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## **Report Name:** Grain and Feed Update

**Country:** Brazil

**Post:** Brasilia

**Report Category:** Grain and Feed

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### **Report Highlights:**

Brazil has recently started planting its corn crop for the 2023/24 season. However, due to high production costs and lower expected earnings, profit margins are under pressure. As a result, Post predicts a decrease in planted area, with production for the next season estimated to drop from 135 MMT (MY 2022/23) to 130 MMT (MY 2023/24). In addition, the El Niño weather phenomenon is anticipated to continue having an impact on crops in the southern region of Brazil, particularly affecting wheat farms, which will likely result in lower yields. As such, wheat production for MY 2023/24 is predicted to decrease by 7 percent to 10.2 MMT. Meanwhile, rice market prices have started to rise while production costs are easing, making it more attractive for farmers to sow rice for the upcoming harvest. Post forecasts rice harvested area at 1.5 million hectares (ha) for MY 2023/34, a 2 percent increase over the previous season.

# CORN

## Production, Supply, and Distribution

**Table 1**  
*Production, Supply, and Distribution of Corn*

<b>Corn</b>	<b>2021/2022</b>		<b>2022/2023</b>		<b>2023/2024</b>	
<b>Market Year Begins</b>	<b>Mar 2022</b>		<b>Mar 2023</b>		<b>Mar 2024</b>	
<b>Brazil</b>	<b>USDA Official</b>	<b>New Post</b>	<b>USDA Official</b>	<b>New Post</b>	<b>USDA Official</b>	<b>New Post</b>
<b>Area Harvested</b> (1000 HA)	21800	21800	22400	22400	22900	22000
<b>Beginning Stocks</b> (1000 MT)	4153	4153	3971	3971	10355	10071
<b>Production</b> (1000 MT)	116000	116000	137000	135500	129000	130000
<b>MY Imports</b> (1000 MT)	2596	2596	1684	1600	1200	1200
<b>TY Imports</b> (1000 MT)	3316	3316	1700	1700	1800	1800
<b>TY Imp. from U.S.</b> (1000 MT)	1	1	0	0	0	0
<b>Total Supply</b> (1000 MT)	122749	122749	142655	141071	140555	141271
<b>MY Exports</b> (1000 MT)	48278	48278	57000	56000	55000	54000
<b>TY Exports</b> (1000 MT)	31921	31921	53700	54000	59000	54000
<b>Feed and Residual</b> (1000 MT)	59500	59500	62800	62000	63500	62500
<b>FSI Consumption</b> (1000 MT)	11000	11000	12500	13000	14000	15000
<b>Total Consumption</b> (1000 MT)	70500	70500	75300	75000	77500	77500
<b>Ending Stocks</b> (1000 MT)	3971	3971	10355	10071	8055	9771
<b>Total Distribution</b> (1000 MT)	122749	122749	142655	141071	140555	141271
<b>Yield</b> (MT/HA)	5.3211	5.3211	6.1161	6.0491	5.6332	5.9091
(1000 HA) ,(1000 MT) ,(MT/HA)						
MY = Marketing Year, begins with the month listed at the top of each column						
TY = Trade Year, which for Corn begins in October. TY 2023/2024 = October 2023 - September 2024						
Source: Post Brasilia						

## Corn Production

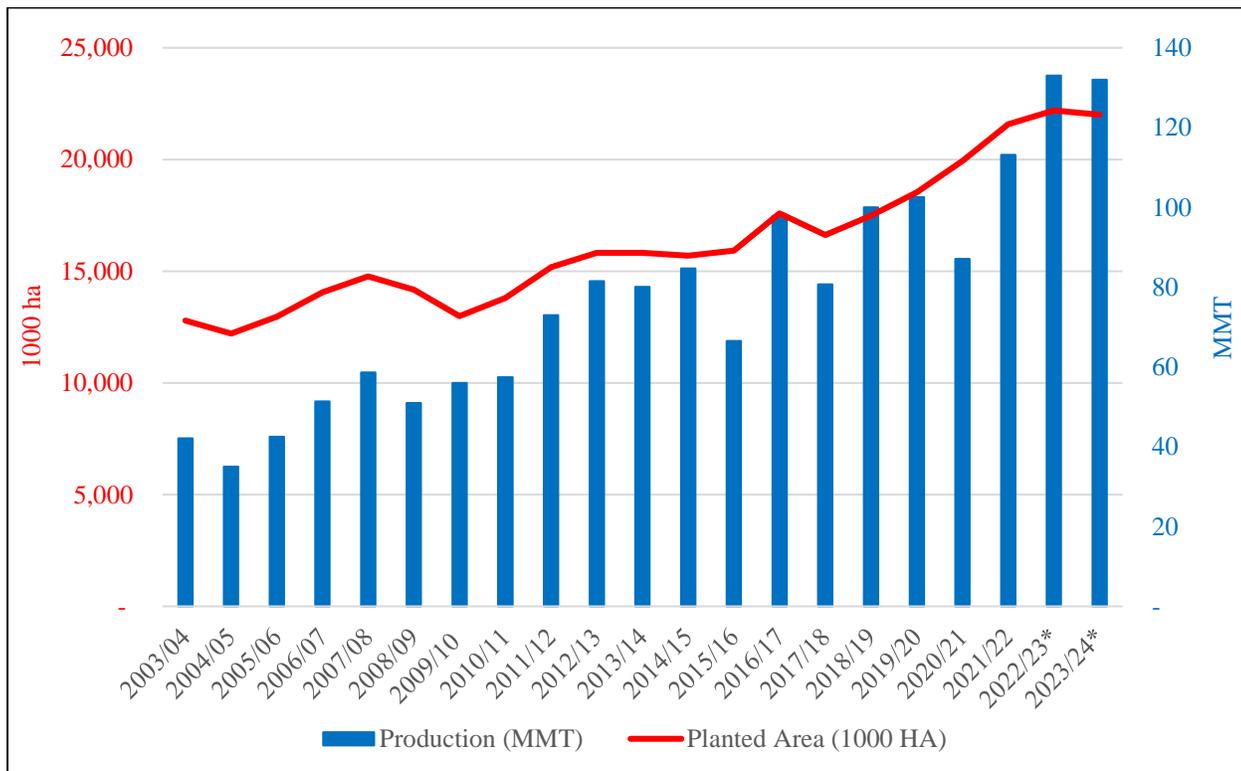
Brazil has achieved another record-breaking corn crop, as the second-season corn harvesting of 2022/23 nears completion across the country by early October. The late planting of soybeans, which precedes corn, and excessive rain in the initial stages led to late sowing at the start of the 2022/23 season. However, the optimal weather during the development phases of the crop was highly beneficial in producing a full harvest. Nevertheless, the high availability of the grain has led to lower domestic corn prices, with internal prices below the export parity cost.

Meanwhile, southern states such as Paraná, Santa Catarina, and Rio Grande do Sul have begun planting the 2023/24 first-season crop, with over 25 percent already planted by early October. However, high production costs and low earnings from corn are putting pressure on profit margins. Hence, analysts expect smaller areas and production, as Brazilian producers may reconsider their willingness to continue planting corn during the 2023/24 season.

### MY 2023/24 Planted Area and Production Expected to Decrease as Corn Profit Margins Tend to Push Producers Away

Post decreases its forecast for corn planted area for MY 2023/24 (March 2024 – February 2025) to 22 million hectares (ha) from its previous estimate of 22.8 million hectares. With current corn prices reaching values below profit margins, the pressure on the Brazilian producers' decision to continue planting corn in next year's harvest increases. The expectation is that corn prices will practically equal operating costs, therefore, the perspective is that the producer will reduce the technological investment and stop cultivating marginal fields. As such, corn production is also expected to drop in relation to the current season, with Post forecasting MY 2023/24 production at 130 MMT, down 4 percent from the 2022/23 estimate.

**Figure 1**  
*Evolution of Corn Planted Area and Production in Brazil*



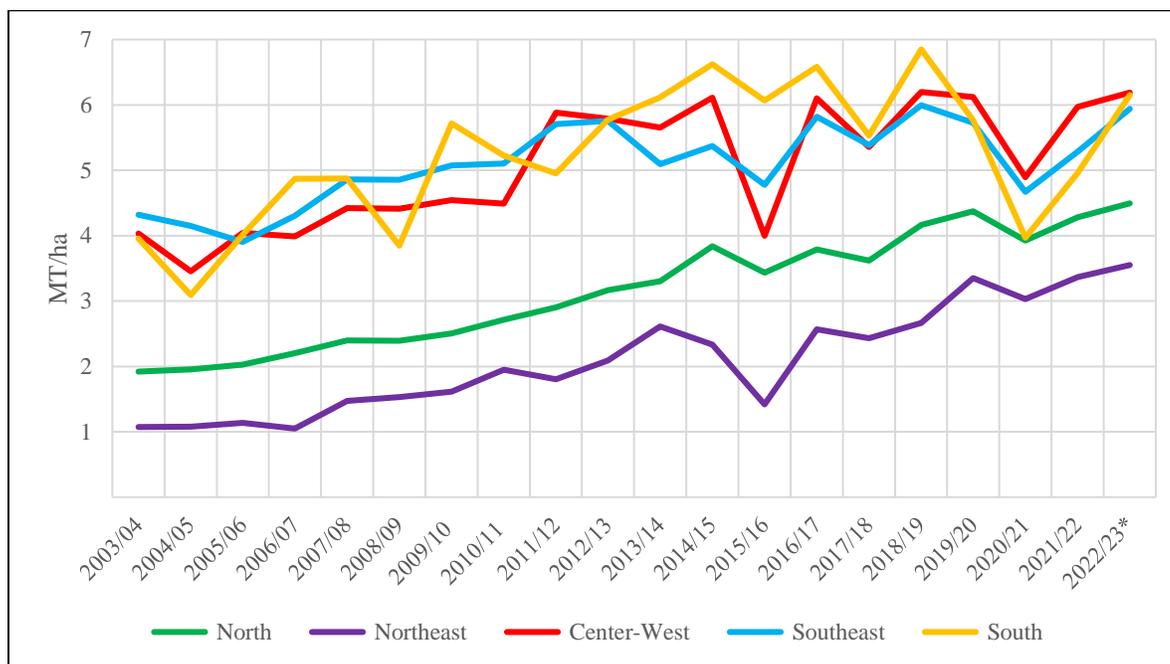
**Data source:** National Supply Agency (CONAB), with 2022/23 and 2023/24 as Post estimates; Graph Post Brasilia

## MY 2022/2023 Planted Area Shows Slight Reduction, but Yields Bring in Record Production

Post slightly reduced its planted area estimate for MY 2022/2023 (March 2023 – February 2024) to 22.4 million hectares, a 0.4 percent decrease related to the previous estimate. This readjustment is based on reaping progress of the current harvest as final figures of monitored areas around Brazil are tallied. Post increases its estimated corn production for MY 2022/2023 (March 2023 – February 2024) to 135.5 MMT, up from its previous estimate of 129 MMT. This increase is based on high yields of the current crop, attributed to favorable weather conditions during the development phase of the plants.

### Figure 2

*Evolution of Corn Yield by Regions of Brazil*



**Data source:** National Supply Agency (CONAB), with 2022/23 as estimates; Graph Post Brasilia

## Harvest Outlook

With the closing of the 2022/23 corn harvest in most areas of Brazil, farmers have started to sow the first-season corn crop of the 2023/24 season. According to estimates from the Brazilian National Supply Agency (CONAB), the harvesting pace of the 2022/23 corn was below the registered in the previous season, mainly due to inadequate weather patterns (mostly excessive rains). Harvesting of second-season corn was still ongoing in some regions of Paraná, Mato Grosso do Sul, Pará, and Minas Gerais.

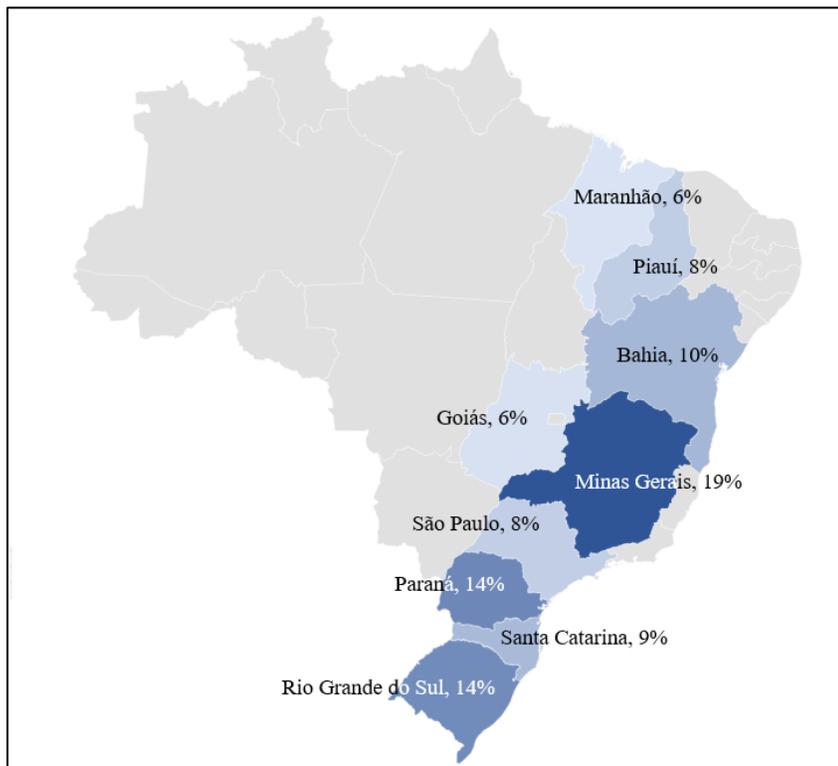
In particular, the state of Paraná, responsible for roughly 13.5 percent of all corn grown in Brazil, underwent severe delays in harvesting. The state dealt with strong winds in July, which resulted in areas with corn root lodging. This scenario, combined with high grain moisture, has consequently delayed the harvest, putting the state in a less advantageous situation compared to last year's pace.

## **First-Season Corn**

Corn is planted in Brazil year-round. First-season corn, also known as “summer corn,” was typically cultivated in southern Brazil but has now expanded to northeastern states. It is usually planted between August and December and harvested between January and June. It currently accounts for roughly 21 percent of all corn production in the country, according to data from the National Supply Agency (CONAB).

### **Figure 3**

*First-season Corn: Main Producing States, 2022/2023*



*Data source: National Supply Agency (CONAB); Graph Post Brasilia*

- **Minas Gerais**: For 2023/24, analysts consulted by Post have indicated that planted area and production in the state should decrease in relation to 2022/23, given the high production costs. Since corn farms take longer to be sowed and consequently occupy the fields during the planting of second-season crops, many farmers have indicated a preference for other crops, such as soy. The state responsible for roughly 19 percent of first-season corn saw production rise to 5.1 MMT in 2022/23, according to CONAB.
- **Rio Grande do Sul**: By early October, sowing of the 2023/24 corn crop had reached 55 percent of the 817.5 thousand hectares projected for the state, according to the Rio Grande do Sul Technical Assistance and Rural Extension Company (EMATER/RS). The state’s west, north, and northwest

regions are finalizing planting. However, regions in the South, central, and northeast of the state have suffered from heavy rains, which affected the humidity of the soil, resulted in agricultural machines not being able to enter waterlogged fields, and, in some cases, negatively affected seed germination. Production is estimated by EMATER/RS at 6 MMT, up 53 percent from the previous harvest. However, if heavy rains persist, farmers may swap corn for soy, which has a more flexible planting cycle and is more resistant to weather variations.

- **Paraná**: According to the Department of Rural Economy (DERAL/PR), the planted area of first-season corn for the 2023/24 season in the state should be 314.4 thousand hectares, reaching a production of 3.1 MMT, against 3.8 MMT in 2022/23. CONAB estimates that by early October, almost 60 percent of the first-season corn had been planted.
- **Bahia**: the state's first-season corn output grew incredibly in 2022/23 due to optimal weather and increased producer investment. As a result, Bahia registered a 20 percent increase in yield, reaching 5.70 MT/ha, and increased its planted area in 2022/23 by more than 13 percent in relation to the previous season, according to CONAB.
- **Santa Catarina**: the state has been progressing well and has been having normal weather, which has favored crop development. However, farmers are on high alert over the incidence of pests, especially leafhoppers.
- **São Paulo**: the state saw a decrease in planted area during the 2022/23 season of almost 11 percent, according to CONAB, but high yields – of 6.88 MT/ha – which represents an increase of 15.5 percent in relation to the 2021/22 season, held a positive balance on production and sustained the state as producer of 7 percent of all first-season corn in Brazil. The area loss is expected to continue in 2023/24, with producers favoring more profitable crops like soy.
- **Goiás**: The biggest producer of first-season corn in the Center-West, Goiás has been delivering high yields for the past harvests. Similar to what is happening in other states, for 2023/24, a decrease in planted area of first-season corn is expected, given the grain's high production cost and low profitability. While the state underwent adverse weather conditions that delayed sowing and compromised some of the development of the grains, the yield for 2022/23 is estimated at 9.32 MT/ha, with production reaching 1.6 MMT.
- **Piauí**: the state increased its planted area by almost 5 percent in the 2022/23 season in relation to 2021/22 but is expected to reduce planted area in the upcoming harvest due to lower corn gains, leading farmers to opt for soy. Optimal weather during the development stages of the harvest led the state to become responsible for 8 percent of the first-season corn in Brazil in 2022/23.
- **Maranhão**: with slight variation in area, production, and yield from 2021/22 and 2022/23, the state remained accountable for roughly 6 percent of first-season corn planted this season, presenting high yields for the region, at around 5.12 MT/ha.

## **Second-Season Corn**

Second-season corn, commonly referred to as ‘safrinha’ corn or “little harvest,” is planted from December to March, usually following the soybean harvest, and comprises the most extensive area. It started as the smallest of Brazil’s two corn crops but increased significantly and now account for most of the production (roughly 77 percent in the 2022/2023 harvest estimate).

2022/23 saw much of the corn crops planted outside the so-called ideal planting window, but good weather conditions provided sufficient water to guarantee adequate crop progression and high yields. By early October, the 2022/23 second-season corn was 99.2 percent harvested, with states like Mato Grosso registering record yields (6.89 MT/ha), according to data released by CONAB.

### **Figure 4**

*Second-season Corn: Main Producing States, 2022/2023*



*Data source: National Supply Agency (CONAB); Graph Post Brasilia*

- **Mato Grosso**: the biggest corn producer in the country reached record yields in the 2022/23 harvest due to optimal weather, investments in premium seeds, better fertilizer use efficiency, and advancements in agricultural technology. According to data from the Mato Grosso Institute of Agricultural Economics (IMEA), total corn production for the state in 2022/23 was set at 51 MMT.
- **Mato Grosso do Sul**: Crops in the state's southeast suffered from damping-off, which decreased harvested area. However, despite the loss, yields in the remaining regions offset this occurrence and guaranteed good production for the state. Harvesting of second-season corn had not been concluded by the end of September due to heavy rains in the region.

- **Paraná:** The Department of Rural Economy of Paraná (DERAL/PR) estimated Parana's 2022/23 second-season corn production to 14.1 MMT, but harvesting was delayed in relation to last season's crop.
- **Goiás:** The state has seen high productivity numbers in this cycle, with CONAB estimating corn yield at 6.38 MT/ha, a 40 percent increase in relation to last season. Production reached 11 MMT, an exponential growth from the 2022/23 mark of 7.9 MMT. This increase is credited to optimal weather conditions throughout the season and the fact that this year the state did not suffer from the attack of leafhoppers as it did during the past crop.

### **Third-Season Corn**

In 2019, Brazil also established a third-season corn crop, planted only in some states of the country's North and Northeast. Due to the region's climate, this crop cycle resembles that of the United States, with planting occurring around May and harvesting in October. This corn cycle accounts for approximately 2 percent of corn production and presents lower yield rates, averaging 3.6 MT/ha, while first-season corn is estimated to average 6.0 MT/ha. Many analysts credit the lower productivity of third-season corn to the lesser use of technology in the region as farmers traditionally destine their harvest for livestock feed.

### **Figure 5**

*Third-season Corn: Producing States, 2022/2023*



*Data source: National Supply Agency (CONAB); Graph Post Brasilia*

- **Bahia:** Responsible for roughly 47 percent of Brazil's third-season corn, the state produced around 1 MMT of corn, with yields reaching 3.3 MT/ha during the 2022/23 harvest, according to CONAB. Crops in the northeast of the state have been experiencing dry weather, affecting the development of the grains, while regions in the west of the state suffer from dampness, which might also affect yield.
- **Sergipe:** Accounting for 41 percent of third-season corn, Sergipe presents the highest yield of all northeastern corn producers, reaching close to 5.2 MT/ha. The state's production was estimated at around 950 thousand tons of corn.
- **Alagoas:** third biggest producing state, responsible for around 5 percent of third-season corn, the estimated production is of 130 thousand tons of corn, much of which is destined for silage.

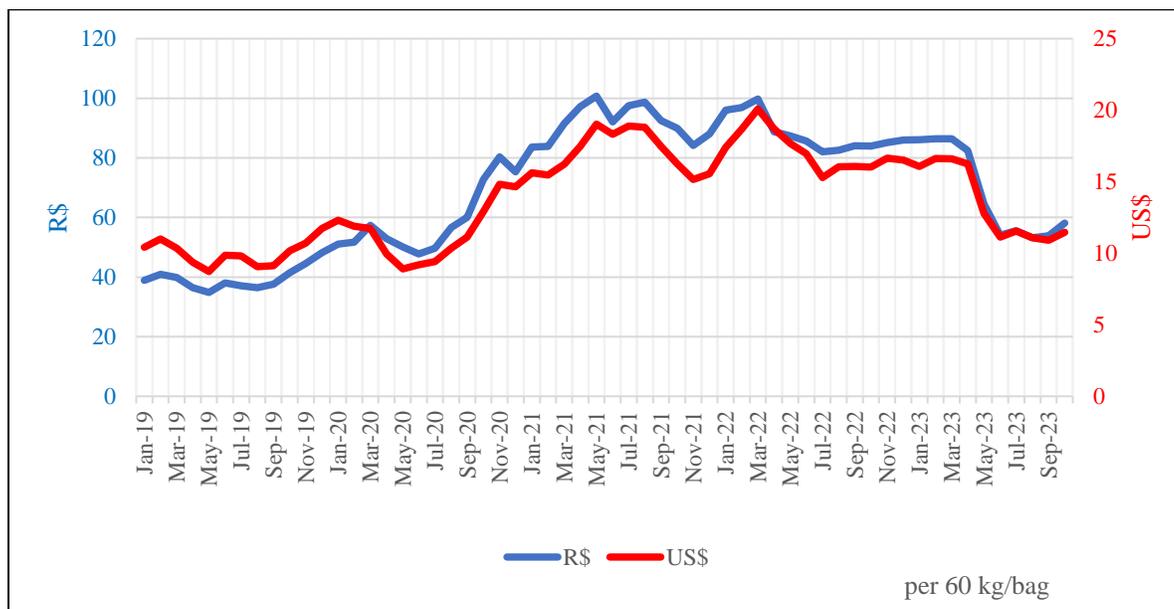
### Profit Margins Offset by Production Costs, While Corn Prices Remain Low

After a year of rising prices in 2022 – due to a combination of harvests affected by climate issues worldwide, inflationary effects of the Covid-19 pandemic, and the war between Russia and Ukraine, which affected the shipment of Ukrainian grains and the price of agricultural inputs such as fertilizers – 2023 has seen the price of corn fall significantly. The downward trend is due to, among other factors, the expectation of strong production in Brazil, high supply also in the United States, and, more recently, the appreciation of the real, which makes Brazilian exports less attractive. Thus, corn, which was traded at the port of Paranaguá (PR) at R\$ 104 per 60 kg bag in March 2022, was quoted at R\$ 58 in early October 2023 – a devaluation of 44 percent, according to data from the University of Sao Paulo Center for Advanced Studies in Applied Economics (CEPEA).

Corn production costs are still strongly influenced by volatile internal and external uncertainties. In Brazil, many inputs, such as machinery and seeds, are imported, so their prices will vary with the volatility of the domestic currency (the 'real' - R\$) and the government's economic measures. By late September, corn prices showed a slow recovery, mainly due to an appreciation of the dollar, an increase in foreign demand for corn, and better control of producers' corn stocks since, at the beginning of that month, many of them were selling at lower prices to empty their overflowing warehouses.

**Figure 6**

*Corn Prices in Brazil's ESALQ/BM&FBOVESPA*



*Data Source: University of Sao Paulo Center for Advanced Studies in Applied Economics (CEPEA); Graph Post Brasilia*

In many states, the net profit margin for corn in the 2022/23 crop has decreased. Despite lower fertilizer costs, planting corn is less attractive for producers due to high production costs. Post contacts have indicated that if profit margins do not recover, farmers may opt for different seed varieties ahead of the 2023/24 safrinha corn production, which will be planted from next January. Instead of corn as a second crop, they may consider planting soy, sorghum, or other specialty crops that are cheaper to produce. Another possibility has been to grow cotton in the second harvest. The biggest expense of a cotton farm is fungicides, insecticides, and herbicides, which together have had an average price decrease of around 35 percent in Mato Grosso since last year. This has improved the profitability of the cotton crop and encouraged producers to switch from corn.

In the state of Mato Grosso, the biggest corn producer in Brazil, production costs have been slowly improving this harvest, as indicated by the Mato Grosso Institute of Agricultural Economics (IMEA). Still, the institute forecasts that in 2023/24, it will cost 6.6 percent more to plant a hectare of corn than it did in 2022/23 and 36 percent more than the 2021/22 crop cycle. IMEA forecasts that producers spent R\$ 5,610.78 to sow one hectare of high-tech corn during the 2022/23 harvest, while the total cost is forecast at R\$ 5,980.25 per hectare in the 2023/24 crop year.

**Table 2***Production Cost of Corn in Mato Grosso*

<b>COST OF CORN PRODUCTION IN MATO GROSSO (R\$/ha)</b>					
<b>Harvest</b>	<b>2020/21</b>	<b>2021/22</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2023/24*</b>
<b>Year</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2023</b>
<b>Month</b>	<b>Consolidated</b>	<b>Consolidated</b>	<b>Consolidated</b>	<b>March</b>	<b>August*</b>
Seeds	445.42	554.43	670.53	675.20	694.26
Fertilizers	735.63	1,168.51	1,816.57	1,749.93	1,603.40
DEFENSIVES (Fungicide, Herbicide, Insecticide, etc.)	398.17	469.15	585.83	774.43	765.27
MECHANIZED OPERATIONS (Planting, Fertilizing, Applications w/ Machines, Harvest)	84.05	109.63	161.99	164.76	149.51
Third Party Services	2.09	1.73	3.00	2.94	2.80
Labor	72.99	76.91	83.05	126.02	128.39
Maintenance	106.13	106.47	109.97	166.08	167.36
Taxes and Fees	90.59	108.19	118.33	118.73	120.21
Financing and Insurances	160.18	214.02	276.71	315.95	295.41
POST-PRODUCTION (Classification and Processing, Storage, Production Transport)	286.26	278.6	288.55	298.00	290.02
Other Costs (Technical Assistance, Utilities Fuel, General Expenses)	69.46	84.29	97.43	120.01	114.16
Lease	132.3	210.01	208.66	242.26	224.93
DEPRECIATION (of Equipment, Utilities, and Improvements)	196.96	198.41	202.72	330.52	324.05
Family Labor	59.83	60.97	61.64	70.06	69.94
OPPORTUNITY COST (Working Capital, Improvements, etc.)	538	754.53	925.79	1,090.41	1,030.55
<b>TOTAL</b>	<b>3,378.06</b>	<b>4,395.84</b>	<b>5,610.78</b>	<b>6,245.29</b>	<b>5,980.25</b>

*Data Source: Mato Grosso Institute of Agricultural Economics (IMEA), costs in R\$/ha, with August 2023/2024 as estimates; Chart Post Brasilia*

Road freight for the transport of agricultural products maintained an upward trend until September, with the expectation of lowering prices from October until the beginning of Brazil's summer harvest in February 2024. In addition to the increased demand due to the rise in corn exports and the need to empty soybean and corn stocks, the increase in freight costs was also due to the volatility in diesel oil prices.

According to a study by the Group of Research and Extension in Agroindustrial Logistics at the Luiz de Queiroz College of Agriculture (ESALQ/USP) for the Brazilian Confederation of Agriculture and Livestock (CNA), the average freight price for transporting grains, for example, between Sorriso (Mato Grosso) and Miritituba (Pará) in July was R\$ 316.77 per ton. For August, the forecast was R\$ 336.10. For October, it should drop to R\$ 278.33 per ton but still above the R\$ 266 registered in the same month in 2022. The Mato Grosso Institute of Agricultural Economics (IMEA) points out that short-haul freight (i.e., from the farms to silos and nearby cities) from Sorriso to Rondonópolis, a distance of approximately 610 kilometers, saw an increase of 13.6 percent in July.

In addition, producer profit margins are also impacted by the average distance traveled between the farm and the warehouse contracted to deliver the product. For example, in Piauí and Maranhão, the average distance varies between 100 and 110 kilometers (62 and 68 miles). The state with the lowest average distance between the farm and outsourced warehouses is Rio Grande do Sul, with 16 kilometers (approximately 10 miles), according to CNA.

CONAB showed that freight costs increased in the state of Mato Grosso by 13 percent from June to July this year and estimated an increase in freight prices in the state of Mato Grosso do Sul, especially in the second half of July, due to increased demand for corn and soybean in domestic and international markets. An upward trend was also seen in Goiás and Tocantins, where there is a lack of trucks to sustain the high demands.

In the case of transporting fertilizers, a price spike is also expected in October, when shipments usually arrive to cover the planting of the summer crop. On the port route from Paranaguá (PR) to Rondonópolis (MT), the projection is to reach R\$ 270.65 per ton. In July, the average was R\$ 224.20 per ton.

### [Infrastructure Remains the Bottleneck of Brazil's Agriculture](#)

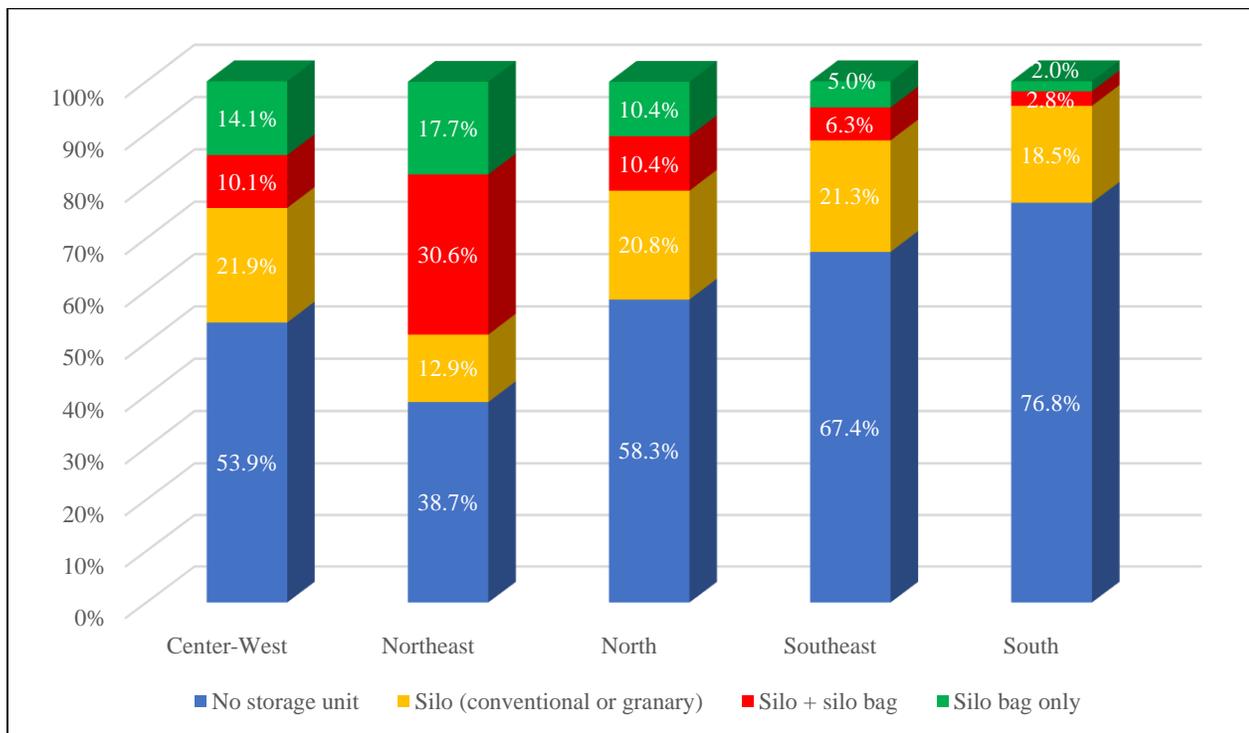
The record grain harvest in Brazil for the 2022/23 season has once again shed a negative light on the infrastructure hurdles Brazilian farmers face. With warehouses and silos still filled with soybeans, mountains of grains were left out in the open as producers leveraged between selling at lower prices to avoid losses or holding off, in the expectation of higher profitability, which might not materialize.

According to ESALQ LOG/USP, 61 percent of Brazilian farms lack proper structures to store the country's grain production. Of the remaining farms (38.9%), 19.8 percent have a conventional or granary silo, 9.2 percent use silo bags as a complement, and 9.9 percent rely solely on silo bags. The shortage of storage space is a significant obstacle for Brazilian farmers, as grains are vulnerable to high temperatures, rain, and animal attacks when left out in the open.

The Brazilian Association of Machinery and Equipment Industry (ABIMAQ) estimates Brazil currently has a storage deficit of 118.5 million tons, while ESALQ LOG/USP projects an even higher figure of almost 125 million tons. To prevent the storage deficit from increasing, Brazil needs to invest R\$ 15 billion per year, according to ABIMAQ.

According to CONAB, Brazil’s total grain harvest in 2022/23 is estimated at 322.8 MMT, an increase of 50.1 MMT in relation to the previous cycle (2021/22). The company also estimates that Brazil has a static storage capacity in Brazil in 2023 of only 190.9 MMT. With a record second-season corn crop, farmers still have silos filled with soybeans. Aside from selling at a lower profit margin, corn takes up two and a half more space than soy and demands double the time to dry. As such, producers favor the storage of soybeans. In 2022, only 15 percent of Brazil’s grain storage capacity was located in farms, with the remainder located in urban and industrial areas, mostly administrated by cooperatives and traders. In addition, almost 77 percent of producers in the south region of Brazil claim not to have storage units on their farms, while 39% of those in the northeast have no form of storage.

**Figure 7**  
Types of Storage Units in Brazil, per region (2022)



**Data source:** Group of Research and Extension in Agroindustrial Logistics at the Luiz de Queiroz College of Agriculture (ESALQ LOG/USP) & Brazilian Confederation of Agriculture and Livestock (CNA); Graph Post Brasilia

The average capacity of the warehouses on the properties is 159,300 bags (9.5 thousand tons), with the Center-West region having the highest average capacity of 214,592 bags (12.8 thousand tons). In contrast, the Northeast region has the lowest average capacity of 13,500 bags (810 tons). The South region registered an average capacity of 141,565 bags (8.4 thousand tons). Finally, according to the ESALQ LOG/USP, 42 percent of the farmers claim to store their products in their silos for 4 to 6 months on average, while 22.5 percent store them for 7 to 9 months and 2.3 percent for more than 12 months.

Freight transportation for agricultural products has been on an upward trend until September, with the expectation of lowering prices from October until the beginning of Brazil's summer harvest in February 2024. The increase in freight costs is due to the increase in corn exports and the need to empty soybean and corn stocks, as well as the volatility in diesel oil prices. The logistics used to move corn and soy on Brazilian roads and ports also severely impact other commodities and inputs, such as the transportation of fertilizers once they arrive at ports.

According to ESALQ LOG/USP, the average freight price for transporting grains between Sorriso (Mato Grosso) and Miritituba (Pará) in July was R\$ 316.77 per ton. For August, the forecast was R\$ 336.10. In October, it is expected to drop to R\$ 278.33 per ton, but still above the R\$ 266 registered in the same month in 2022. The Mato Grosso Institute of Agricultural Economics (IMEA) points out that short-haul freight (from the farms to silos and nearby cities) from Sorriso to Rondonópolis, a distance of approximately 610 kilometers (379 miles), saw an increase of 13.6 percent in July.

In addition, the average distance traveled between the farm and the warehouse contracted to deliver the product also impacts producer profit margins. For example, in Piauí and Maranhão, the average distance varies between 100 and 110 kilometers (62 and 68 miles, respectively). The state with the lowest average distance between the farm and outsourced warehouses is Rio Grande do Sul, with 16 kilometers (10 miles).

CONAB showed that freight costs increased by 13 percent from June to July this year in the state of Mato Grosso and estimated an increase in freight prices in the state of Mato Grosso do Sul, especially in the second half of July, due to increased demand for corn and soybean in domestic and international markets. An upward trend was also seen in Goiás and Tocantins, where there is a lack of trucks to sustain the high demands.

Regarding the transportation of fertilizers, a price spike is expected in October, when shipments usually arrive to cover the planting of the summer crop. On the port route from Paranaguá (Paraná) to Rondonópolis (Mato Grosso), the projection is to reach R\$ 270.65 per ton. In July, the average was R\$ 224.20 per ton.

### [Brazil Unveils Annual Agricultural Plan to Foster Development of Sustainable Agriculture and Support Production](#)

The Brazilian government announced at the end of June the resources of the agricultural plan "Plano Safra" 2023/24, the program to support the national agricultural production of medium and large rural producers until June 2024. This year, the program received R\$ 364.22 billion, 26.8 percent more than last year's plan. The government's objective with this Plano Safra is to boost environmentally sustainable production systems, with lower interest rates for pasture recovery and rewards for rural producers who adopt more sustainable agricultural practices. Of the total funds announced, R\$ 272.12 billion will be allocated to funding and commercialization, and R\$ 92.1 billion will be for investments.

In addition, the Program for Financing Sustainable Agricultural Production Systems (RenovAgro), which will have almost R\$ 7 billion in credit, incorporates the financing of investments identified with the seal of incentive to adapt to climate change and low carbon emissions in agriculture.

Other financing schemes also include the National Support Program for Medium Rural Producers (Pronamp), which will have lower interest rates for the acquisition of agricultural machinery and equipment through the Program to Modernize the Fleet of Agricultural Tractors, Harvesters and Implements (Moderfrota). The government also plans on expanding the Program for Construction and Expansion of Silos (PCA) by increasing the volume of resources by 81 percent for the construction of storage facilities with a capacity of up to six thousand tons and 61 percent for storage facilities with greater capacity. The funds destined for the PCA for the 2023/2024 harvest is R\$ 6.65 billion. In addition, the Plano Safra will increase by 30 percent the amounts allocated to the Financing Program for Irrigated Agriculture and Protected Cultivation (Proirriga), which finances investments related to all items inherent to irrigation systems, including electrical infrastructure and the construction of a water reservoir.

Nevertheless, despite the foreseen increase in spending by the Brazilian government in this year's Plano Safra, a technical study by the Confederation of Agriculture and Livestock of Brazil (CNA) shows that one in four rural producers (26 percent) does not know which credit lines are available for building warehouses.

## Corn Trade

### 2023/24 Exports Show a Slight Drop, Though Figures Remain High

Post lowers its forecast for corn export for MY 2023/2024 (March 2024 – February 2025) to 54 MMT, down 2 percent from the previous estimate, given Brazil's smaller forecasted production for the upcoming season. Post increases its forecast for corn imports for MY 2023/24 to 1.8 MMT from the previous estimate of 1.5 MMT, benefiting from Paraguay's exchange, free trade, and logistics, as the southern states of Brazil are the main importers.

Corn exports should remain firm, primarily due to increased global demand and with China as a top destination for Brazilian corn. However, the exchange rate may significantly influence prices, with the recent appreciation of the Brazilian real (R\$) against the dollar having a negative impact on internal price formation. Furthermore, cases of avian flu in wild birds may also hurt domestic corn prices. Cases continue to increase in Brazil, and if there is a need for large-scale sanitary slaughter, this would reduce corn consumption by commercial herds and impact export markets.

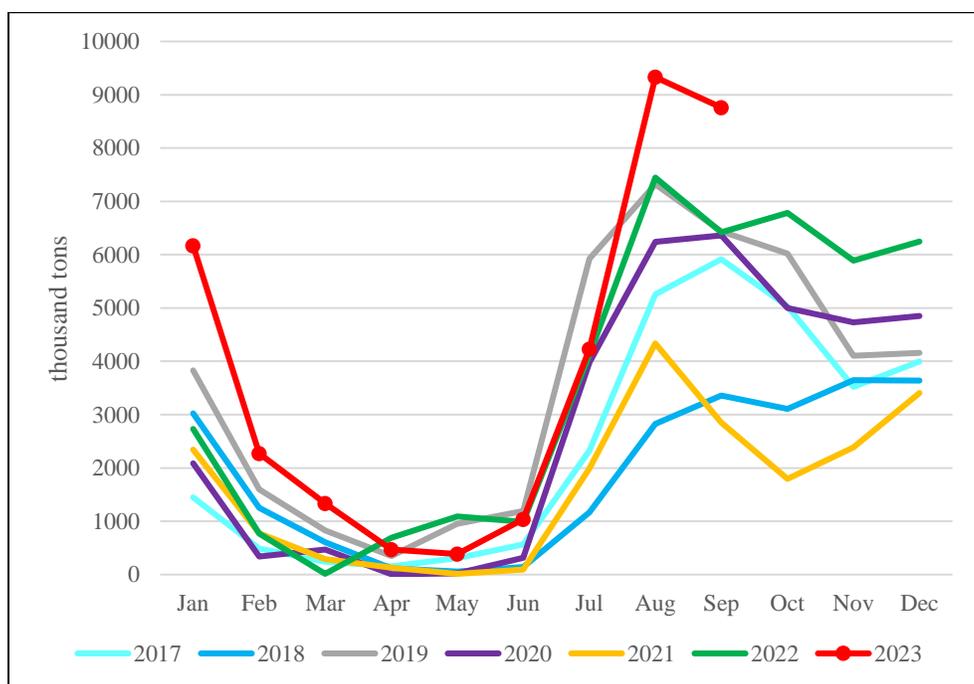
### 2022/2023 Corn Exports Rise Steeply with Record Production and High Demand from China, While Imports Drop

Brazil is expected to overtake the United States this year as the world's largest corn exporter for the first time in a decade. The last time the U.S. lost the top rank was when it faced production losses due to a devastating drought. In the 2022/23 harvest, Brazil represented 32 percent of global corn exports, while the United States accounted for around 23 percent. Brazil's advancement is credited not only to record production but also to the diversification of the logistical export routes.

In recent years, Brazil has seen an increase in exports from ports located in the north of the country, in contrast to past years, when exports were mainly focused on the south. According to data from the Brazilian Ministry of Development, Industry, Foreign Trade and Services (MDIC), from January to August 2023, Brazil exported almost 7.8 MMT of corn from the southern ports of São Paulo and 7.1 MMT from the ports in Pará, located in the north of Brazil. These logistical advances have allowed for an increase in exports of corn, as traditional bottlenecks experienced in the ports in the south have been averted.

Post increases its estimate for corn exports for MY 2022/2023 (March 2023 – February 2024) to 56 MMT from the previous 53 MMT. Brazil has seen an increase in corn exports, reaching 34 MMT from January to September 2023, above the 24.2 MMT registered in the same period in 2022. China has dominated the imports of corn throughout the year, having purchased 7.9 MMT since the beginning of 2023, according to data from MDIC. China overtook Japan, which imported 4 MMT from January to September 2023, followed by Vietnam (2.6 MMT), South Korea (2.3 MMT) and Iran (1.9 MMT).

**Figure 8**  
*Monthly Exports of Corn*

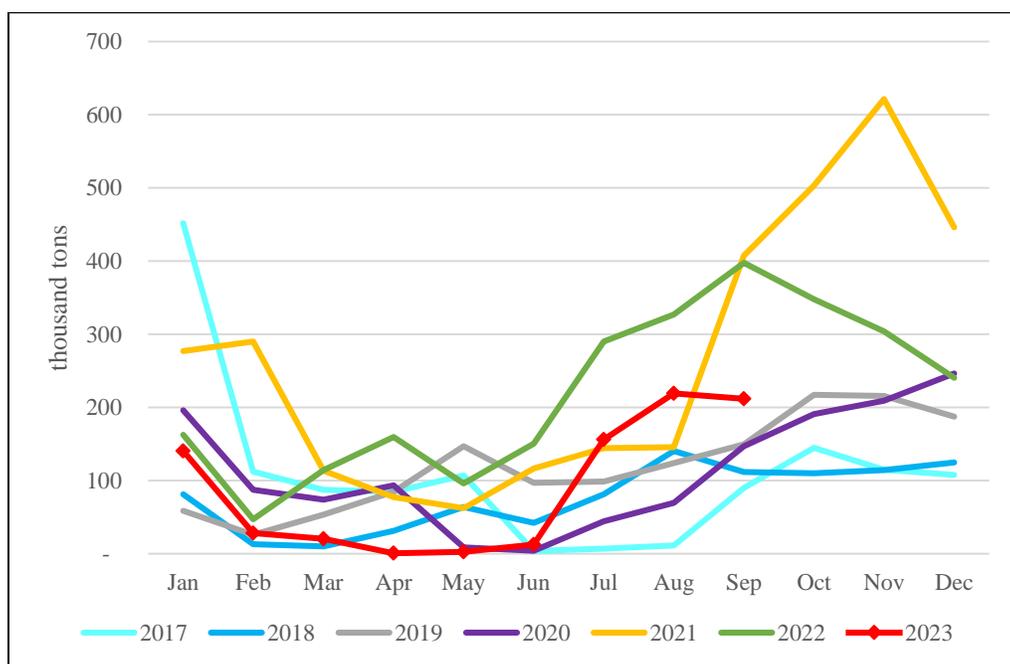


*Data Source: Ministry of Development, Industry, Foreign Trade and Services (MDIC); Graph Post Brasilia*

In late September, entities from the soy and corn sectors in Brazil, Argentina, and Paraguay released a joint manifesto opposing the European Union's new environmental legislation (the European Union Regulation for Deforestation-Free Products - EUDR), which is part of the European Green Deal. Generally, the regulations prohibit European bloc countries from importing agricultural products from deforested areas - legally or illegally. In the manifesto, the entities consider the regulations a form of protectionism with great potential to distort world trade, among other criticisms. The entities mainly highlight that the agriculture practiced in South American countries is technologically driven and environmentally sustainable.

Post increased its estimate for corn imports for MY 2022/2023 to 1.6 MMT, from its previous estimate of 1 MMT, based on the availability of corn from neighboring countries, mainly Paraguay, which exports most of the grain to the southern region of Brazil, where most of the feed industry is located.

**Figure 9**  
*Monthly Imports of Corn*



*Data Source: Ministry of Development, Industry, Foreign Trade and Services (MDIC); Graph Post Brasilia*

Paraguay remained the biggest exporter of corn to Brazil, accounting for 99 percent of all the corn sent to Brazil between January and September 2023. The neighboring country exported 791.5 thousand tons of corn to Brazil during that period.

## Corn Consumption

Post maintains its forecast for total corn consumption for MY 2023/2024 (March 2024 – February 2025) at 77.5 MMT and increases its estimate for MY 2022/2023 (March 2023 – February 2024) to 75.5 MMT. Brazil has been experiencing higher demands for corn for ethanol usage and consumption in the feed industry.

According to the National Corn Ethanol Union (UNEM), Brazil is expected to produce 6 billion liters of corn ethanol during the 2023/24 season, which runs from April to March in Brazil. This represents an increase of almost 33 percent in relation to 2022, set at 4.5 billion (see [Biofuels Annual Brasilia Brazil BR2023-0018](#)). There are currently 20 plants in operation for corn ethanol in the country, which are important not only to the corn production chain but have the potential to affect

consumption patterns in the feeding industry, as they produce by-products used for animal feed, such as Dried Distillers Grains (DDG), Dried Distillers Grains with Solubles (DDGS), and Wet distillers grains (WDG). For this reason, Post forecasts a 15 percent increase in the Food, Seed, and Industrial (FSI) Consumption pattern for MY 2023/2024.

In addition to the ethanol plants, which should consume more than 9.5 million tons of corn in the 2023/24 crop year to produce more than 4.1 billion liters of biofuel, corn is also consumed internally by the cattle, poultry, and pig farming sectors. According to the National Union of the Animal Feed Industry (SINDIRAÇÕES), Brazil's animal feed production increased 2 percent in the first half of 2023 in relation to the same period of the previous year. As such, Post increases its Feed and Residual Consumption estimate for MY 2022/23 from 61.5 MMT to 62.5 MMT and maintains this forecast for MY 2023/24.

Post continues to monitor Brazil's response over the cases of highly pathogenic avian influenza virus (HPAI) - H5N1 - infection in wild birds, which has not, as of early October, affected commercial poultry farms and production.

# RICE

## Production, Supply, and Distribution

**Table 3**

*Production, Supply, and Distribution of Rice*

Rice, Milled Market Year Begins Brazil	2021/2022		2022/23		2023/24	
	Apr 2022		Apr 2023		Apr 2024	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	1618	1618	1470	1470	1400	1500
Beginning Stocks (1000 MT)	1170	1170	899	899	703	699
Milled Production (1000 MT)	7337	7337	7004	7000	6800	7010
Rough Production (1000 MT)	10790	10790	10300	10294	10000	10309
Milling Rate (.9999) (1000 MT)	6800	6800	6800	6800	6800	6800
MY Imports (1000 MT)	934	934	900	1000	950	950
TY Imports (1000 MT)	826	826	1000	1000	950	950
TY Imp. from U.S. (1000 MT)	0	0	0	0	0	0
Total Supply (1000 MT)	9441	9441	8803	8899	8453	8659
MY Exports (1000 MT)	1392	1392	1200	1200	1000	1100
TY Exports (1000 MT)	1445	1445	1200	1200	1000	1100
Consumption and Residual (1000 MT)	7150	7150	6900	7000	6800	6900
Ending Stocks (1000 MT)	899	899	703	699	653	659
Total Distribution (1000 MT)	9441	9441	8803	8899	8453	8659
Yield (Rough) (MT/HA)	6.6687	6.6687	7.0068	7.0027	7.1429	6.8727

MY = Marketing Year, begins with the month listed at the top of each column  
 TY = Trade Year, which for Rice begins in January. TY 2023/24 = January 2024 - December 2024  
 Source: Post Brasilia

## Rice Production

The 2022/23 harvest was finalized in the main regions of the country. Although crops suffered from adverse weather conditions throughout the year, especially in Rio Grande do Sul, the lead producing state, fields managed to recover and develop well. There was a reduction of planted area of both irrigated and upland rice, mainly due to the high production cost and to the substitution of crops, such as corn and soybeans, but high yields offset these conditions, resulting in increased production for the season.

For the 2023/24 harvest, most of the areas were ready for sowing as of the beginning of October, but due to excess moisture in the soil, the start was slower in comparison to the same period of the previous year. With an expected reduction in production costs and higher profitability, production is expected to increase after two seasons of decline.

### MY 2023/24 Rice Production and Area Increase and Production Costs Ease

Post increases its forecast for rice planted area for MY 2023/24 (April 2024 – March 2025) to 1.5 million hectares (ha) from the previous 1.4 million hectares (ha) estimate, based on the expectation of higher profitability for the sector. The arrival of the El Niño phenomenon is expected to bring excess rain to Rio Grande do Sul, which would profit from rice cultivation in flooded areas and reduce the planting of soybean, which in recent years has been a favored crop for farmers in the region.

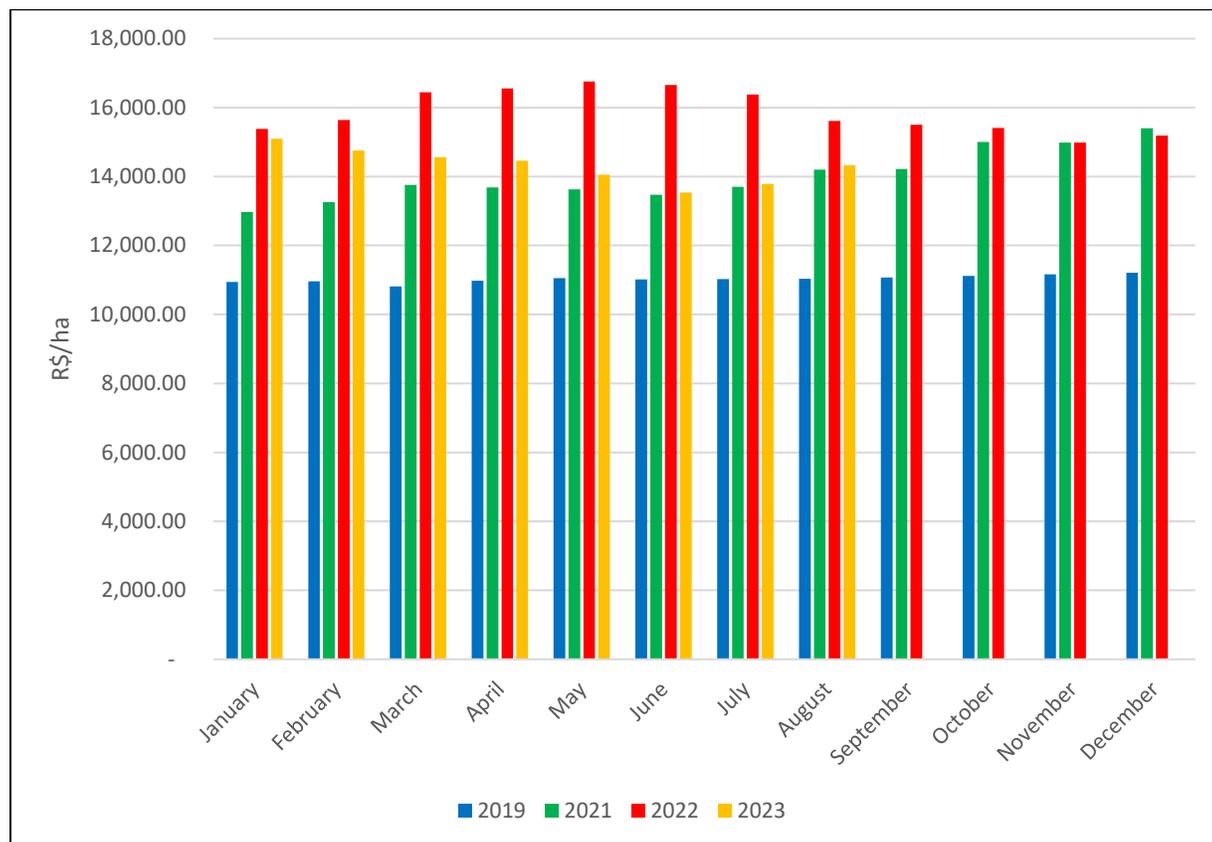
According to the Federation of Rice Growers Associations of Rio Grande do Sul (FEDERARROZ), during the El Niño periods, historically, productivity decreased by around 5 to 10 percent. However, rice production saw a spike in prices from 2021, mainly led by fertilizer costs. This has led to the understanding of how crucial it is for farmers to maintain planted area to modulate investments and increase profitability, even though production costs have eventually started to ease in 2023.

Post increases its MY 2023/24 forecast for milled rice production to 7.01 million metric tons (MMT) of milled rice equivalent (MRE), an equivalent of 10.3 MMT of paddy rice. This represents a 3 percent increase over the previous estimate and is credited to the larger planted area and the expectation of greater profitability by producers, considering that rice production costs for the 2023/24 harvest have shown signs of relief in relation to 2022/23.

According to data from the University of Sao Paulo's Center for Advanced Studies in Applied Economics (CEPEA), considering the purchase of all inputs and rice sales in June 2023, the total production cost in the city of Uruguaiana in Rio Grande do Sul, was R\$ 13,358.98 per hectare, 18.7 percent less than in the same month last year. In Camaquã, a city in the same state, the cost this year was R\$ 13,350.10 per hectare, almost 14 percent less than in June 2022. This means that the producer would need to produce 167.44 bags per hectare in Uruguaiana and 159.01 bags per hectare in Camaquã to cover total production costs (considering yields of 166.3 bags/hectare and 178.7 bags/hectare, respectively).

**Figure 10**

*Irrigated Rice Production Cost in Rio Grande do Sul (City of Urugaiana)*



*Data Source: Agricultural Federation of the State of Rio Grande do Sul (FARSUL); Graph Post Brasilia*

### MY 2022/23: Rice Production Lost Area to Other Crops

Post maintained its estimate of rice harvested area for MY 2022/23 (April 2023 – March 2024) at 1.5 million hectares, based on continued interest of producers over the grain. Post also maintained its estimate for milled rice production for the period to 7 million metric tons (MMT) of milled rice equivalent (MRE) (an equivalent of 10.2 MMT of paddy rice), setting yield estimates for MY 2022/23 at 7 MT/ha. The 2022/23 harvest followed the pattern of recent years of area reduction, both for irrigated and upland rice, mainly due to production costs, which resulted in the replacement of rice for other crops, such as corn and soybeans. worth

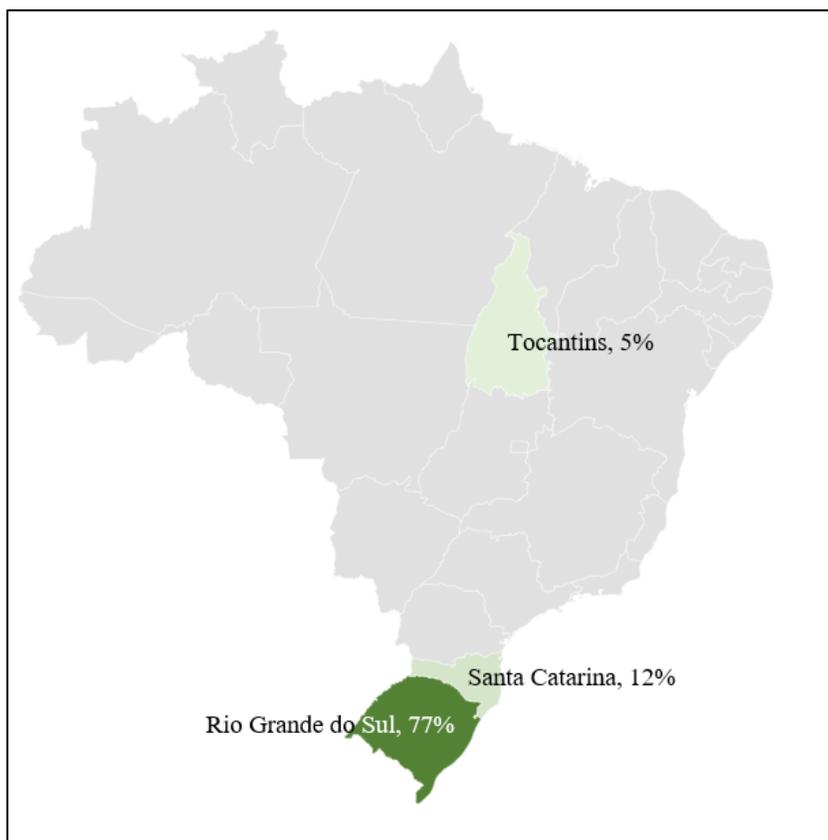
### Harvest Outlook

Aside from being embedded in the culture as a tradition that goes back to multiple generations, rice sowing is also part of the critical soybean-rice rotation cycle, which benefits the soil in the region. The Federation of Rice Producers of Rio Grande do Sul (FEDERARROZ) states that such a cycle of rotation can reduce production costs by as much as 15 percent and increase rice yields by 10 to 20 percent, depending on the condition of the land. The Rio Grande do Sul Rice Institute (IRGA) estimates that an

irrigated rice producer using this rotation system, referred to as “ping-pong,” that is, one year of rice and one year of soy within a production system, can improve soil quality and rice yield. In addition, some areas of the state are known for having poor drainage, making them suitable for planting irrigated rice, making the farmers unlikely to change crops.

### Figure 11

*Main Irrigated Rice Producing States (2022/23)*



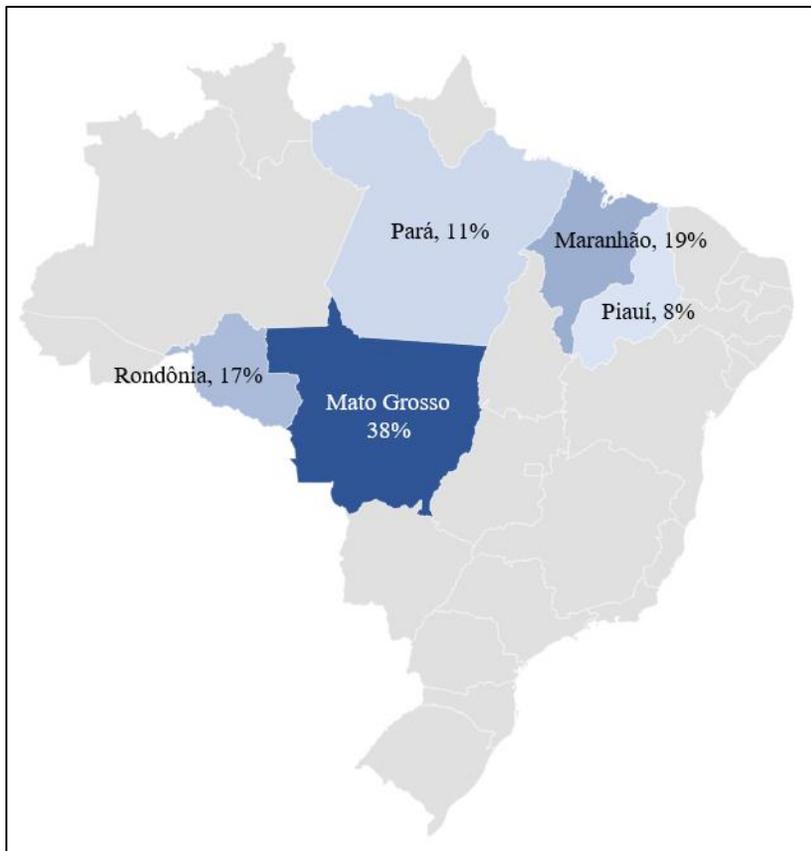
*Data Source: National Supply Company (CONAB); Graph Post Brasilia*

- **Rio Grande do Sul**: Rio Grande do Sul: According to the Rio Grande do Sul Rice Institute (IRGA), production in the state is expected to increase in the 2023/24 harvest, driven by the expectation of favorable rainfall due to El Niño, which may lead to a reduction in the planted area of soybeans in areas of lower altitude, opening space for the cultivation of irrigated rice. IRGA forecasts planted area of 902,425 hectares, 7.5 percent about the recorded in the previous season. Meanwhile, the Technical Assistance and Extension Services Enterprise (EMATER/RS) estimates yields of 8.36 MT/ha for the state.
- **Santa Catarina**: According to the Agricultural Research and Rural Extension Company of Santa Catarina (EPAGRI/SC), the state should produce 1.3 MMT of rice in the 2023/24 harvest and planted area is forecast at approximately 145.7 thousand hectares, both presenting a decrease of 1 percent from last season. Yields are expected to reach 8.58 MT/ha. Many farmers started planting rice early, taking advantage of the warmer winter climate in the region.

- **Tocantins:** The National Supply Agency (CONAB) estimates a slight increase of irrigated rice production in Tocantins during the 2023/24 harvest, with the forecast set at 521 thousand tons, from the original 518 thousand tons initially projected. This is likely a result of an increase in planted area. The state also has a small production of upland rice, but crops have been losing space to beef cattle.

**Figure 12**

*Main Upland Rice Producing States (2022/23)*



*Data Source: National Supply Company (CONAB); Graph Post Brasilia*

- **Mato Grosso:** The state is expected to have an increment in planted area, led by an increase in the profitability of rice and lower production costs. In addition, with the forecast of El Niño impacting other crops that are traditionally planted in the state, such as corn, rice tends to be a viable option for farmers. CONAB estimates that in 2023/34 production will reach 290 thousand tons, with a yield of 3.52 MT/ha. In the state, rice cultivation has traditionally been grown in new areas to prepare the soil. It is used as an alternative to rotate crops or recover the soil.
- **Maranhão:** CONAB forecasts that for the 2023/24 harvest, the state will be responsible for around 19 percent of the production of upland rice, making it the second largest producer, at 146 thousand tons, with planting scheduled to start in November. The state has finalized the planting of irrigated

rice, with an estimated planted area of 4.3 thousand hectares, almost 39 percent higher than in the 2022/23 season. Farmers have been optimistic over the selling price of rice in the state.

- **Rondônia:** expected to account for 16 percent of upland rice production during the 2023/24 harvest by CONAB calculations, the state should produce close to 125 thousand tons, a 2 percent increase over the previous harvest, mainly credited to an increase in planted area, as farmers take advantage of better market prices for rice sales.
- **Pará:** The state is forecast to have a 6 percent increase in the production of upland rice, reaching 81 thousand tons, according to CONAB estimates, while irrigated rice production should reach 22 thousand tons. Pará's sowing of irrigated rice started in July, with crops developing well.
- **Piauí:** With the forecast of producing over 8 percent of upland rice during the 2023/24 harvest, the state had yet to initiate sowing by early October. Farmers are expected to reduce planted area for the season, as El Niño may cause adverse effects on crops, hindering productivity. CONAB forecasts production at 63.5 thousand tons, well below the 2022/23 production of 78.7 thousand.

### Infrastructure Remains the Bottleneck of Brazil's Agriculture and Impact Grain Prices

The record grain harvest in Brazil for the 2022/23 season has once again shed a negative light on the infrastructure hurdles Brazilian farmers face. With warehouses and silos still filled with soybeans, mountains of grains were left out in the open as producers leveraged between selling at lower prices to avoid losses or holding off, in the expectation of higher profitability, which might not materialize.

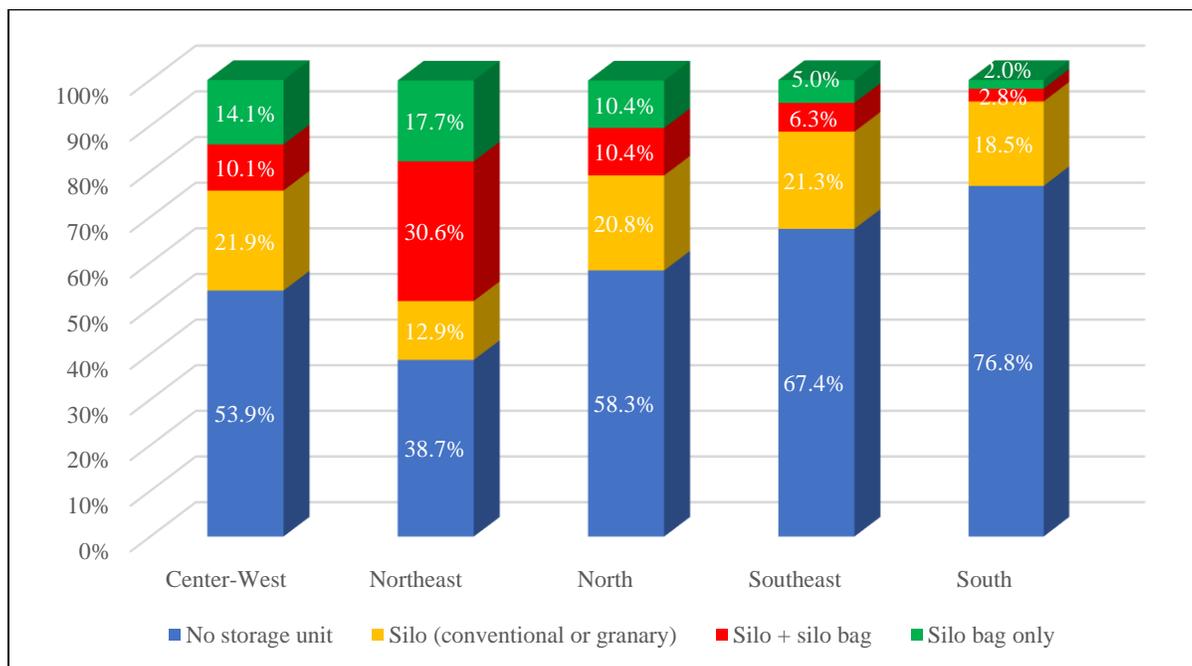
According to ESALQ LOG/USP, 61 percent of Brazilian farms lack proper structures to store the country's grain production. Of the remaining farms (38.9%), 19.8 percent have a conventional or granary silo, 9.2 percent use silo bags as a complement, and 9.9 percent rely solely on silo bags. The shortage of storage space is a significant obstacle for Brazilian farmers, as grains are vulnerable to high temperatures, rain, and animal attacks when left out in the open.

The Brazilian Association of Machinery and Equipment Industry (ABIMAQ) estimates Brazil currently has a storage deficit of 118.5 million tons, while ESALQ LOG/USP projects an even higher figure of almost 125 million tons. To prevent the storage deficit from increasing, Brazil needs to invest R\$ 15 billion per year, according to ABIMAQ.

According to CONAB, Brazil's total grain harvest in 2022/23 is estimated at 322.8 MMT, an increase of 50.1 MMT in relation to the previous cycle (2021/22). The company also estimates that Brazil has a static storage capacity in Brazil in 2023 of only 190.9 MMT. With a record second-season corn crop, farmers still have silos filled with soybeans. Aside from selling at a lower profit margin, corn takes up two and a half times more space than soy and demands double the time to dry. As such, producers favor the storage of soybeans. In 2022, only 15 percent of Brazil's grain storage capacity was located in farms, with the remainder located in urban and industrial areas, mostly administrated by cooperatives and traders. In addition, almost 77 percent of producers in the south region of Brazil claim not to have storage units on their farms, while 39% of those in the northeast have no form of storage.

**Figure 13**

*Types of Storage Units in Brazil, per region (2022)*



**Data source:** Group of Research and Extension in Agroindustrial Logistics at the Luiz de Queiroz College of Agriculture (ESALQ LOG/USP); Graph Post Brasilia

The average capacity of the warehouses on the properties is 159,300 bags (9.5 thousand tons), with the Center-West region having the highest average capacity of 214,592 bags (12.8 thousand tons). In contrast, the Northeast region has the lowest average capacity of 13,500 bags (810 tons). The South region registered an average capacity of 141,565 bags (8.4 thousand tons). Finally, according to the ESALQ LOG/USP, 42 percent of the farmers claim to store their products in their silos for 4 to 6 months on average, while 22.5 percent store them for 7 to 9 months and 2.3 percent for more than 12 months.

Freight transportation for agricultural products has been on an upward trend until September, with the expectation of lowering prices from October until the beginning of Brazil's summer harvest in February 2024. The increase in freight costs is due to the increase in corn exports and the need to empty soybean and corn stocks, as well as the volatility in diesel oil prices. The logistics used to move corn and soy on Brazilian roads and ports also severely impact other commodities and inputs, such as the transportation of fertilizers once they arrive at ports.

According to the Group of Research and Extension in Agroindustrial Logistics at the Luiz de Queiroz College of Agriculture (ESALQ/USP), the average freight price for transporting grains between Sorriso (Mato Grosso) and Miritituba (Pará) in July was R\$ 316.77 per ton. For August, the forecast was R\$ 336.10. In October, it is expected to drop to R\$ 278.33 per ton, but still above the R\$ 266 registered in the same month in 2022. The Mato Grosso Institute of Agricultural Economics (IMEA) points out that short-haul freight (from the farms to silos and nearby cities) from Sorriso to Rondonópolis, a distance of approximately 610 kilometers (379 miles), saw an increase of 13.6 percent in July.

In addition, the average distance traveled between the farm and the warehouse contracted to deliver the product also impacts producer profit margins. For example, in Piauí and Maranhão, the average distance varies between 100 and 110 kilometers (62 and 68 miles, respectively). The state with the lowest average distance between the farm and outsourced warehouses is Rio Grande do Sul, with 16 kilometers (10 miles).

CONAB showed that freight costs increased by 13 percent from June to July this year in the state of Mato Grosso and estimated an increase in freight prices in the state of Mato Grosso do Sul, especially in the second half of July, due to increased demand for corn and soybean in domestic and international markets. An upward trend was also seen in Goiás and Tocantins, where there is a lack of trucks to sustain the high demands.

Regarding the transportation of fertilizers, a price spike is expected in October, when shipments usually arrive to cover the planting of the summer crop. On the port route from Paranaguá (Paraná) to Rondonópolis (Mato Grosso), the projection is to reach R\$ 270.65 per ton. In July, the average was R\$ 224.20 per ton.

### [Brazil Unveils Annual Agricultural Plan to Foster Development of Sustainable Agriculture and Support Production](#)

In June, the Brazilian government announced the resources for the "Plano Safra" agricultural plan for the period 2023/2024. The plan aims to support medium and large rural producers until June 2024. This year, the government has allocated R\$ 364.22 billion to the program, which is an increase of 26.8 percent compared to last year's plan. The government's objective with this Plano Safra is to promote environmentally sustainable production systems by offering lower interest rates for pasture recovery and rewards for those who adopt more sustainable agricultural practices. In addition, the Program for Financing Sustainable Agricultural Production Systems (RenovAgro), which will receive nearly R\$ 7 billion in credit, will finance investments that help adapt to climate change and reduce carbon emissions in agriculture.

There are other financing schemes as well, such as the National Support Program for Medium Rural Producers (Pronamp), which offers lower interest rates for the acquisition of agricultural machinery and equipment. The government also plans on expanding the Program for Construction and Expansion of Silos (PCA) by increasing the volume of resources by 81 percent for the construction of storage facilities with a capacity of up to six thousand tons and 61 percent for storage facilities with greater capacity. The funds allocated to the PCA for the 2023/2024 harvest is R\$ 6.65 billion. Additionally, the Plano Safra will increase by 30 percent the amounts allocated to the Financing Program for Irrigated Agriculture and Protected Cultivation (Proirriga), which finances investments related to all items inherent to irrigation systems, including electrical infrastructure and the construction of a water reservoir.

Despite the increase in spending by the Brazilian government for this year's Plano Safra, a technical study by the Confederation of Agriculture and Livestock of Brazil (CNA) shows that 26 percent of rural producers are unaware of the credit lines available for building warehouses.

## Rice Prices Improving as Demand Grows

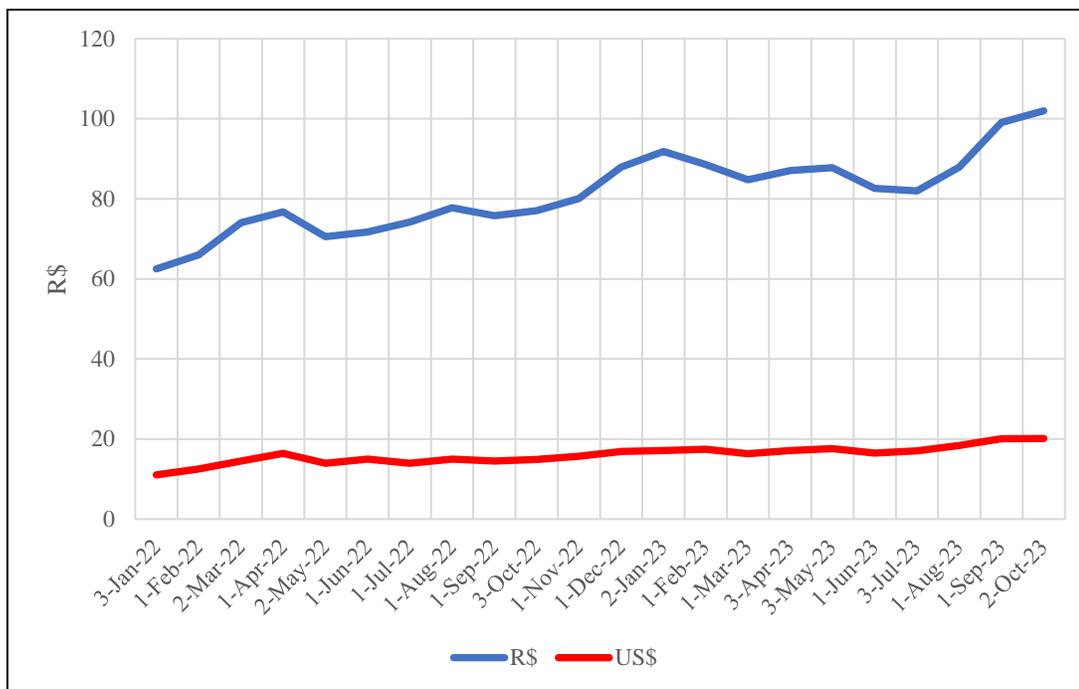
Rice prices in Rio Grande do Sul, which serves as the national reference for 50-kilo bags, have started to rise since July, led by a greater interest of buyers, both domestically and in international markets.

According to data from the University of Sao Paulo's Center for Advanced Studies in Applied Economics (CEPEA), rice was traded in Rio Grande do Sul on October 16, 2023, at R\$ 103.36 (US\$ 20.50) per 50 kg/bag, 9 percent higher than the price quoted in the same period of the previous year, when the grain reached R\$ 78.46 (US\$ 14.82). The average price of rice in July 2023 was traded at R\$ 84.16 (US\$ 17.48) per 50kg/bag, reaching R\$ 100.9 (US\$ 20.40) in September 2023.

On September 13, rice reached the mark of R\$ 100.64 (US\$ 20.47) per 50kg/bag. This was the first time since early December 2020 that rice surpassed the R\$ 100 mark. By mid-October 2023, the grain hit R\$ 103.36 (US\$ 20.50). Some of the factors that explain this increase include the off-season and the difficulties in transporting grains, mainly due to the roads in Rio Grande do Sul, which were affected by heavy rains. India's restriction on exports has also contributed to an increase in prices, as the domestic industry now looks for opportunities to export.

**Figure 14**

*Prices of Rice in Rio Grande do Sul*



**Data Source:** University of Sao Paulo Center for Advanced Studies in Applied Economics (CEPEA); Graph Post Brasilia

## Rice Trade

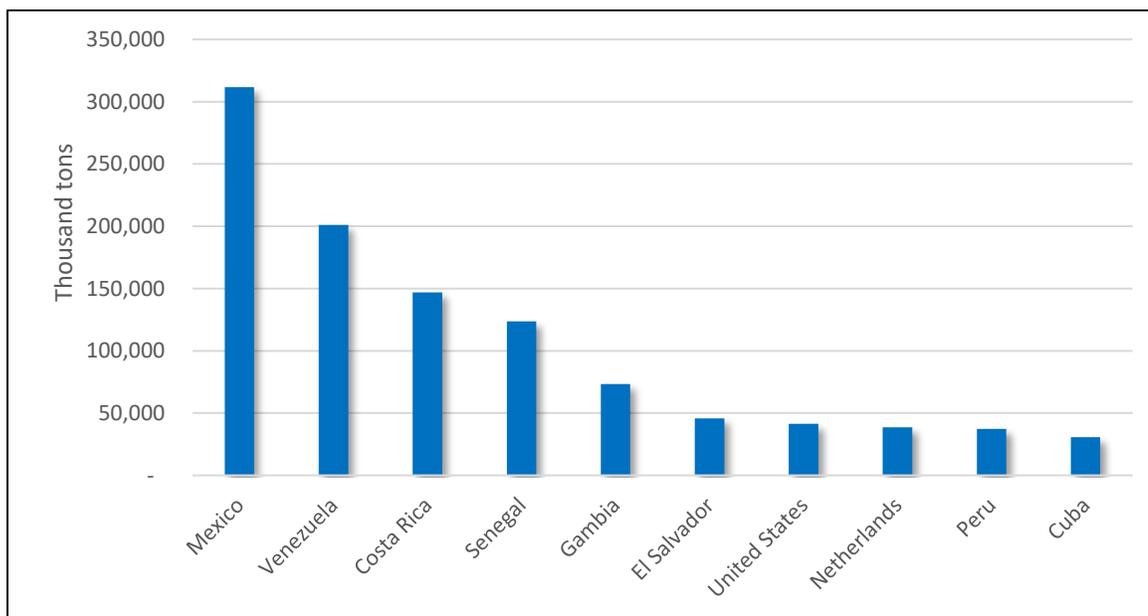
Post increases its forecast for rice exports for MY 2023/24 (April 2024 – March 2025) to 1.1 MMT from its previous estimate of 900,000 MT. This is based on the continued interest in Brazilian rice in foreign markets and a foreseen lower supply from important exporting countries. Post decreases its forecast for rice imports for MY 2023/24 to 950,000 MT, down 3 percent from the previous estimate, over the expectation of reduced crop production from traditional exporters to Brazil from Mercosur countries Paraguay and Uruguay.

Post adjusted its rice exports for MY 2022/23 (April 2023 – March 2024) to 1.2 MMT, up from the previous estimate of 1.1 MMT. Although higher than the previous forecast, the new export figure is 16 percent lower than in 2021/22 and is based on the lower availability of crops for the current harvest.

According to the Ministry of Development, Industry, Commerce, and Services (MDIC), Mexico continues to be the leading destination of Brazilian rice throughout 2023, accounting for roughly 27 percent of Brazilian exports of rice (HS Code 1006), followed by Venezuela (17%), Costa Rica (12.6%), Senegal (10.6%) and Gambia (6%).

**Figure 15**

*Main Destinations of Brazilian Rice (January -September 2023)*

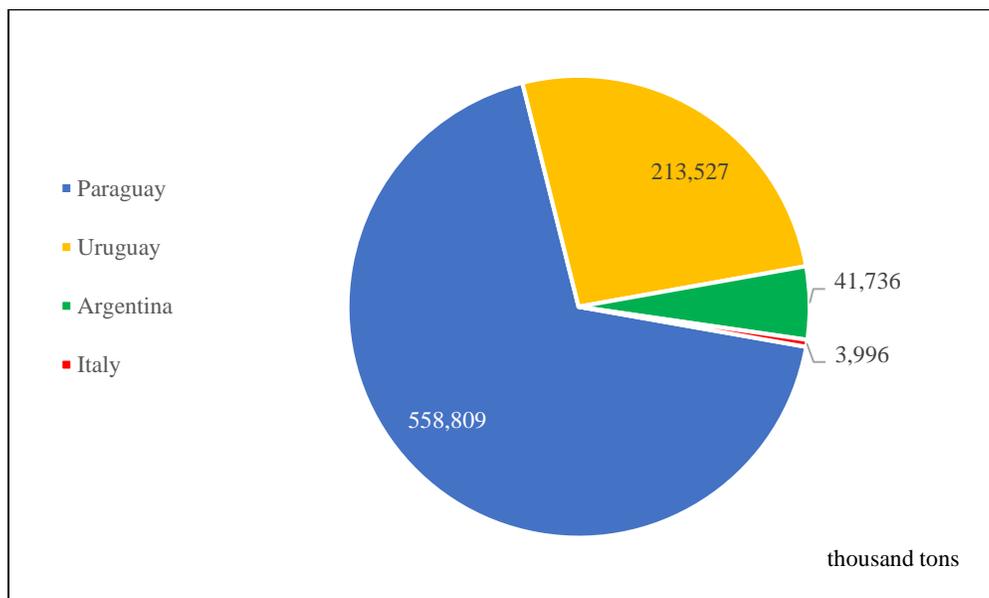


**Data Source:** Ministry of Development, Industry, Commerce and Services (MDIC); Graph Post Brasilia

Post also adjusts its rice imports for MY 2022/23 to 1 MMT, a 7 percent increase over the previous season. The devaluation of the U.S. dollar against the Brazilian real, aligned with high interstate tax burdens, continues to lead local industries to purchase rice from tax-free countries such as Paraguay rather than from acquiring it from states in the south of Brazil, where rice is primarily available. From January to September 2023, Paraguay was responsible for 68 percent of all rice imported into Brazil, followed by Uruguay (26%) and Argentina (5%).

**Figure 16**

*Main Origin of Rice Imports (January - September 2023)*



*Data Source: Ministry of Development, Industry, Commerce and Services (MDIC); Graph Post Brasilia*

In early July, the Federation of Rice Growers Associations of Rio Grande do Sul (FEDEARROZ) made a request to the federal government for the implementation of Socio-environmental Antidumping Measures. The request is for rice imports into Brazil to come only from producers that comply with the same social, environmental, and health regulations as Brazilian producers. FEDEARROZ explained that the existing asymmetries in the production process with competing countries, which do not comply with the same strict rules as Brazil, make it possible to offer different products at market prices that are anti-competitive with those practiced in the country.

The entity also highlighted that the request aims to protect public health, as many products enter Brazil with the use of agricultural defensives that have not undergone the rigorous analysis process used by Brazilian producers. This makes the Brazilian production process more expensive than that of competing countries. Therefore, FEDEARROZ asked the Federal Government to only allow the entry of rice with proof of compliance with legislation similar to Brazilian regulations. It is still unclear if the Brazilian government will adopt any measures of these prosed measures.

## Rice Consumption

Post maintains its forecast for rice consumption for MY 2023/24 (April 2024 – March 2025) at 6.9 MMT, down 1.1 percent from its original estimate, and slightly reduces its estimate by 1 percent for MY 2022/23 (April 2023 – March 2024), to 7 MMT from the previous report. These figures signal a downward trend in the consumption of rice in Brazil, led by the ongoing perspective of economic recovery and the fact that rice consumption has a negative income elasticity of demand, which means that with more income, consumers tend to opt for other ‘superior’ goods.

While rice remains a crucial food ingredient in the Brazilian diet, present in almost 95 percent of households, it is considered a primary product in the food basket and one that is replaced by other luxury items when consumers can afford to pay more for food products.

Furthermore, according to the Brazilian Institute of Geography and Statistics (IBGE), rice processing and the manufacture of products derived from rice dropped by 1.1 percent in May 2023 compared to the same month of the previous year. The institute also showed that in September, the Broad Consumer Price Index (considered the inflation) was 0.26 percent, accumulating an increase of 3.50% since the beginning of the year. In addition, rice prices to the end consumer have gone up 3.20 percent in September, which ultimately leads to a decrease in consumption.

# WHEAT

## Production, Supply, and Distribution

**Table 4**  
*Production, Supply, and Distribution of Wheat*

Wheat	2021/2022		2022/2023		2023/2024	
Market Year Begins	Oct 2021		Oct 2022		Oct 2023	
Brazil	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
<b>Area Harvested</b> (1000 HA)	2740	2740	3090	3090	3400	3400
<b>Beginning Stocks</b> (1000 MT)	1911	1911	1183	1183	2133	2033
<b>Production</b> (1000 MT)	7700	7700	10600	10600	9800	10200
<b>MY Imports</b> (1000 MT)	6392	6392	5000	5000	5600	5300
<b>TY Imports</b> (1000 MT)	6582	6582	4985	4985	5600	5300
<b>TY Imp. From U.S.</b> (1000 MT)	115	115	334	334	0	0
<b>Total Supply</b> (1000 MT)	16003	16003	16783	16783	17533	17533
<b>MY Exports</b> (1000 MT)	3070	3070	2700	2700	3000	2800
<b>TY Exports</b> (1000 MT)	3105	3105	2689	2689	3000	2800
<b>Feed and Residual</b> (1000 MT)	450	450	550	550	800	700
<b>FSI Consumption</b> (1000 MT)	11300	11300	11400	11500	11500	11600
<b>Total Consumption</b> (1000 MT)	11750	11750	11950	12050	12300	12300
<b>Ending Stocks</b> (1000 MT)	1183	1183	2133	2033	2233	2433
<b>Total Distribution</b> (1000 MT)	16003	16003	16783	16783	17533	17533
<b>Yield</b> (MT/HA)	2.8102	2.8102	3.4304	3.4304	2.8824	3.000

MY = Marketing Year, begins with the month listed at the top of each column  
 TY = Trade Year, which for Wheat begins in July. TY 2023/2024 = July 2023 – June 2024  
 Source: Post Brasilia

## Wheat Production

The arrival of the El Niño weather phenomenon has become one of the biggest hurdles for wheat growers in Brazil this season, as high volumes of rain severely impact crops in the south region, responsible for over 90 percent of the national wheat production.

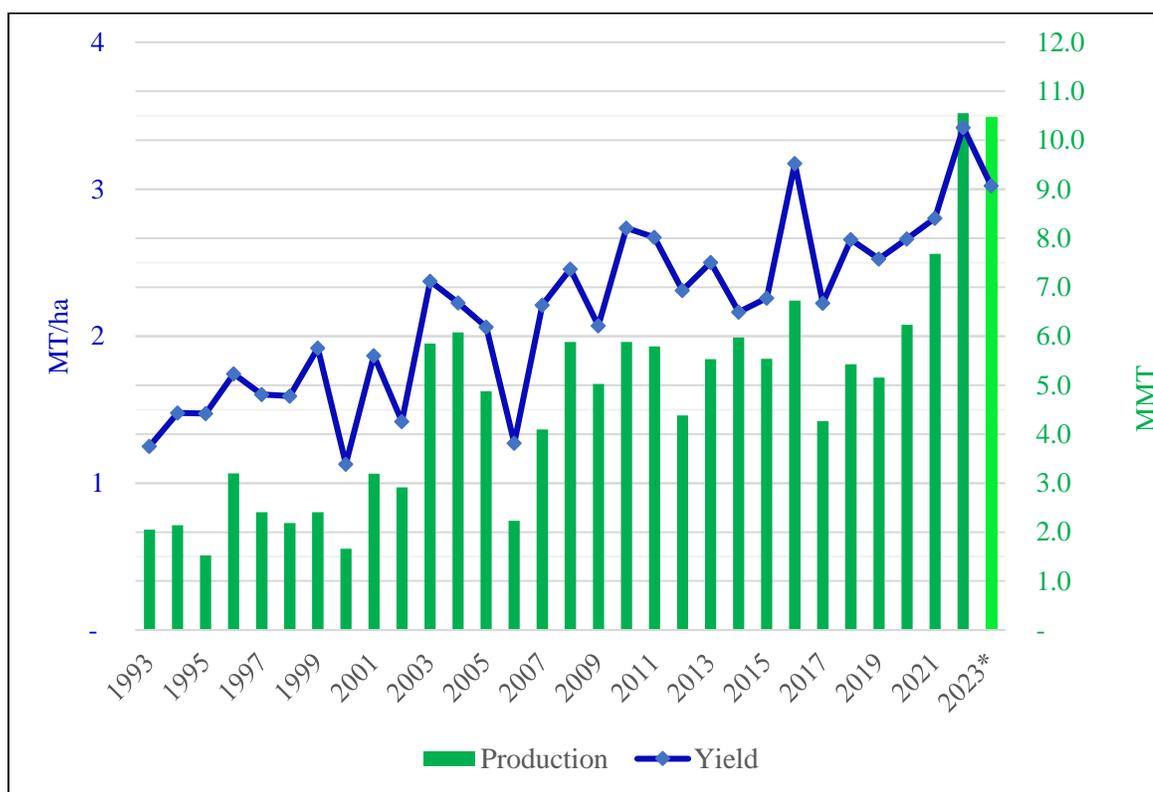
As of early October, the 2023 wheat crop had been 40 percent harvested in the country, mainly in the states of Paraná, Minas Gerais, Mato Grosso do Sul, Bahia, and Goiás. However, Santa Catarina and Rio Grande do Sul were still in the early stages of harvesting. The latter, responsible for almost half of the wheat production of the country, has been particularly affected by regions of waterlogged soils and

humid crops, which have contributed to a high incidence of diseases and impeded the ability of machinery to harvest the fields.

### 2023/2024 Forecasts for Planted Area, Production, and Yield Continue Optimistic

Post maintains its forecast for wheat planted area for MY 2023/24 (October 2023 – September 2024) at 3.4 million hectares, as wheat remains the preferred winter crop in Brazil (June to September). Post decreases its wheat production to 10.2 MMT, down 7 percent from the previous estimate, based on the expectation of lower yields for the 2023/24 season. The El Niño weather phenomenon is expected to continue bringing stress to crops in the primary producing states, which may result in lower productivity throughout the cycle.

**Figure 17**  
*Evolution of Wheat Production and Yield in Brazil*



**Data Source:** National Supply Company (CONAB), with 2023 as estimate; Graph Post Brasilia

### 2022/2023 Season Concluded with Strong Planted Area, Production, and Yield

Post reduced its estimated wheat harvested area for MY 2022/23 (October 2022 – September 2023) to 3 million hectares, down 3.4 percent in relation to the previous estimate. This adjustment was the result of a reduction of area in southern states, affected by severe weather conditions, especially during the harvesting period, where damp soils delayed reaping. Post maintained the estimated production at 10.6

MM for MY 2022/23, adjusting yield to 3.43 metric tons per hectare (MT/ha), over the previous estimate of 3.31 MT/ha, with other producing states offsetting the hurdles faced by main producer Rio Grande do Sul.

### Harvest Outlook

More than 90 percent of the Brazilian wheat crops are planted in three southern states: Rio Grande do Sul, Paraná, and Santa Catarina, with the country sowing most of its wheat between April and August, depending on the region. Still, the planting timeline falls outside USDA’s market year, which runs from October to September of the following year. However, Brazil considers its entire wheat season to run from August to July, so the wheat crop harvest and export occur within the market year parameters.

### Figure 18

*Main Wheat Producing States, 2023*



*Data Source: National Supply Company (CONAB); Graph Post Brasilia*

- **Rio Grande do Sul**: After suffering from long periods of heavy rains, the state is in the early stages of reaping the 2023/24 wheat crop, with progress being made during times of stable weather and high temperatures, especially in the northeastern regions of the state. However, the excessive humidity has contributed to the spread of fungal diseases, especially fusarium head blight, which has threatened the productive potential of the crop. Post analysts have also indicated a potential for

loss of grain quality, which could result in wheat being ultimately used for feed stock. Depending on the region within the state, the Technical Assistance and Extension Services Enterprise (EMATER/RS) has calculated crop planted area losses varying from 2 to 7 percent and a reduction of productive potential in some areas that may reach 20 percent. The heavy rains have impeded the application of defensives against pests, contributed to the excessive humidity of the plants, and are now hindering the entrance of machinery in the fields due to damp soils.

- **Paraná**: With the harvest having advanced in around 60 percent of the area by the end of September, the Department of Rural Economy (DERAL/PR) reduced the production forecast by 330 thousand tons, bringing Paraná's wheat harvest to 4.16 million tons due to the occurrence of wheat blast fungus attacks. Even so, wheat production in Paraná is expected to grow 18 percent compared to last season (2021/22) and is considered a record. According to DERAL, for crops still to be harvested, conditions are good in 70 percent of the area, while 5 percent are poor, and the remaining 20 percent are average.
- **Santa Catarina**: The state's yield and planted area are lower than in the previous harvest. Although farmers have managed to control incidences of pests in the early stages of plant development, some fields have suffered from high temperatures.

### Infrastructure Remains the Bottleneck of Brazil's Agriculture and Impact Grain Prices

The record grain harvest in Brazil for the 2022/23 season has once again shed a negative light on the infrastructure hurdles Brazilian farmers face. With warehouses and silos still filled with soybeans, mountains of grains were left out in the open as producers leveraged between selling at lower prices to avoid losses or holding off, in the expectation of higher profitability, which might not materialize.

According to a study by the Group of Research and Extension in Agroindustrial Logistics at the Luiz de Queiroz College of Agriculture (ESALQ LOG/USP) for the Brazilian Confederation of Agriculture and Livestock (CNA), 61 percent of Brazilian farms lack proper structures to store the country's grain production. Of the remaining farms (38.9%), 19.8 percent have a conventional or granary silo, 9.2 percent use silo bags as a complement, and 9.9 percent rely solely on silo bags. The shortage of storage space is a significant obstacle for Brazilian farmers, as grains are vulnerable to high temperatures, rain, and animal attacks when left out in the open.

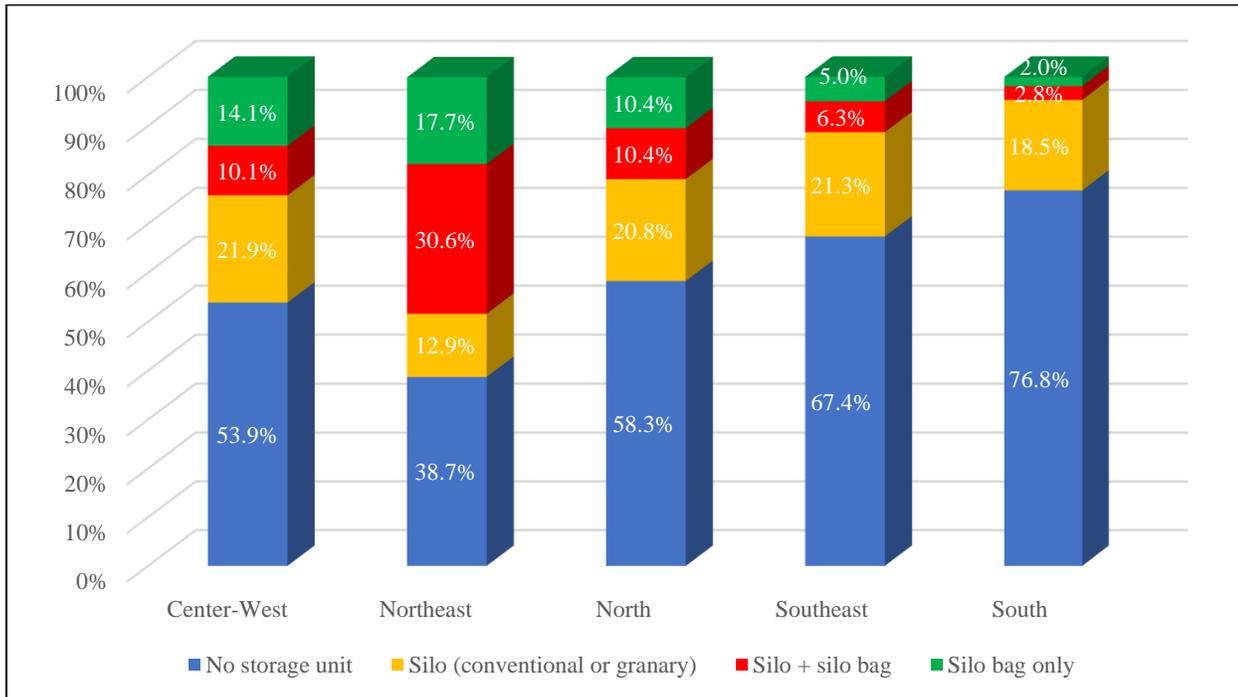
The Brazilian Association of Machinery and Equipment Industry (ABIMAQ) estimates Brazil currently has a storage deficit of 118.5 million tons, while ESALQ LOG/USP projects an even higher figure of almost 125 million tons. To prevent the storage deficit from increasing, Brazil needs to invest R\$ 15 billion per year, according to ABIMAQ.

According to CONAB, Brazil's total grain harvest in 2022/23 is estimated at 322.8 MMT, an increase of 50.1 MMT in relation to the previous cycle (2021/22). The company also estimates that Brazil has a static storage capacity in Brazil in 2023 of only 190.9 MMT. With a record second-season corn crop, farmers still have silos filled with soybeans. Aside from selling at a lower profit margin, corn takes up two and a half more space than soy and demands double the time to dry. As such, producers favor the storage of soybeans. In 2022, only 15 percent of Brazil's grain storage capacity was located in farms,

with the remainder located in urban and industrial areas, mostly administrated by cooperatives and traders. In addition, almost 77 percent of producers in the south region of Brazil claim not to have storage units on their farms, while 39% of those in the northeast have no form of storage.

**Figure 19**

*Types of Storage Units in Brazil, per region (2022)*



**Data source:** Group of Research and Extension in Agroindustrial Logistics at the Luiz de Queiroz College of Agriculture (ESALQ LOG/USP) & Brazilian Confederation of Agriculture and Livestock (CNA); Graph Post Brasilia

The average capacity of the warehouses on the properties is 159,300 bags (9.5 thousand tons), with the Center-West region having the highest average capacity of 214,592 bags (12.8 thousand tons). In contrast, the Northeast region has the lowest average capacity of 13,500 bags (810 tons). The South region registered an average capacity of 141,565 bags (8.4 thousand tons). Finally, according to the ESALQ LOG/USP, 42 percent of the farmers claim to store their products in their silos for 4 to 6 months on average, while 22.5 percent store them for 7 to 9 months and 2.3 percent for more than 12 months.

Freight transportation for agricultural products has been on an upward trend until September, with the expectation of lowering prices from October until the beginning of Brazil’s summer harvest in February 2024. The increase in freight costs is due to the increase in corn exports and the need to empty soybean and corn stocks, as well as the volatility in diesel oil prices. The logistics used to move corn and soy on Brazilian roads and ports also severely impact other commodities and inputs, such as the transportation of fertilizers once they arrive at ports.

According to ESALQ LOG/USP, the average freight price for transporting grains between Sorriso (Mato Grosso) and Miritituba (Pará) in July was R\$ 316.77 per ton. For August, the forecast was R\$ 336.10. In October, it is expected to drop to R\$ 278.33 per ton, but still above the R\$ 266 registered in the same month in 2022. The Mato Grosso Institute of Agricultural Economics (IMEA) points out that short-haul freight (from the farms to silos and nearby cities) from Sorriso to Rondonópolis, a distance of approximately 610 kilometers (379 miles), saw an increase of 13.6 percent in July.

In addition, the average distance traveled between the farm and the warehouse contracted to deliver the product also impacts producer profit margins. For example, in Piauí and Maranhão, the average distance varies between 100 and 110 kilometers (62 and 68 miles, respectively). The state with the lowest average distance between the farm and outsourced warehouses is Rio Grande do Sul, with 16 kilometers (10 miles).

CONAB showed that freight costs increased by 13 percent from June to July this year in the state of Mato Grosso and estimated an increase in freight prices in the state of Mato Grosso do Sul, especially in the second half of July, due to increased demand for corn and soybean in domestic and international markets. An upward trend was also seen in Goiás and Tocantins, where there is a lack of trucks to sustain the high demands.

Regarding the transportation of fertilizers, a price spike is expected in October, when shipments usually arrive to cover the planting of the summer crop. On the port route from Paranaguá (Paraná) to Rondonópolis (Mato Grosso), the projection is to reach R\$ 270.65 per ton. In July, the average was R\$ 224.20 per ton.

### [Brazil Unveils Annual Agricultural Plan to Foster Development of Sustainable Agriculture and Support Production](#)

In June, the Brazilian government announced the resources for the "Plano Safra" agricultural plan for the period 2023/2024. The plan aims to support medium and large rural producers until June 2024. This year, the government has allocated R\$ 364.22 billion to the program, which is an increase of 26.8 percent compared to last year's plan. The government's objective with this Plano Safra is to promote environmentally sustainable production systems by offering lower interest rates for pasture recovery and rewards for those who adopt more sustainable agricultural practices. In addition, the Program for Financing Sustainable Agricultural Production Systems (RenovAgro), which will receive nearly R\$ 7 billion in credit, will finance investments that help adapt to climate change and reduce carbon emissions in agriculture.

There are other financing schemes as well, such as the National Support Program for Medium Rural Producers (Pronamp), which offers lower interest rates for the acquisition of agricultural machinery and equipment. The government also plans on expanding the Program for Construction and Expansion of Silos (PCA) by increasing the volume of resources by 81 percent for the construction of storage facilities with a capacity of up to six thousand tons and 61 percent for storage facilities with greater capacity. The funds allocated to the PCA for the 2023/2024 harvest is R\$ 6.65 billion. Additionally, the Plano Safra will increase by 30 percent the amounts allocated to the Financing Program for Irrigated Agriculture and

Protected Cultivation (Proirriga), which finances investments related to all items inherent to irrigation systems, including electrical infrastructure and the construction of a water reservoir.

Despite the increase in spending by the Brazilian government for this year's Plano Safra, a technical study by the Confederation of Agriculture and Livestock of Brazil (CNA) shows that 26 percent of rural producers are unaware of the credit lines available for building warehouses.

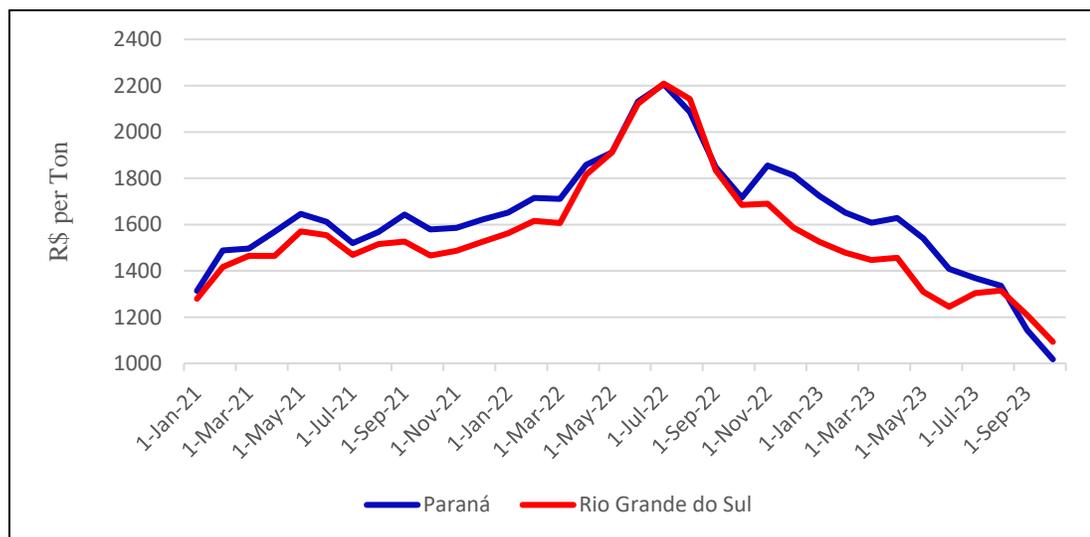
### Wheat Prices Continue on a Downward Spiral

Since August, the milling industry has been making only small purchases while waiting for the new harvest to reach the market. In Paraná, the monthly average price of wheat was R\$ 1262 (US\$ 257) per ton in August, which dropped to an average of R\$ 1065 (US\$ 215) per ton in September. Similarly, in Rio Grande do Sul, the monthly average for wheat was R\$ 1282 (US\$ 261) per ton in August, but the average fell to R\$ 1150 (US\$ 232) per ton in September. The decrease in prices was influenced by the ample global supply, which was driven by the harvest in the Northern Hemisphere, as well as the competitive prices adopted by the Russian market.

The federal government stipulated the purchase price of wheat under the Minimum Price Guarantee Policy (PGPM), which allows producers to sell their wheat to CONAB when market prices are below the minimum value stipulated by the government. After the acquisition, the grain can be stored in CONAB's own warehouses or storage units accredited by the company. This strategy aims to ensure product availability and market stability while helping to ensure producers' income in these states. Wheat prices were set at R\$ 87.77 per 60kg/bag (R\$ 1462.83 per ton) for the South Region, R\$ 90.45 per 60kg/bag (R\$ 1507.5 per ton) for the Southeast Region, and R\$ 94.96 per 60kg/bag (R\$ 1582.66 per ton) for the Center-West Region and Bahia. The measure also aims to stimulate planting outside of traditional southern states.

**Figure 20**

*Average Wheat Prices in Paraná and Rio Grande do Sul*



*Data Source: Center for Advanced Studies in Applied Economics (CEPEA); Graph Post Brasilia*

## Wheat Trade

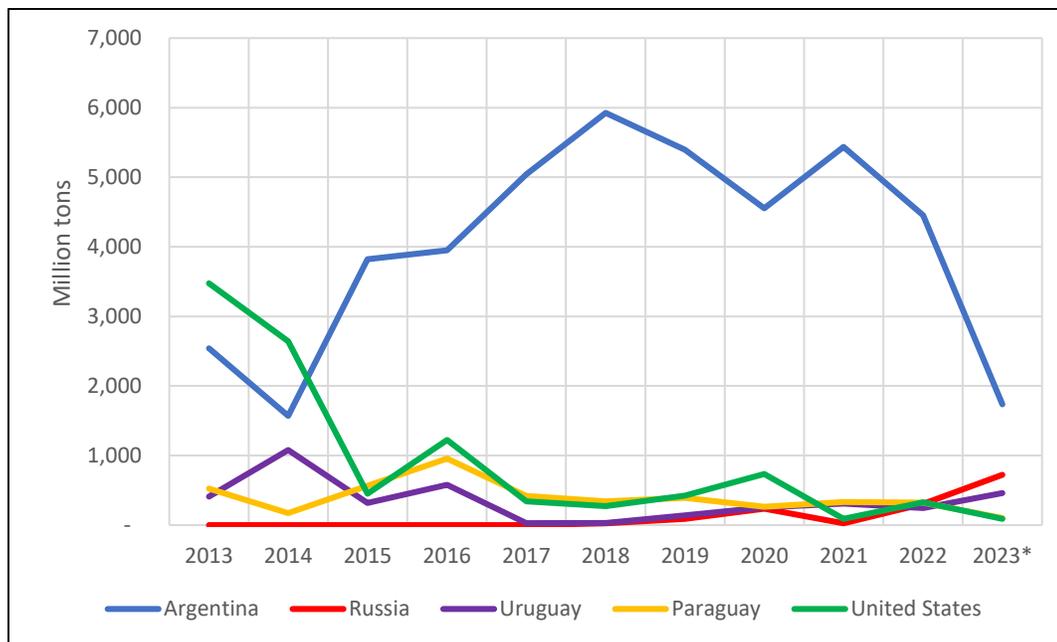
### 2023/2024 Exports to Rise Following Increased Production

Post lowers its forecast for wheat export for MY 2023/24 (October 2023 – September 2024) to 2.8 MMT, from its previous estimate of 3.4 MMT, on a wheat grain equivalent basis (WGE), given the expectation of lower production and the ongoing logistical difficulties to export wheat from southern ports, which compete with high volumes of soy exports. Note that USDA uses WGE for trade numbers, which, in addition to wheat grain, include flour and wheat product volumes adjusted on a wheat grain equivalent basis.

Post decreases its wheat imports forecast for MY 2023/24 to 5.3 MMT on a wheat grain equivalent basis (WGE), down 5.4 percent over the previous estimate. This adjustment is a reflection of a projected decrease in planted area in Argentina, which is Brazil's leading source of wheat imports.

### Figure 21

*Main Origin of Wheat Imports to Brazil (2013 - 2023)*



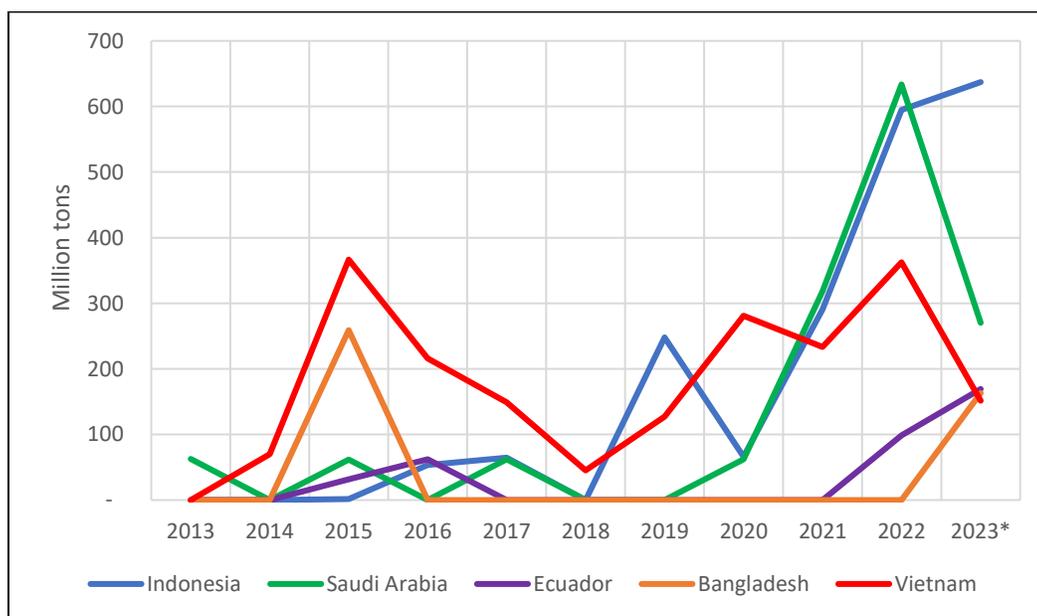
**Data Source:** Ministry of Industry, Foreign Trade and Services (MDIC), with 2023 estimated until September; Graph Post Brasilia

## 2022/2023 Exports and Imports

For MY 2022/23 (October 2022 – September 2023), Post slightly readjusted its estimated wheat export to 2.7 MMT on a wheat grain equivalent basis (WGE) from the previous 2.8 MMT, based on the end of the peak period of exports for wheat in Brazil. Indonesia was the main destination of Brazilian wheat during MY 2022/23, with Brazil exporting 871.7 thousand tons from October 2022 to September 2023, followed by Saudi Arabia (405.1 thousand tons), Vietnam (261.6 thousand tons), Bangladesh (162.9 thousand tons), and Ecuador (169.2 thousand tons).

**Figure 22**

*Main Destinations of Brazilian Wheat (2013 - 2023)*



*Data Source: Ministry of Industry, Foreign Trade and Services (MDIC), with 2023 estimated until September; Graph Post Brasilia*

Post revised its estimate for wheat import MY 2022/23 (October 2022 – September 2023) to 5 MMT, down from its previous estimate of 5.1 MMT on a wheat grain equivalent basis (WGE), based on the updated trade lineups and Brazil's record wheat production. Argentina remains the biggest wheat exporter to the Brazilian market, having sent to Brazil during MY 2022/23 (October 2022 to September 2023) 2.2 MMT of wheat, followed by Russia (782.4 thousand tons), Uruguay (458.5 thousand tons), United States (205.6 thousand tons), and Paraguay (151.8 thousand tons).

## Wheat Consumption

Post revises its forecast for total wheat consumption for MY 2023/24 (October 2023 – September 2024) to 12.3 MMT, down from its previous estimate of 12.7 MMT. The decrease is based on a readjustment of the food, seed, and industrial consumption, set at 11.5 MMT for MY 2022/23 and 11.6 MMT for MY 2023/24. The first wheat ethanol plant in Brazil is expected to open in Rio Grande do Sul in 2024, with a forecasted processing capacity of 750 tons of wheat per day. The company expects to generate an annual production of 111 million liters of ethanol (see [Biofuels Annual Brasilia Brazil BR2023-0018](#)).

With the record production of corn and excess supply in the domestic market, given the low sale prices, Post contacts have indicated difficulties in selling corn surplus, and the grain will likely remain the preferred option for the feed industry.

Still, some local producers in Minas Gerais have adopted wheat for the production of silage during the corn off-season, intended for cattle feed. The option to use wheat instead of corn silage is mainly due to the growing concern about corn stunt, a disease that has caused significant losses in crops. In addition, comparing costs, planting a hectare of wheat is considerably cheaper (around R\$ 2,000) compared to second-season corn (approximately R\$ 7,000) in the state. The proposal is to diversify corn silage with wheat silage and take advantage of the benefits of each one since crop rotation is essential to guarantee success in wheat cultivation.

### **Attachments:**

No Attachments