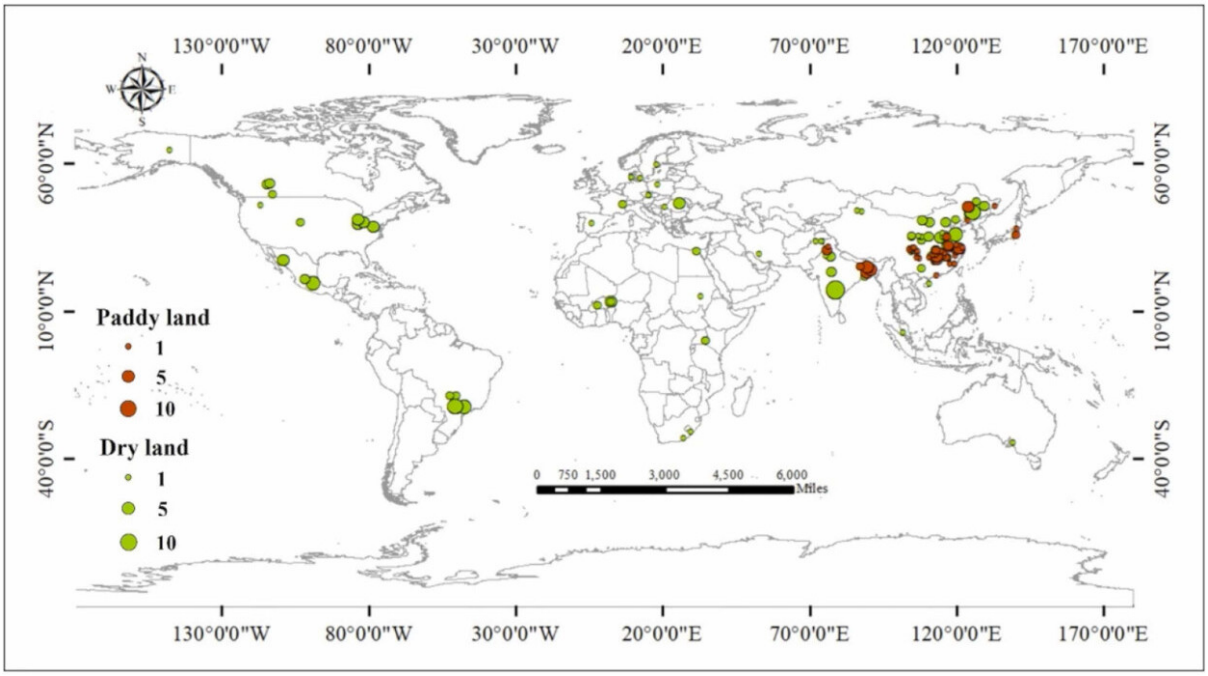
RETURN TO INDEX

Returning straw to crops can acidify the soil

The research analyzed 326 experiments in 175 locations around the world

17.01.2025 | 13:58 (UTC -3)

Cultivar Magazine



Global meta-analysis revealed that returning crop straw to agricultural soils, a

practice widely advocated for its ecological advantages, can acidify the soil.

The research analyzed 326 experiments in 175 locations around the world, highlighting the risks and regional variability of this practice.

The practice of returning crop straw to the soil, seen as a promising approach to improving fertility and mitigating climate change, may have substantial negative consequences.

According to a recent study published in the European Journal of Agronomy, straw decomposition reduces soil pH by an average of 0,030 units, increasing acidification in 54% of the cases analyzed.

The impacts are especially pronounced in alkaline soils and irrigated lands, such as rice paddies, where acidification occurs more rapidly. The research found that agricultural management methods, such as monoculture and intensive use of nitrogen fertilizers, exacerbate the problem.

The study authors highlight that soil acidification can reduce agricultural productivity and increase the mobility of toxic heavy metals, such as cadmium and lead, posing risks to food security and human health.

Furthermore, the practice can intensify emissions of greenhouse gases, such as nitrous oxide and methane.

More information can be found at

doi.org/10.1016/j.eja.2025.127511

RETURN TO INDEX

PHC Brasil strengthens team of experts for 2025

Strategic hires seek to leverage the company's technologies and consolidate its presence in the Brazilian market

16.01.2025 | 15:47 (UTC -3)

Cultivar Magazine, based on information from Augusto Silvestre

PHC Brasil begins 2025 with a strategic move to expand and strengthen its team. Three important hires have marked the recent period, each bringing expertise to leverage the company's technologies and consolidate its presence in the Brazilian market.

At the end of 2024, **Lucas Siqueira** (pictured below) has joined as Head of

New Business Development. With extensive leadership experience in the agricultural inputs sector, Lucas has taken on the mission of expanding the Saori and Teikko products, aimed at controlling foliar diseases and nematodes in soybeans, and Moshy, aimed at controlling rust in sugarcane and coffee. He will also lead the formation of a new business team to meet the growing demand for innovative, practical solutions with consistent results.

In 2025, the company also announced **Ferdinand Silva** (pictured below) as head of the Research and Development area. Ferdinando, who has been collaborating with PHC Brasil since September 2023 in Teikko's pre-launch activities, now officially leads the sector. With a doctorate and post-doctorate from Unesp and international experience at the USDA (USA), he has seven patents granted and publications in renowned scientific journals.

More recently, **John Renato Rodrigues Antonio** (pictured below) has joined the Commercial area of ??PHC Brasil, based in Alfenas (MG). With a degree in Agricultural Engineering from the Federal University of Lavras (UFLA), where he is also studying for a Master's degree in Soil Fertility and Plant Nutrition, João Renato brings a combination of academic excellence and market experience. He

previously worked at Nutrien, focusing on the development of soybean cultivars and nutritional solutions, consolidating his position as a technical reference in serving farmers.

RETURN TO INDEX

World Fira 2025 takes place in February, in Toulouse

The difference this year will be the leading role of farmers

16.01.2025 | 14:16 (UTC -3)

Cultivar Magazine, based on information from Gwendoline Legrand

World Fira 2025 will take place from February 4 to 6 in Toulouse, France. The event will bring together producers from different countries to explore robots and automated solutions that are revolutionizing the field. The difference this year will be the leading role of farmers, who will be able to actively participate in the development of these technologies.

The event's central proposal is to connect farmers with the most advanced automation tools, enabling practical and personalized interactions.

Participants will be able to operate agricultural robots, try out new technologies in field demonstrations, and provide direct feedback to developers,

shaping the future of agriculture based on the needs of the field.

Featured Innovations

The event will host launches from startups and industry giants. Companies such as Escarda Technologies GmbH, Mula, Lxueed Robotics and Farming Revolution will showcase technologies ranging from autonomous tractors to intelligent crop management systems.

Big names such as Kubota, CNH and DeLaval will bring solutions focused on productivity, sustainability and precision.

In addition, academic institutions such as the Instituto Superior Técnico de Lisboa and the Universidade da Beira Interior will

present cutting-edge research in agricultural robotics. This integration between industry and academia promises to strengthen the creation of technologies geared towards the real needs of producers.

RETURN TO INDEX

How to Stay Relevant in Agriculture

By Marcelo Batistela, Vice President of BASF Agricultural Solutions in Brazil

16.01.2025 | 13:58 (UTC -3)

Agribusiness is captivating and dynamic for many reasons. But some of them are

certainly the number of paradoxes and paradigm shifts that motivate and challenge us all the time. The cyclical nature of moments of growth and adjustment, the cutting-edge technology contrasted with the humility of not controlling the climate, the nobility of feeding the world despite the harshness of the countless economic factors that challenge the sustainability of the activity. All of this makes the sector intense and, in my opinion, exciting.

For the agricultural inputs industry, the paradox that I have been reflecting on a lot recently and that has been the subject of many conversations and debates is that of differentiation and value creation. On the one hand, there is no agriculture without

technology and innovation (even more so in a tropical and high-intensity environment like ours), but at the same time, it is clear that differentiation through product alone is no longer enough.

I am increasingly convinced that differentiation and value creation for the customer (and consequently, for the chain) are intrinsically linked to genuinely understanding their business as much as they do. Thinking, organizing and acting more and more like the customer. Co-creating and developing solutions that solve real pain points or help in an increasingly horizontal way in their business.

In the research and development industry, this is a major challenge for organizations.

We need intentionality, a certain boldness and resilience to make a change like this. It is much easier said than done. We need to move some of the complexity that farmers face and manage from the farm gate to “inside our home”. We need to shift from product focus to customer focus, from offering to solution, from category and segment to production system. Changing focus, in practice, means: changing logic, decisions, priorities, processes, skills and, most importantly, the way of thinking and acting.

I see that it will be increasingly necessary to cooperate, integrate chains, verticalize and combine knowledge, technologies and business models. To achieve this, partnerships and relationships that are

increasingly deeper and more transparent will be essential. Making conscious and longer-lasting choices completes the picture.

It is crucial that companies in this industry understand that innovation is not just about new products and technologies, but also about creating experiences that add value and strengthen the farmer’s legacy. Differentiation depends, more than ever, on the ability to listen, understand and meet their needs in a coherent and profitable way for the entire chain. Thus, innovation and personalization are intertwined, ensuring that, even in times of adversity, there is room for growth and mutual success.

** By* **Marcelo Batistela***, vice president of BASF Agricultural Solutions in Brazil*

RETURN TO INDEX

Fuel consumption with continuously variable transmission (CVT)

By Yasser Alabi Oiole, Leonardo Leonidas Kmiecik and others

15.01.2025 | 19:12 (UTC -3)

With the advancement of agriculture in Brazil, there has been an increase in productivity, mainly due to new

technologies. Rural producers are increasingly demanding because they have become highly dependent on agricultural mechanization, and the agricultural tractor is a fundamental element in raising production standards.

Agricultural tractors are powered by engines that transform thermal energy into mechanical energy and then transfer it to the axle, which moves the wheels and provides power through the drawbar, enabling them to pull and tow agricultural implements, also providing the power needed for some to work while stationary.

Basically, tractors move through engine and transmission management, but the engine is always coupled to a transmission system known as a gearbox, which is

designed to provide rotation and/or torque.

Transmissions are basically classified as: mechanical (sliding and synchronized gears), hydrostatic and hydrodynamic. However, there is the automatic transmission that allows changing without the use of the clutch, that is, the input shaft remains in solidarity with the engine rotation without interrupting the transmission of power.

During the 50s, the use of the CVT system began (*Continuously variable transmission*) in some agricultural machines, and harvesters led this use, as in addition to being responsible for moving the implement, it was also applied in the mechanical system for trailing grains, however, it was not used on a large scale.

Thus, with the advancement of technology in automobiles, automated transmissions also began to be adopted more frequently in agricultural tractors in Brazil, and have gradually been winning over producers and operators due to their convenience, comfort and durability. These automatic transmissions are classified as semi-automatic *power shift* e *full power shift* gear changes are made by pressing just one button without the need to use the clutch or are completely mechanized, respectively.

But the transmission that has been proliferating and attracting a lot of attention is the CVT, which is equipped with a control system that makes it possible to adjust the transmission ratio and engine speed, which provides operation with the maximum point of efficiency in fuel consumption, therefore, it is capable of

offering greater engine power with maximum efficiency, without the use of gears.

Its greater durability occurs because it is not necessary to press the clutch pedal to make gear changes, that is, it allows for precise and smooth gear changes. Remember that there is a clutch still present in the system, but it is not necessary for the operator to use it. With a simple gear lever, the operator can choose automatic gear changes or even increase or decrease them sequentially with a single button.

Basically, the most common CVT transmission is the friction type, which operates based on two bodies that attract each other in contact at points of the

distance, varying the rotation wedges and thus allowing friction to transfer all the energy generated from one body to the other. Sometimes a third body may be contained in the system, which may be a wheel or a belt.

Benefits and features include the elimination of “gear shift shock,” making gear changes smoother; reduced fuel consumption; keeps the engine in its best power range regardless of the speed it is traveling; less power loss; does not “search” for gears as speed decreases, making it easier to work on sloping terrain, in addition to being attractive from an environmentalist point of view due to the reduction in air pollution.

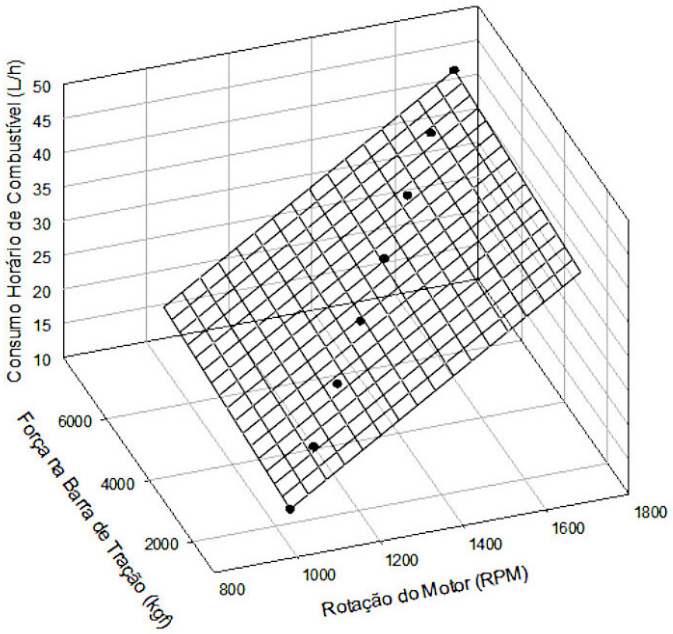
The need to develop CVT technology in agriculture was with the intention of reducing fuel consumption, as it is one of the highest costs in developed agricultural operations, such as subsoiling, plowing and harrowing, which is also directly linked to the suitability of the tractor, type of implement, depth and quantity of operation, types of soil, among others.

Fuel consumption in some agricultural operations is also influenced by ballast, the force demanded by the drawbar, the type of tire used, the working slope, the use of auxiliary front wheel drive, the speed of travel, and others, in addition to observing the gear selection during work.

Based on all the factors that influence the fuel consumption of an agricultural tractor, engine speed is directly important, as increasing speed requires increasing rotation, which results in a drop in torque and consequently an increase in consumption.

Diesel engines, i.e. Otto cycle engines, have greater efficiency and torque because they have a greater capacity to admit oxygen, resulting in more time to

complete the combustion cycle. Therefore, they operate at lower RPMs and tend to consume less fuel. However, agricultural engines have higher fuel consumption when they reach maximum power RPM and the accelerator is at maximum, so consumption tends to decrease as RPM drops.



Graph of engine speed (RPM) vs. drawbar force (BT) vs. hourly fuel consumption (CHC)

Therefore, the purpose of the CVT transmission is to select a constant engine speed with the transmission offering the possibility of changing the speed so that it is always appropriate for the operation being carried out, thus, it is possible to maintain a low speed and consequently greater savings in fuel consumption.

Field Test

To evaluate the relationship between engine speed and hourly fuel consumption in a tractor with CVT transmission, a study was carried out using a New Holland test tractor, model T 7070 with nominal power of 167 kW (227 hp), 6-cylinder turbocharged intercooled diesel engine, fuel system *common rail*, CVT

transmission (*Continuously variable transmission*), 4x2 MFWD 4WD.

The tires used were Trelleborg, being at the front model 600/65 R28 with a pressure of 12 psi (82 kPa) with 40% hydraulic ballast and at the rear 710/70 R38 with a pressure of 14 psi (96 kPa) with 40% hydraulic ballast (water), both single and with a load capacity of 4789 kg (46,97 kN) on the front axle and 8819 kg (86,49 kN) on the rear axle, which provided anticipation of 2,0%. The total weight of the tractor was 12.280 kg (120,43 kN) being 5172 kg (50,73 kN) at the front and 8819 kg (86,49 kN) at the rear.

In the load simulation evaluations on the drawbar, a 340 hp tractor was used, which was connected to the test tractor through a

steel cable and performed controlled braking, starting with the test tractor in motion until reaching the desired loads. Data collection was provided through a load cell allocated to the drawbar and instantly sent to a printed circuit board data acquisition system designed in Proteus 8.1 software (Labcenter Eletronics), with the acquisition frequency being one hertz, and the data was subsequently stored on a hard drive (external HD).

The collected data were subjected to a polynomial regression analysis with the aid of SigmaPlot software (Systat Software, 2006), which is an interactive graphical assistant that offers the option of modeling and visualizing technical data.

After analyzing the data, it was possible to observe that the tractor achieved its highest engine speed when the drawbar had a force of 6000 kgf and consequently there was an increase in hourly fuel consumption (CHC) as greater engine power is required to increase torque.

It was possible to conclude in the research on CVT transmission that hourly fuel consumption is influenced by both engine speed and the force on the drawbar, that is, both place demands on the engine.

With the increase in force on the drawbar, it was possible to notice that the rotation per minute responded in a linear manner, that is, it is necessary to increase the engine rotation to obtain greater torque to pull the load, that is, the higher the

rotation, the greater the tractor torque.

* *By* **Yasser Alabi Oiole**, **Leonardo Leonidas Kmiecik**, **Marcos Cristiano Machioski**, **Thiago Xavier da Silva** *e* **Samir Paulo Jasper** *(Lata – Agricultural Tractor Adaptation Laboratory)*

RETURN TO INDEX

Entities dispute Conab figures on the rice harvest

Federarroz and Farsul issue a statement saying that the government has brought misinformation regarding crop data

15.01.2025 | 14:14 (UTC -3)

Rejane Costa

The Federation of Rice Growers Associations of Rio Grande do Sul (Federarroz) and the Agriculture Federation of the State of Rio Grande do Sul (Farsul) issued a joint statement contesting the rice harvest figures released by the National Supply Company (Conab).

In the statement, the entities expressed their deep concern about the "new round of misinformation regarding data on area, productivity and rice production" that are being released by the agency.

According to the note, the entities recall that last year the Brazilian government was willing to "waste R$7,2 billion to buy imported rice", with the intention of selling it at a fixed price and below the cost of production, under the allegation that there

would be a shortage of rice for the domestic consumer. "We said, clearly, that there would be no shortage of rice and there was no shortage, in any supermarket in Brazil, not for a single day or for a single minute, despite the panic caused among the population by the government itself", the statement noted.

The entities reinforce that the government released through Conab "incorrect data on rice production", overestimating production with the clear intention of intervening in cereal prices, which could cause more problems for producers, industries, retailers and, mainly, consumers.

"We inform that, according to the Rio Grande do Sul Rice Institute (Irga), an agency that, unlike Conab, carries out field

surveys and has been doing so for several decades, the planted area actually grew in relation to 2024, but by 2,69% and not 9,7% as is erroneously being reported by Conab. Although it may seem small, this error could cost the country billions of Reais", they highlight.

In the statement, Federarroz and Farsul reassure society and say that, as usual, much more will be produced than Brazilians consume, which will force us to export surpluses, with no risk of shortages.

"Finally, we are concerned about the setbacks we have seen with the federal government's official information system. More directors are leaving IBGE because they do not agree with that institute's new policy for the way data is produced and

disseminated, while Conab continues to report data that aligns with ideological interests, but that diverges from the observed reality", concludes the note.

RETURN TO INDEX

Copacol opens Grain and Inputs Unit in Penha (PR)

Copacol expands storage capacity with new Grain and Inputs Unit in Penha

15.01.2025 | 14:10 (UTC -3)

Josimar Antonio Bagatoli

The growing production potential of agricultural properties in Paraná is leading

Copacol to continually expand its grain storage capacity. To meet this demand and provide convenience to its members, the Cooperative's most recent investment has just been inaugurated in the District of Nossa Senhora da Penha, Corbélia, which received a modern Grain and Inputs Unit.

The 13,8 square meter structure has ample storage capacity, a storage area for inputs and an office for customer service, in the Coopera Sempre concept. The space is dedicated to receiving the cooperative family and providing all technical assistance, from planting to harvesting. R$121 million was allocated to the project, which includes nine grain storage silos (103,5 tons in total), two buffer silos (750 tons each); two hoppers;

two tippers; and two dryers (capacity of 200 tons/hour). In addition, the structure has a 2,5 square meter warehouse for storing inputs and agrochemicals, facilitating deliveries to the cooperative member.

“Copacol is continually investing in infrastructure to provide agility in receiving crops and ensure better service conditions for our members. The new Unit in Penha is an important step that benefits the entire region where we operate, with agility in the service provided, with a large and modern structure. We are ready to welcome our producers to the Unit in Penha, the home of the cooperative family”, says the CEO, Valter Pitol.

With 41 grain and input storage facilities in the West and Southwest of Paraná, Copacol has established itself as one of the largest Brazilian cooperatives, with revenues close to R$10 billion, 9,6 thousand members and 16,2 thousand employees. In addition to grains, the Cooperative also produces pork and milk, and stands out for its pioneering production of poultry and fish sold in 84 countries. With over 180 different products, the brand's purpose is to generate value for members, employees, customers and partners through agribusiness, through sustainable businesses, with respect for human beings, providing income and development in the countryside and in the city.

Biotrop announces new president

Jonas Hipólito succeeds Antonio Carlos Zem in the position

15.01.2025 | 13:03 (UTC -3)

Antonio Carlos Zem, Jean-Marc Vandoorne and Jonas Hipólito

Biotrop has announced that Jonas Hipólito has taken over as CEO of the company.

He succeeds Antonio Carlos Zem, who will join BioFirst’s global board starting in April.

Jonas Hipólito, co-founder of the company, is an agricultural engineer graduated from Esalq. He has a master's degree in sustainable plant production from Montpellier SupAgro, in France. He also holds certifications in marketing strategy from Cornell University and finance from Harvard University.

Hipólito was responsible for leading the company's global expansion strategies, including entry into the US and European Union markets.

“It is an honor to take on this role at such a promising time for Biotrop. I intend to strengthen our purpose by promoting technological advances and delivering

value to employees, customers and partners," said Jonas.

"I am proud of everything we have achieved together and I have full confidence that Jonas is prepared to carry our mission forward," Zem said in an official statement.

RETURN TO INDEX

Goosefoot grass threatens soybean productivity in Mato Grosso

Producers face challenges in controlling the weed

14.01.2025 | 17:05 (UTC -3)

Cultivar Magazine

The advance of the goosefoot grass (*Eleusine indica*) in the soybean fields of Mato Grosso has generated concern among farmers and experts, who face challenges in controlling the herbicide-resistant weed.

The invader, which benefits from the region's favorable climate, compromises productivity and increases management costs, becoming one of the main challenges for local agribusiness.

Difficulties in control

A producer from the eastern region of Mato Grosso reported the impact of goosegrass on his property. According to him, the late application of herbicides

allowed the plant to reach a stage that was difficult to control, increasing management costs by up to one and a half bags of soybeans per hectare.

Another producer in the same region faced significant losses, with areas unsuitable for harvesting. The weed seeds, dispersed by the wind and agricultural machinery, increased the presence of the weed in the fields. The use of pre-emergent herbicides and land leveling have been some of the strategies adopted in management.

Resistance and search for solutions

Goosegrass is resistant to herbicides such as glyphosate and graminicides, further

complicating its control.

Research has explored new herbicide combinations and management techniques, such as the use of pre-emergent products and crop rotation, to mitigate the plant's impact.

Experts point out that application at the correct time, considering the growth stage of the weed, can be decisive for successful control.

economic impacts

In addition to the direct loss of productivity, the increase in management costs affects producers' profitability. Some farmers have chosen to change strategies, such as replacing soybeans with corn in critical

areas, with the aim of applying more effective controls in the following cycle.

For more information about Eleusine indica, click here.

RETURN TO INDEX

Brazilian fruit exports to increase in 2024

Abrafrutas estimates that Brazil exported more than 1 million tons of fruit last year

14.01.2025 | 15:59 (UTC -3)

Telma Tuesdays

In 2024, Brazilian fruit exports increased and reinforced the country's position as an excellent producer of fresh fruit. According

to the most recent data, Brazil exported more than 1 million tons of fruit, with revenues exceeding US$ 1,287 billion. This represents an increase of more than 3% in value, although with a slight reduction of 0,85% in the total volume exported, compared to 2023.

Among the main destinations for Brazilian fruit, the Netherlands, the United Kingdom, Spain and the United States stand out, which together continue to be the largest importers, reinforcing the importance of these markets for national fruit production.

Mangoes top the ranking of fruits that stood out, with an export volume of more than 258 thousand tons and revenue of more than US$ 348 million, representing an increase of 12,14% in value compared

to the previous year. Melons, which are also among the main exported fruits, showed growth, reflecting the increase in global demand for Brazilian tropical products.

On the other hand, grapes, which historically occupy a prominent position, showed a slight drop in export volume and value. This reduction was attributed to adverse weather conditions faced in some producing regions, in addition to logistical challenges that impacted the flow of production.

Challenges and perspectives for 2025

The sector seeks to maintain its growth rate, increasingly strengthening Brazil's presence in strategic markets. The recent opening of new markets, such as grape exports to China and avocados to Chile, demonstrate the potential for expansion, but also require constant advances in quality, logistics and bilateral negotiations.

Participation in international fairs, such as Fruit Logistica, which will be held in February, is seen as a key point for fostering negotiations and expanding commercial partnerships throughout the year.

RETURN TO INDEX

Brazil is expected to harvest 322,3 million tons of grain in 2024/25

Information is contained in a study by the National Supply Company

14.01.2025 | 13:57 (UTC -3)

Cultivar Magazine

Brazilian agricultural production is expected to reach a record in the 2024/25

harvest, with a forecast of 322,3 million tons of grains, according to data released by the National Supply Company (Conab) this Tuesday (14).

The volume represents an increase of 8,2% compared to the previous harvest, with 24,5 million tons more. The growth is driven by the favorable climate and the expansion of the planted area, estimated at 81,4 million hectares, 1,8% higher than in the 2023/24 cycle.

Soybeans: productivity on the rise

The main Brazilian crop, soybeans, leads production with an estimated 166,33 million tons, an increase of 18,61 million

tons compared to the previous harvest.

The recovery of crops after a period of decline is evidenced by the expected average productivity of 3.509 kilos per hectare, higher than the 3.201 kg/ha recorded in 2023/24.

Planting, which began at the end of October, benefited from weather conditions, which will continue to be monitored until the end of the harvest, which is expected to begin on a large scale at the end of January.

- **Mato Grosso:** Harvesting began in December in the first areas intended for cotton succession. Despite adequate rainfall, cloudy days since November may limit production potential in some

locations. Attention is focused on preventive management of pests, such as caterpillars and bugs, in addition to Asian rust, ensuring plant vitality.

- **Parana:** Despite the water recovery in December, the rains will be decisive in January to consolidate the productive potential, since most crops are in reproductive stages.
- **Rio Grande do Sul:** Planting is still underway, but below-average rainfall in some regions has led to isolated losses and the need for reseeding.
- **St. Catarina:** Good rainfall ensured the initial development of crops, which have good production

potential.

- **Mato Grosso do Sul:** irregular rainfall affected part of the crops at the beginning of the cycle, but the normalization of the climate favored the development of soybeans.
- **Goias:** also benefited from alternating rains and sun, providing good conditions for the plants. The main concern in the state is the heavy rains forecast for the harvest period, which could compromise the quality of the grains.
- **Bahia:** Planting progressed well, with regular rainfall benefiting crops at all stages of development.
- **Maranhao:** Irregular rainfall has delayed planting in some areas, but

the crops planted are developing well.

- **Piauí:** Early start of planting faced challenges with irregular rainfall, but the crop continues to perform well.

Corn: 119,6 million tons

With the second largest production volume, corn is expected to reach 119,6 million tons in 2024/25, 3,3% above the previous cycle.

The first harvest, even with a 6,4% reduction in the sown area, has an average productivity projected at 6.062 kilos per hectare, 4,8% higher than that of the last cycle.

Climatic conditions also favored the crop, with intermittent rainfall that boosted development in the main producing regions.

- **Rio Grande do Sul:** The corn harvest has started timidly, with less than 1% of the area planted. Irregular rains in November have hindered flowering and grain filling, reducing productivity in some regions. Crop conditions vary: while in the Middle Plateau and the far west there are symptoms of heat stress, in the northeast conditions are good to excellent. The initial productivity expectation of 5.970 kg/ha remains, but forecasts of insufficient rainfall in the coming weeks increase the risk of losses.

- **Parana:** Planting has been completed, and most crops are in reproductive stages with good development, favored by the December rains.
- **St. Catarina:** The climate has been favorable, ensuring good conditions for crops, although excessive rains in the far west have caused flooding and occasional damage. Overall, the state expects a harvest within the historical average.
- **Minas Gerais:** Planting was completed with crops predominantly in vegetative development. Despite challenges such as greater caterpillar infestation in some regions, the

favorable climate maintains expectations of a good harvest.

- **Goias:** balanced climatic conditions have provided good crop development.
- **Mato Grosso and Mato Grosso do Sul:** Corn benefits from regular rainfall and adequate temperatures, showing excellent growth.
- **Bahia:** faces challenges in the center-south, where the lack of rain has compromised the productive potential of flowering crops.

Cotton: production could be historic

Cotton production is expected to rise, with a forecast of 3,7 million tons of lint, one of the largest volumes ever achieved in Brazil. The planted area is expected to grow by 3,2%, reaching 2 million hectares.

- **Mato Grosso:** Brazil's largest cotton producer began planting in December, after the sanitary break and under ideal weather conditions, such as high rainfall volumes that favored water storage in the soil. The planted area in the state was expanded both in the main and second harvests, driven by high contract sales. The crops are in good phytosanitary conditions, but monitoring for pests, such as the boll weevil, remains essential.

- **Bahia:** Sowing began in November and is expected to continue until February 2025. The expansion of the planted area reflects the optimism of producers in view of the good weather conditions and satisfactory results from the previous harvest. The cultivation of irrigated and dryland crops is showing excellent initial development, with prospects for increased production.
- **Goias:** Summer planting was completed in December, with the second crop expected to begin in January. Despite a reduction in some irrigated areas due to difficulties in energy supply, productivity remains promising.

- **Mato Grosso do Sul:** Sowing of the first crop is almost complete, and planting of the second crop will begin after the early soybean harvest. Weather conditions have been favorable, ensuring good crop development.
- **Sao Paulo:** Excessive rainfall during planting resulted in soil diseases and replanting, impacting crop stand.
- **Parana:** Rains in December improved conditions for crops, but the planted area is still far from historical levels, although with a slight increase in relation to the last harvest.

Rice and beans: significant growth

Rice production is expected to increase by 13,2%, totaling 11,99 million tons, as a result of an 8,5% increase in the planted area and an increase in productivity, which should reach 6.869 kilos per hectare.

Beans are expected to record the second largest harvest in the last 15 years, with 3,4 million tons, 4,9% more than the last harvest.

winter crops

Among winter crops, wheat, the main highlight, recorded a 2,6% drop in production, totaling 7,89 million tons. The

reduction is attributed to lower planting in the South (-14,2%) and adverse weather in producing regions.

TABELA 1 - COMPARATIVO DE ÁREA, PRODUTIVIDADE E PRODUÇÃO POR PRODUTO

Brasil	Estimativa da produção de grãos			Safras 2023/24 e 2024/25					
Produto	ÁREA (Em mil ha)			PRODUTIVIDADE (Em kg/ha)			PRODUÇÃO (Em mil t)		
	Safra 23/24	Safra 24/25	VAR. %	Safra 23/24	Safra 24/25	VAR. %	Safra 23/24	Safra 24/25	VAR. %
	(a)	(b)	(b/a)	(c)	(d)	(d/c)	(e)	(f)	(f/e)
ALGODÃO - CAROÇO (1)	**1.944,2**	**2.005,6**	**3,2**	**2.681**	**2.598**	**(3,1)**	**5.212,4**	**5.211,1**	**-**
ALGODÃO - PLUMA	**1.944,2**	**2.005,6**	**3,2**	**1.904**	**1.845**	**(3,1)**	**3.701,4**	**3.699,8**	**-**
AMENDOIM TOTAL	**255,4**	**279,6**	**9,5**	**2.873**	**3.848**	**34,0**	**733,7**	**1.075,8**	**46,6**
Amendoim 1ª Safra	248,2	272,4	9,8	2.908	3.906	34,3	721,7	1.063,9	47,4
Amendoim 2ª Safra	7,2	7,2	-	1.660	1.660	-	12,0	11,9	(0,8)
ARROZ	**1.607,8**	**1.745,0**	**8,5**	**6.584**	**6.869**	**4,3**	**10.585,5**	**11.985,8**	**13,2**
Arroz sequeiro	324,8	354,0	9,0	2.594	2.621	1,0	842,6	928,0	10,1
Arroz irrigado	1.283,0	1.391,0	8,4	7.594	7.950	4,7	9.742,9	11.057,8	13,5
FEIJÃO TOTAL	**2.859,5**	**2.908,1**	**1,7**	**1.135**	**1.170**	**3,1**	**3.244,3**	**3.401,7**	**4,9**
FEIJÃO 1ª SAFRA	**861,1**	908,0	**5,4**	**1.094**	1.199	**9,6**	**942,3**	**1.088,7**	**15,5**
Cores	343,1	344,7	0,5	1.665	1.762	5,8	571,4	607,5	6,3
Preto	124,7	171,8	37,8	1.492	1.811	21,4	186,1	311,0	67,1
Caupi	393,3	391,5	(0,5)	470	435	(7,5)	184,9	170,1	(8,0)
FEIJÃO 2ª SAFRA	**1.528,2**	1.507,3	**(1,4)**	**990**	**1.018**	**2,9**	**1.512,2**	**1.534,3**	**1,5**
Cores	364,7	359,3	(1,5)	1.456	1.554	6,7	530,8	558,2	5,2
Preto	331,6	307,2	(7,4)	1.534	1.634	6,5	508,4	502,0	(1,3)
Caupi	831,9	840,8	1,1	568	564	(0,8)	472,8	474,2	0,3
FEIJÃO 3ª SAFRA	**470,2**	**492,8**	**4,8**	**1.680**	1.580	**(5,9)**	**789,9**	**778,9**	**(1,4)**
Cores	403,3	422,3	4,7	1.829	1.732	(5,3)	737,9	731,5	(0,9)
Preto	14,5	15,7	8,3	1.199	906	(24,4)	17,4	14,3	(17,8)
Caupi	52,4	54,8	4,6	663	604	(9,0)	34,7	33,1	(4,6)
GERGELIM	**659,9**	**659,9**	**-**	547	**504**	**(7,9)**	**361,3**	**332,6**	**(7,9)**
GIRASSOL	**59,7**	**61,2**	**2,5**	1.188	**1.325**	**11,6**	**71,1**	**81,1**	**14,1**
MAMONA	**58,7**	**64,2**	**9,4**	**1.484**	**1.693**	**14,1**	**87,1**	**108,7**	**24,8**
MILHO TOTAL	**21.050,8**	**20.963,0**	**(0,4)**	**5.496**	**5.703**	**3,8**	**115.697,2**	**119.552,1**	**3,3**
Milho 1ª Safra	3.970,1	3.717,0	(6,4)	5.784	6.062	4,8	22.962,2	22.533,7	(1,9)
Milho 2ª Safra	16.437,4	16.596,6	1,0	5.491	5.702	3,8	90.255,0	94.631,3	4,8
Milho 3ª Safra	643,3	649,4	0,9	3.856	3.676	(4,7)	2.480,3	2.387,1	(3,8)
SOJA	**46.148,8**	**47.400,8**	**2,7**	**3.201**	**3.509**	**9,6**	**147.718,7**	**166.328,4**	**12,6**
SORGO	**1.459,2**	**1.462,2**	**0,2**	**3.033**	**3.121**	**2,9**	**4.425,6**	**4.563,8**	**3,1**
SUBTOTAL	76.104,0	**77.549,6**	**1,9**	**3.786**	**4.031**	**6,5**	**288.136,9**	**312.641,1**	**8,5**

Culturas de inverno	ÁREA (Em mil ha)			PRODUTIVIDADE (Em kg/ha)			PRODUÇÃO (Em mil t)		
	2024	2025	VAR. %	2024	2025	VAR. %	2024	2025	VAR. %
	(a)	(b)	(b/a)	(c)	(d)	(d/c)	(e)	(f)	(f/e)
AVEIA	488,4	488,4	-	2.132	2.132	-	1.041,5	1.041,5	-
CANOLA	147,9	147,9	-	1.322	1.322	-	195,5	195,5	-
CENTEIO	2,6	2,6	-	1.654	1.654	-	4,3	4,3	-
CEVADA	123,1	123,1	-	3.561	3.561	-	438,4	438,4	-
TRIGO	3.058,7	3.058,7	-	2.579	2.579	-	7.889,3	7.889,3	-
TRITICALE	15,6	15,6	-	2.603	2.603	-	40,6	40,6	-
SUBTOTAL	**3.836,3**	**3.836,3**	**-**	**2.505**	**2.505**	**-**	**9.609,6**	**9.609,6**	**-**
BRASIL (2)	**79.940,3**	**81.385,9**	**1,8**	**3.725**	**3.960**	**6,3**	**297.746,5**	**322.250,7**	**8,2**

RETURN TO INDEX

Case IH announces new Quantum tractors

Ergonomic changes include an improved electronic joystick

14.01.2025 | 08:34 (UTC -3)

Cultivar Magazine, based on information from Silvia Kaltofen

The Case IH Quantum tractors, with power ranging from 80 to 120 horsepower, will

arrive in 2025 with a series of updates to increase efficiency and operator comfort. Available in the V (vineyards), F (fruit), N (narrow) and CL (row crops) versions, the renewed models aim to meet the needs of specialized agriculture.

Among the main new features are the introduction of optional cabin suspension for the CL and F versions and a seat with greater cushioning on all versions. These improvements aim to reduce fatigue during long working hours.

Other ergonomic changes include an improved electronic joystick, which now controls additional functions such as raising and lowering the rear hitch. The main transmission has been updated to ensure smoother gear changes and more

efficient operation.

The new external controls on the rear hitch allow for quicker and more practical connection of implements.

On all-wheel drive (4WD) models, a new steering sensor automatically disconnects front-wheel drive when the wheels turn, reducing ground wear and stress on mechanical components.

In the hydraulic system, the lines supplying the front remote valves have been improved, while low-profile (LP) versions now feature optional narrow fenders. In addition, the tractors have been given a new design with LED lighting integrated into the cab pillars, protecting the lights from damage caused by branches and other obstacles.

The CL version also features a new narrow rear fender with Z-shaped arms, ensuring greater agility in crops with reduced spacing.

Case IH Quantum: side view

Case IH Quantum: front view

RETURN TO INDEX

CNH announces new CIO

Luis Abreu has over 20 years of experience in the sector

14.01.2025 | 08:12 (UTC -3)

Cultivar Magazine

Luis Abreu and Gerrit Marx

CNH announced on Tuesday (14) the appointment of Luis Abreu as the company's Chief Information Officer (CIO).

With the new role, Abreu joins the company's global leadership team (GLT), responsible for implementing CNH's strategic priorities for sustainable and profitable growth on a global level.

Luis Abreu has over 20 years of experience at CNH and predecessor companies.

He began his career in information technology in 2005 at Iveco, a truck and bus manufacturer that is now part of the Iveco Group. Since then, he has held positions of increasing responsibility, having served as interim CIO since August 2024.

“Luis brings significant global and regional expertise to our IT organization, making him ideal for this role. Since taking over as

interim CIO, he has demonstrated leadership and ability to advance CNH's digital transformation. We are confident that he will continue to leverage cutting-edge technologies to enhance our internal operations and deliver greater value to our customers," said Gerrit Marx, CEO of CNH.

RETURN TO INDEX

Syngenta opens technology hubs in Brazil

Initiative aims to boost agricultural innovation

13.01.2025 | 17:17 (UTC -3)

Cultivar Magazine, based on information from Valéria Benites

Syngenta has launched 15 “technology hubs” in Brazil’s main producing regions. These stations aim to connect farmers to

the most advanced solutions in agricultural practices, promoting sustainability and productivity.

The hubs offer demonstration areas for phytosanitary technologies, such as insecticides, fungicides and biologicals, in addition to being "hubs" for data validation and team training. According to **Aimar Pedrini** (pictured above), Syngenta’s director of technical development, the facilities provide hands-on interaction with innovations tailored to specific crops and regional demands, such as soybeans, corn, coffee and cotton.

The official inauguration took place today (13/1), in Rio Verde (GO), where visitors were able to learn about Verdavis technology.

In addition to Goiás, states such as Mato Grosso, São Paulo and Paraná will receive hubs with programming focused on local cultures.

RETURN TO INDEX

BioWorld introduces new CEO

Organic products company announces the hiring of Ithamar Prada

13.01.2025 | 14:59 (UTC -3)

Rodrigo Capella, Cultivar Magazine edition

Bioworld has just announced the hiring of Ithamar Prada as its new CEO. The agricultural engineer graduated from

Esalq/USP and previously worked at ICL, where he held the position of Vice President of Marketing and Innovation, in addition to having a Master's degree in Agronomy from the Federal University of Uberlândia (UFU). At BioWorld, he will be responsible for expanding BioWorld's business in its current model and, at the same time, adding other businesses that complement the offering to farmers.

"Together with an excellent team, made up of highly qualified professionals, I have the unique opportunity to contribute to the constant evolution of Brazilian agribusiness, which is increasingly sustainable and productive. I was very impressed with the company's technological level, its portfolio and the

results obtained with clients from different cultures. I am very excited to join the BioWorld team," he says.

Investment and Revenue

Ithamar says the company is expanding into other crops besides fruit, such as coffee, grains, vegetables and sugarcane. “This diversification is strategic, as it allows us to serve segments with high demand for innovative technologies, while at the same time leveraging our technical knowledge to deliver value to producers. Our operations are expanding into key regions of Brazil, focusing on states with the greatest agricultural potential and adoption of

cutting-edge technology," he reveals.

In total, R$40 million has already been invested in BioWorld, and the expectation, according to Ithamar, is that the company will receive an increase of R$60 million in the next two years. The forecast is that BioWorld will have a revenue of R$2025 million in 90, driven by the company's consolidation in the high-tech production market.

"This growth will be leveraged by a set of actions, which include strategic partnerships, expansion of the product line, investments in research and geographic expansion. In addition, the increased awareness of sustainable agricultural practices and the search for greater production efficiency create a

favorable environment for our portfolio of solutions", he concludes.

RETURN TO INDEX

Mosaic sells phosphate mine in Patos de Minas

The deal involves the transfer of responsibility for the mine and tailings dams

13.01.2025 | 09:08 (UTC -3)

Cultivar Magazine

Mosaic Company and Fosfatados Centro SPE Ltda. announced, this Monday (13), an agreement for the sale and purchase of a phosphate mine located in Patos de

Minas, in the state of Minas Gerais, Brazil. The deal, worth US$ 125 million, involves the transfer of responsibility for the mine and tailings dams to Fosfatados Centro, with payment being made in installments over six years.

The sale of the asset is part of Mosaic's strategy to review and monetize non-core assets, redirecting resources to areas of higher return. According to Karen Swager (pictured), Mosaic's executive vice president of operations, "We believe the full value of the asset will be fully realized in the capable hands of Fosfatados Centro. We are grateful to our employees who have dedicated themselves to the continued maintenance of the asset over the years."

The agreement is still subject to regulatory approval, including analysis by the Brazilian Administrative Council for Economic Defense (CADE) and compliance with other previously established conditions. The completion of the sale and transfer of responsibilities will only occur after these legal procedures have been resolved.

In response to the agreement, Rodolfo Galvani Júnior, owner of Fosfatados Centro, highlighted the importance of the negotiation for the supply of phosphate in the Brazilian fertilizer market.

"This agreement represents an important step for the phosphate supply chain in Brazil and reinforces our commitment to advancing the National Fertilizer Plan. We

are confident that we will operate the Patos de Minas complex with great efficiency after the conclusion of the contract," he said.

RETURN TO INDEX

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