Required Report: Required - Public Distribution **Date:** April 10, 2023

Report Number: BR2023-0008

Report Name: Grain and Feed Annual

Country: Brazil

Post: Brasilia

Report Category: Grain and Feed

Prepared By: Marcela Formiga

Approved By: Joseph Degreenia

Report Highlights:

Brazilian corn and wheat productions continue to exceed expectations, setting record-breaking harvests. In contrast, Brazil is expected to produce its lowest rice crop in 25 years due to a period of prolonged drought in the south and low profitability for farmers. Post sets its initial forecast for corn planted area for MY 2023/24 (March 2024 – February 2025) at 22.8 million hectares (ha), a 1.3 percent increase on the current season, with production increasing 6.4 percent from the MY 2022/23 estimate, set at 125 MMT. Post projects its initial milled rice production at 10.13 MMT of paddy rice. This represents a 1.7 percent drop compared to the previous season and is consistent with the decrease in planted area. Meanwhile, wheat production for MY 2023/24 is projected to increase by almost four percent compared to the 2022/23 estimate, reaching 11 MMT.

CORN

Production, Supply, and Distribution

Table 1
Production, Supply, and Distribution of Corn

Corn	2021/2022		2022/2023		2023/2024	
Market Year Begins	Mar 2022		Mar 2023		Mar 2024	
Brazil	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	21,800	21,700	22,700	22,500	0	22,800
Beginning Stocks (1000 MT)	4,153	4,153	3,753	2,253	0	5,053
Production (1000 MT)	116,000	116,000	125,000	125,000	0	133,000
MY Imports (1000 MT)	2,600	2,596	1,300	1,300	0	1,200
TY Imports (1000 MT)	3,320	3,320	1,600	1,600	0	1,500
TY Imp. from U.S. (1000 MT)	1	1	0	0	0	0
Total Supply (1000 MT)	122,753	122,753	130,053	128,553	0	139,253
MY Exports (1000 MT)	48,500	48,278	50,000	50,000	0	54,000
TY Exports (1000 MT)	32,439	32,439	52,000	52,000	0	51,000
Feed and Residual (1000 MT)	59,500	61,000	61,500	61,500	0	62,500
FSI Consumption (1000 MT)	11,000	11,000	11,500	12,000	0	15,000
Total Consumption (1000 MT)	70,500	72,000	73,000	73,500	0	77,500
Ending Stocks (1000 MT)	3,753	2,253	7,053	5,053	0	7,753
Total Distribution (1000 MT)	122,753	122,753	130,053	128,553	0	139,253
Yield (MT/HA)	5.3211	5.3456	5.5066	5.5556	0	5.8333
MY = Marketing Year, begins with the month listed at the top of each column TY = Trade Year, which for Corn begins in October. TY 2023/24 = October 2023 - September 2024 Source: Post Brasilia						

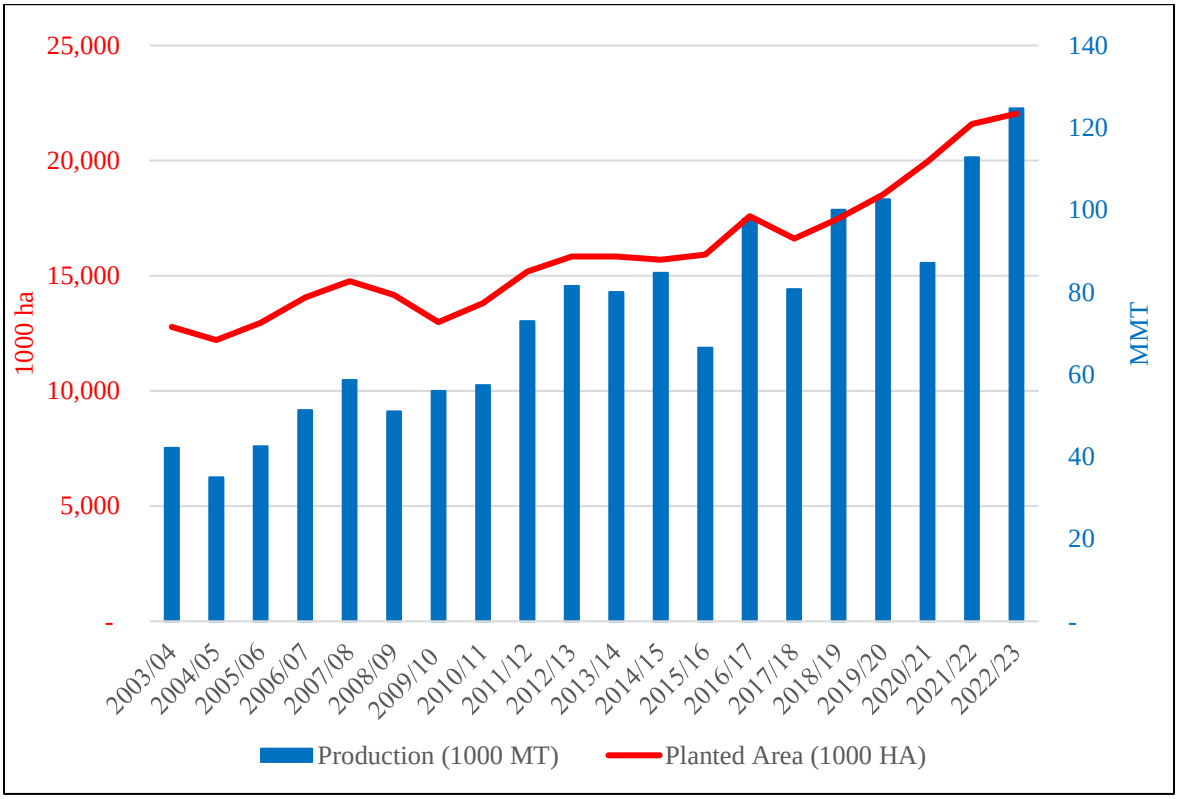
Corn Production

Brazilian corn production continues to exceed expectations, with another record-breaking harvest. With high demand for corn both domestically and internationally, farmers remain optimistic about continuing planting, resulting in an increase in expected planted area next season. However, Brazil’s logistic burdens, lack of storage facilities, and transportation challenges methods, aligned with higher production costs, remain a hurdle that could hamper the country’s production numbers.

MY 2023/24 Planted Area, Production, and Yield Expected to Rise

Post sets its initial forecast for corn planted area for MY 2023/24 (March 2024 – February 2025) at 22.8 million hectares (ha), a 1.3 percent increase on the current season. This expansion is based on the continued interest in corn domestically and in international markets, which stimulates farmers to continue investing in this crop. Furthermore, relying on planting the second season corn within the ideal planting window and favorable weather patterns, Brazil is set for another record-breaking corn season in MY 2023/24. Under these conditions, Post sets its initial forecast for corn production at 133 MMT, up 6.4 percent from the current season estimate, with corn yield for MY 2023/24 set at 5.83 MT/ha.

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



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

MY 2022/23 Planted Area, Production, and Yield Expected to Rise

Post slightly adjusts its production estimate down for MY 2022/23 (March 2023 – February 2024) to 125 MMT from its previous 125.5 MMT based on adverse weather conditions that affected the soybean harvest, consequently delaying the planting of corn in key producing states, such as Mato Grosso. Brazilian farmers in various states traditionally plant corn immediately after the soybean harvest. While this optimizes costs and allows for year-round crops, a delay in the harvest of soy causes farmers to push sowing corn outside the ideal planting window, which can result in corn maturing during the winter season (June to September), causing the plants to be more susceptible to frost and other harmful weather

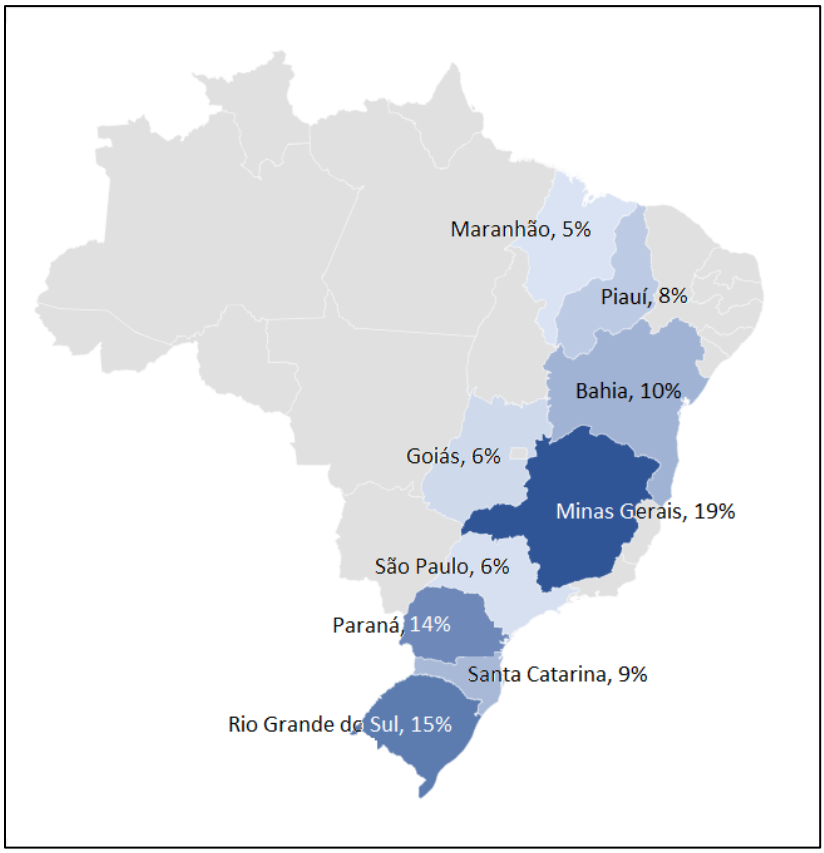
conditions which may affect yield. Post, therefore, revises its yield estimate to 5.55 MT/ha from its previous 5.57 MT/ha for MY 2022/23. However, despite the delay in sowing, farmers have indicated continued interest in planting corn, so Post expects planted area to remain set at 22.5 million hectares, the same as the previous estimate.

Harvest Outlook

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 21.5 percent of all corn production in the country, according to data from the National Supply Agency (CONAB).

Figure 2
First Season Corn: Main Producing States, 2022/23



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

- **Minas Gerais**: Accounting for approximately 19 percent of first season production, the state has registered some incidences of attacks of leafhoppers (*Dalbulus maidis*), which might hinder production, but the forecasts are still higher than the previous season.

- **Rio Grande do Sul**: According to the Association of Technical and Rural Extension Enterprises of Rio Grande do Sul (EMATER/RS), the state has planted 810,380 hectares of corn with yield of 4.44 MT/ha. This represents a reduction of almost 40 percent in relation to the initial projection for the season. Yield was affected by insufficient moisture in the summer months (December to March). In regions hit by drought, farms were affected during the vegetative phases, making production unfeasible. Still, the state is responsible for the country's second-largest production of first crop corn, followed closely by Paraná.

- **Paraná**: Responsible for approximately 14 percent of the production of first season corn, CONAB estimates that Paraná will produce 9.5 MMT, despite excess humidity that affected part of the crops at the beginning of the cycle and drought that hit the far west of the state.

- **Santa Catarina**: The southern state accounts for approximately 9 percent of the country's first corn production and is estimated to decrease in area compared to the previous season. CONAB estimates that yields throughout the state vary from 4.6 MT/ha to 8.0 MMT/ha in some areas.

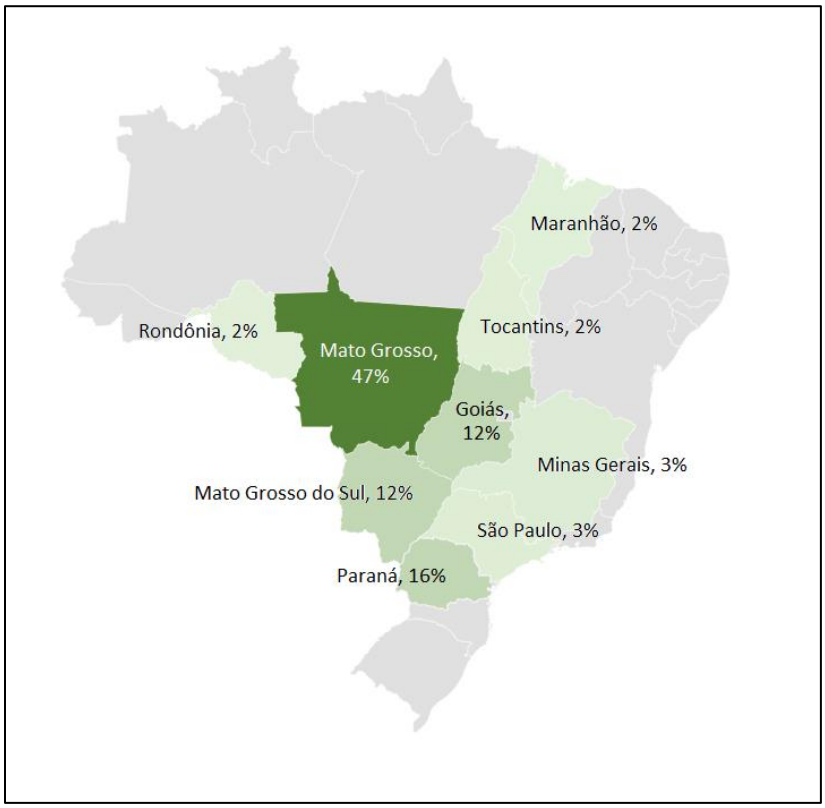
- **Piauí**: As of March 11th, the crops are in the phases of vegetative development, flowering, and grain filling, with the state expecting increased area. Piauí is one of two (along with Maranhão) states in the Northeast region of Brazil that plant first season corn, accounting for an estimated 8 percent of production in the 2022/23 season.

- **Bahia**: The state is set to produce 499.2 MT of first season corn this season, an increase of 13.5 percent, according to data from CONAB. This means that the northeastern state is now responsible for almost 10 percent of the country's first crop corn production. Most crops are developing well, with only some regions of the state presenting lower-yielding crops.

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, planted to support the cultivation of soybeans. However, with the expansion of soy fields, safrinha crops have increased significantly and now account for most of the production (roughly 77 percent in the 2022/23 harvest estimate).

Figure 3
Second Season Corn: Main Producing States, 2022/23

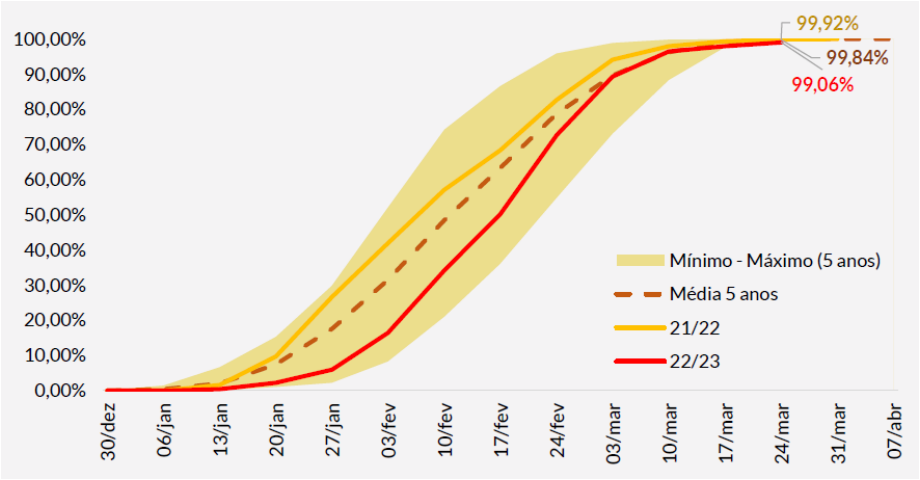


Data source: *National Supply Agency (CONAB); Graph Post Brasilia*

- **Paraná:** Accounting for around 16 percent of the production of second season corn, Paraná's crops are being hit with excessive rains. This is delaying planting and hindering the application of pesticides, leaving crops open to attacks of pests, especially leafhoppers (*Dalbulus maidis*). This threat might lead farmers to turn to winter crops instead, exchanging corn for wheat or barley, for example. In addition, if the corn is planted outside the ideal window, they cannot access crop insurance. On the other hand, wheat is usually planted in Paraná from April to July, depending on location, so it is a viable option amid the sowing delay.

- **Mato Grosso**: With almost half of the country's second season corn production, Mato Grosso is an agricultural powerhouse. According to data from the Mato Grosso Institute of Agricultural Economics (IMEA), as of March 24th, the safrinha corn planting is nearing completion, with 99.06 percent planted compared to 99.92 percent in the previous harvest and against the 99.84 percent average of the last five years. However, persistent rains delayed the sowing of the soy harvest in the state, resulting in the late sowing of a portion of the second corn crop.

Figure 4
Evolution of Corn Planted Area in the State of Mato Grosso



***Data Source**: Mato Grosso Institute of Agricultural Economics (IMEA)*

- **<u>Mato Grosso do Sul</u>**: High volumes of rain are also affecting the sowing of corn in this state, which is responsible for almost 12 percent of the production of second season corn, a little ahead of Goiás. With soggy soil, sowing has been difficult in the state, which is also apprehensive over the appearance of leafhoppers. CONAB estimates that Mato Grosso do Sul will produce 11.2 MMT, with a yield of 5 MT/ha.

- **<u>Goiás</u>**: With an estimated production of 1.7 MMT, sowing has been in full force following the soy harvest. A delay in the initial soy season resulted in around 20 percent of the second season corn in the state to be planted outside the ideal harvest window, which might reduce planted area. However, CONAB estimates a 41 percent increase in productivity, with yield reaching 6.4 MT/ha.

Table 2
Sowing Progress of Second Season Corn

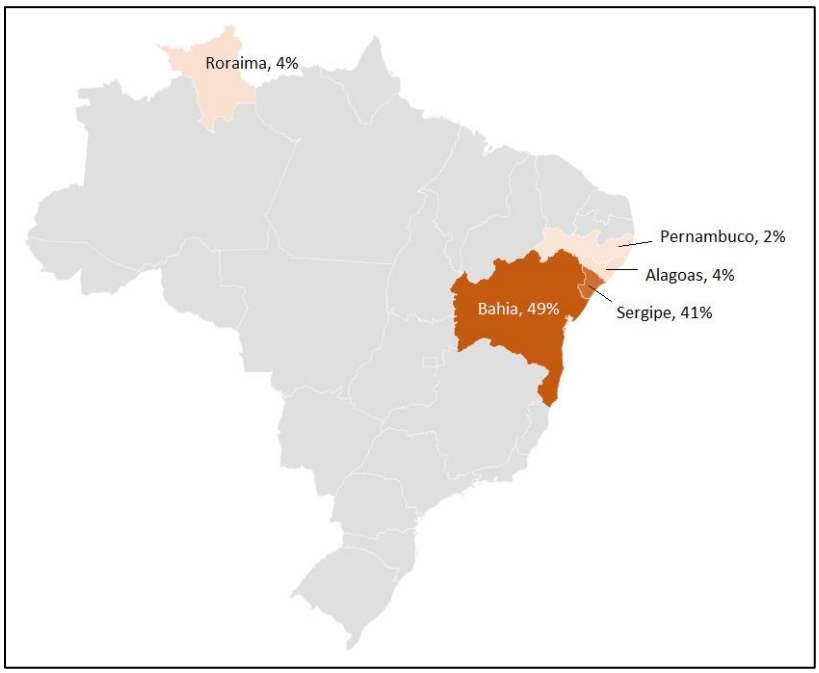
State	2022	2023	
	12-Mar	4-Mar	11-Mar
Goiás	98%	80%	90%
Piaui	75%	40%	60%
Tocantins	98%	80%	95%
São Paulo	45%	12%	12%
Minas Gerais	75%	45%	62%
Maranhão	75%	50%	80%
Mato Grosso do Sul	86%	28%	43%
Mato Grosso	98%	92%	96%
Paraná	69%	27%	40%
9 states	**87.4%**	**63.6%**	**72.5%**

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

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 3.5 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, 2022/23



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

Production Costs Remain High amid Brazil's Logistical Hurdles

The Federation of Agriculture of the State of Rio Grande do Sul (FARSUL) released new figures on the production cost and the prices received by the rural producers in the state, measured for the major commodities through the so-called Production Costs Inflation Index (IICP) and the Index on Inflation of Prices Received by Rural Producers (IIPR). The first determines the variation in the cost of production, and the latter defines the variations in prices received by producers.

The year began with a drop in agribusiness production costs, as recorded by the IICP. January 2023 saw a decline of 3.31 percent, continuing the sequence of decreases that began in June 2022, mainly due to the 12 percent drop in the cost of fertilizers. However, it should be noted that agricultural production costs in the state are still higher than before 2021 when Rio Grande do Sul saw a sharp upsurge in

production costs. On the other hand, the Index on Inflation of Prices Received by Rural Producers (IIPR) increased by 0.18 percent in the first month of this year compared to December 2022, especially in rice and corn. Between January 2022 and January 2023, the IIPR reached 3.90 percent in the accumulated for the period.

Brazilian farmers suffer the added burden of the high cost of transportation and lack of grain storage capacity. Brazil´s cargo transportation matrix comprises roughly 65 percent roads, 15 percent railway, and 15.7 percent boat/barges, according to the National Transport Confederation (CNT). In its 2022 study on the conditions of the roads in Brazil, CNT found that 66 percent of the roads were classified as in "regular, bad, or terrible" conditions, with the majority being one-lane highways with poor paving and signage. In addition, many of the roads are still unpaved, and the dirt sections compromise transportation, especially during rainy periods.

The immense size of the country also makes it difficult and burdensome to transport commodities, aside from requiring a large fleet of trucks. In recent harvests, the availability of trucks has not kept up with the growth of grain production. The strong demand for trucks to transport grains, especially soy, may likely increase the freight costs of the second crop corn in the coming months. The same issue is likely to happen with silos, with corn threatening to lose storage space for soy.

Farmers consulted by Post have indicated that many have started investing in building their own silos and storage space. Faced with the impossibility of acquiring new land to grow crops due to high costs or lack of availability, many farmers are focusing on improving their properties to reduce the bottlenecks and expenses resulting from logistical issues.

The Brazilian Association of the Machinery and Equipment Industry (ABIMAQ) estimates that the grain storage deficit in Brazil in 2023 will be 115 million tons. Furthermore, they estimate this will continue to rise on average by five million tons per year due to the increase in Brazilian production. For the association, Brazil may run out of storage units already in the harvest of first season crops for the first time in history. Traditionally, growers tend to store second season crops out in the open when they overlap with first season harvests and storage facilities are already full.

According to data from Mato Grosso do Sul Soy and Corn Producers Association (APROSOJA/MS), producing corn in that state has become almost 30 percent more expensive. Investments for one hectare total R$ 5,600 compared to the previous cycle of R$ 4,400. The main increases were in agricultural adjuvants added to pesticides (172%), herbicides (109%), and seeds (63%), while insecticides and inoculants were the only items that decreased in price.

During its monthly survey, the Mato Grosso Institute of Agricultural Economics (IMEA) also increased its production cost for the state. While fertilizer costs continue taking the leading share of expenses, farmers have seen an overall increase in the price of inputs and services. In addition, agricultural production costs remain strongly influenced by volatile internal and external uncertainties since many of the required inputs, such as machinery and seeds, are imported, so their prices will vary with the volatility of the domestic currency (the 'real' - R$).

Table 3
Cost of Corn Production in Mato Grosso

Harvest	2019/20	2020/21	2021/22	2022/23	2023/24*
Year	2019	2020	2021	2022	2023
(R$/ha)	Consolidated	Consolidated	Consolidated	December	January
Seeds	429.88	445.42	554.43	670.53	638.50
Fertilizers	684.96	735.63	1,168.51	1,816.57	1,719.72
DEFENSIVES (Fungicide, Herbicide, Insecticide, etc.)	328.16	398.17	469.15	585.83	850.91
MECHANIZED OPERATIONS (Planting, Fertilizing, Applications with Machines, Harvesting...)	101.03	84.05	109.63	161.99	137.32
Third-Party Services	18.22	2.09	1.73	3.00	2.94
Labor	98.75	72.99	76.91	83.05	125.72
Maintenance	109.93	106.13	106.47	109.97	160.48
Taxes and Fees	104	90.59	108.19	118.33	118.72
Financing and Insurances	176.54	160.18	214.02	276.71	303.47
POST-PRODUCTION (Classification and Processing, Storage, Production Transport)	277.74	286.26	278.6	288.55	318.28
OTHER COSTS (Technical Assistance, Utilities, Fuel, General Expenses)	58.9	69.46	84.29	97.43	120.74
Lease	94.72	132.3	210.01	208.66	245.29
DEPRECIATION (of Equipment, Utilities, and Improvements)	167.17	196.96	198.41	202.72	341.99
Family Labor	50.66	59.83	60.97	61.64	71.66
OPPORTUNITY COST (Working Capital, Improvements, etc.)	360.37	538	754.53	925.79	1,109.68
TOTAL	**3,061.04**	**3,378.06**	**4,395.84**	**5,610.78**	**6,265.42**

***Data Source**: Mato Grosso Institute of Agricultural Economics (IMEA), costs in R$/ha, with 2023/24 as estimates; Chart Post Brasilia*

Corn Prices Remain Stable, Highly Influenced by Soy

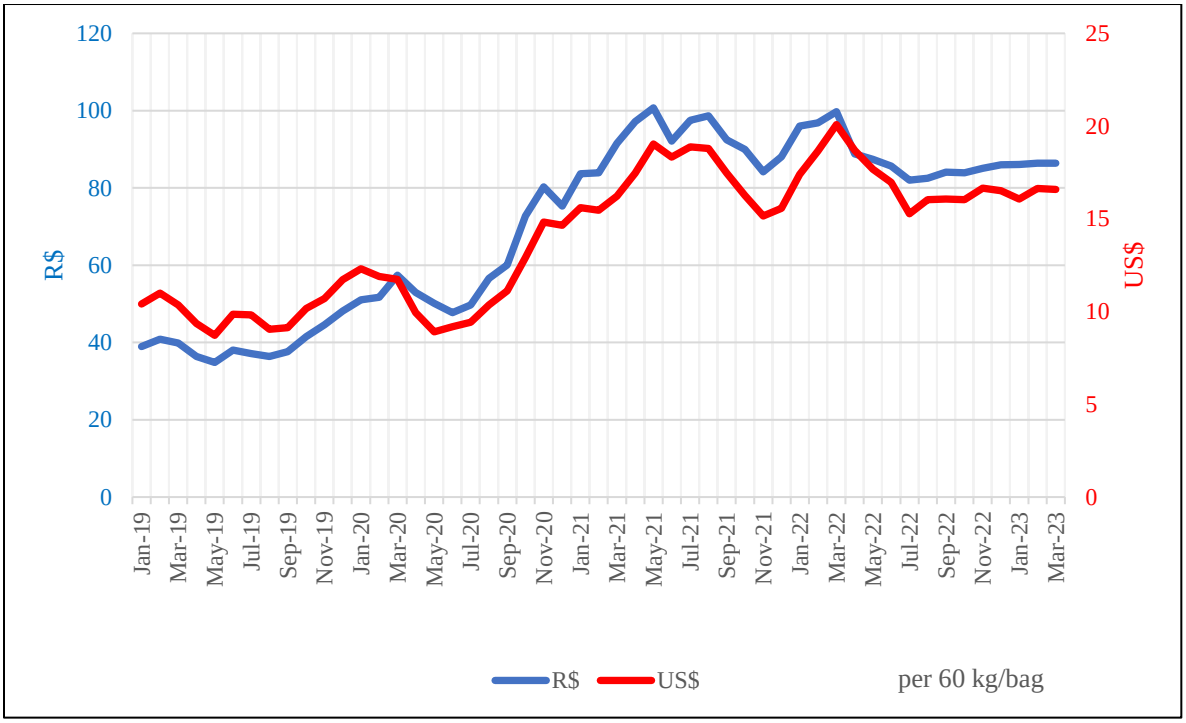
During the month of February, the Brazilian corn market experienced few altered quotations. The focus was on the soybean harvest and planting of the safrinha corn. With the soybean harvest reaching numbers above the expectation, the results are bottlenecks in the already complicated Brazilian logistical matrix, affecting mainly the corn chain. To make room to store soy, producers continue with the corn trade, not only within domestic markets but mainly focused on exports. This condition helps corn consumers to stock up in the short term and maintains the internal price stable. As such, for the moment, negotiations have been mainly on the spot and only to replenish stocks.

The Brazilian Ministry of Finance has estimated a 1.61 percent growth in the Brazilian Gross Domestic Product (GDP) in 2023. The government's expectation represents a slowdown compared to 2022 when the economy recorded a 2.9 percent increase. According to the government, the economic recession this year is related, among other factors, to the rise in interest rates by the Central Bank to combat inflation. For 2024, the Ministry of Finance projected a growth of 2.34 percent for the Brazilian GDP. Nevertheless, the federal government's estimate was well above the financial market's projection, which closed at an increase in GDP of 0.89 percent for 2023 and 1.5 percent for 2024.

The Ministry of Finance projected inflation to reach 5.31 percent this year, well above the ideal target of 3.25 percent. For 2024, the government’s forecast is for inflation to reach 3.52 percent. The higher the inflation, the lower the purchasing power of the population, especially those earning lower wages, since the prices of products increase at a higher proportion than the salaries.

On March 15, corn was traded in the ESALQ/BM&FBovespa Index at R$85.49 (US$ 16.15) per 60-kilo bag, 0.7 percent lower than on the first day of 2023. While this slight change shows a steady maintenance of the price through the beginning of the current year, it represents a 17 percent drop from the same day last year, when it was traded at R$ 103.87 (US$ 20.15).

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*

Corn Trade

With Record Production, 2023/24 Corn Exports Expected to Increase, While Imports Drop

The good pace of Brazilian corn exports at the beginning of this year, when compared to the same period in 2022, is generating positive expectations for the coming market year. This is due to the expected increase in average international prices as a reflection of the heated demand for food and also the strong inflationary pressure caused by the restriction in the global supply of grains. As such, Post sets its initial corn export forecast for MY 2023/24 (March 2024 – February 2025) at 54 MMT, up 8 percent from this season's estimate.

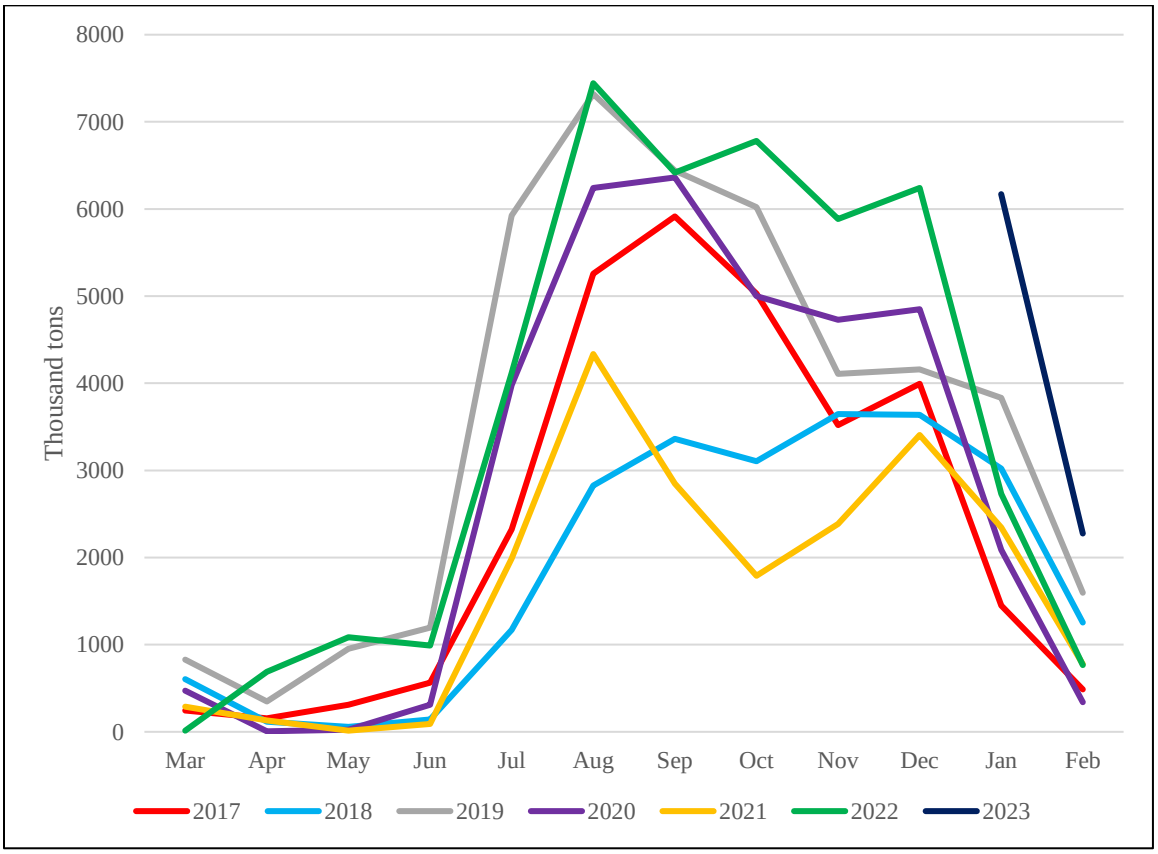
Post sets its initial corn import forecast MY 2023/24 at 1.2 MMT. This represents a slight drop from the previous season and is based on the perspective of more extensive national production, which will help supply the livestock and feed industry. However, if production is lower, Brazil might need to increase its imports to meet internal demand.

2022/23 Corn Exports Expected to Increase, While Imports Drop

Post increases its estimate for corn exports for MY 2022/23 (March 2023 – February 2024) from the previous 47 MMT to 50 MMT, based on the continued interest for corn in international markets and the record production. Data from the Brazilian Ministry of Development, Industry, Foreign Trade and Services (MDIC) show that the volume of Brazilian corn exports in January 2023 reached the surprising mark of 6.17 million tons, against 2.73 million in the same period last year, an increase of 126 percent. The large value registered in January 2023 was influenced by various factors, among them the slow pace of the soybean harvest, which made way for logistic transportation for corn possible; the ongoing conflict in Ukraine, which reduced the production of a vital world corn supplier and elevated exports to China.

Indeed, China has been a critical part of Brazilian exports since the new agreement between both countries entered into force in November 2022, with approximately 1.48 million tons of corn exported to China last year alone. Data from MDIC indicate that in the first two months of 2023, China has already imported 1.08 million tons of corn from Brazil. While the volume of exports tends to slow down in the first months of the market year, corn exports should begin to pick up by June, when the new crop hits the market.

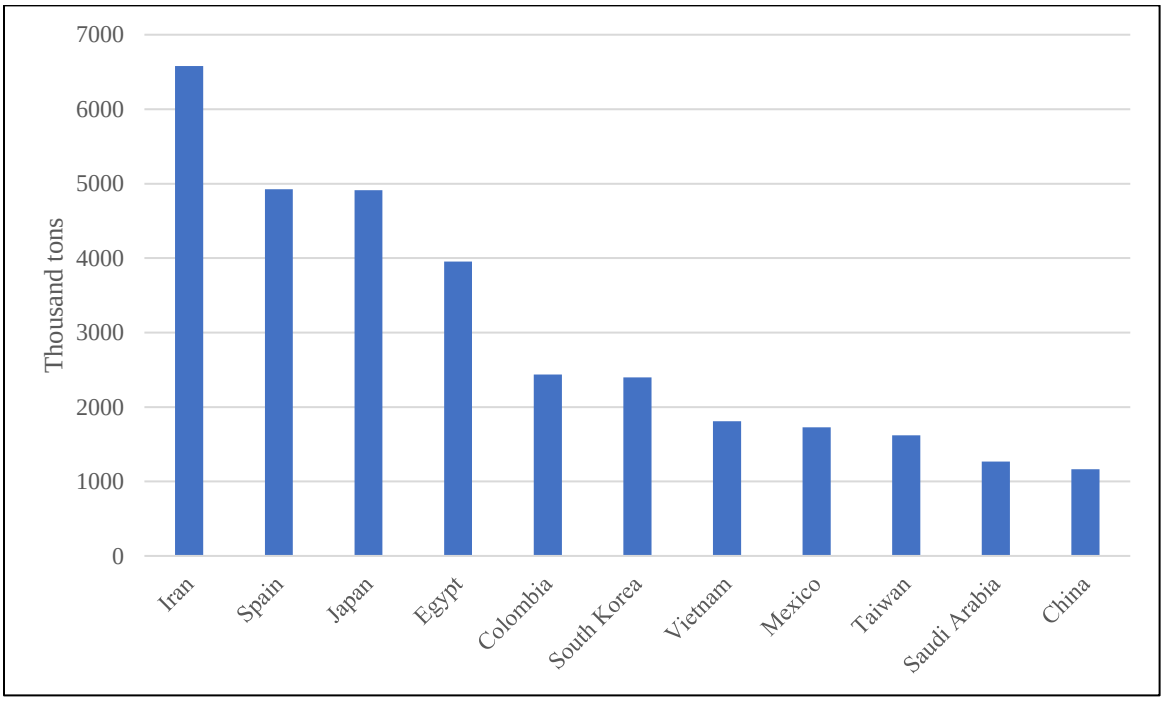
Figure 7
Monthly Exports of Corn (MY: March – February)



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

In February 2023, Brazilian corn exports reached 2.27 million tons, almost 197 percent higher than in the same month last year. The positive performance of corn exports is due to low international supply and increased domestic production, which may place Brazil as the world's largest corn exporter in the season. The leading grain importers in February were Japan, South Korea, Colombia, Algeria, and Vietnam. However, the sharp decline compared to the January exports is mainly credited by contacts consulted by Post to a shift in focus to soy exports, which have been taking up more of the logistic chain.

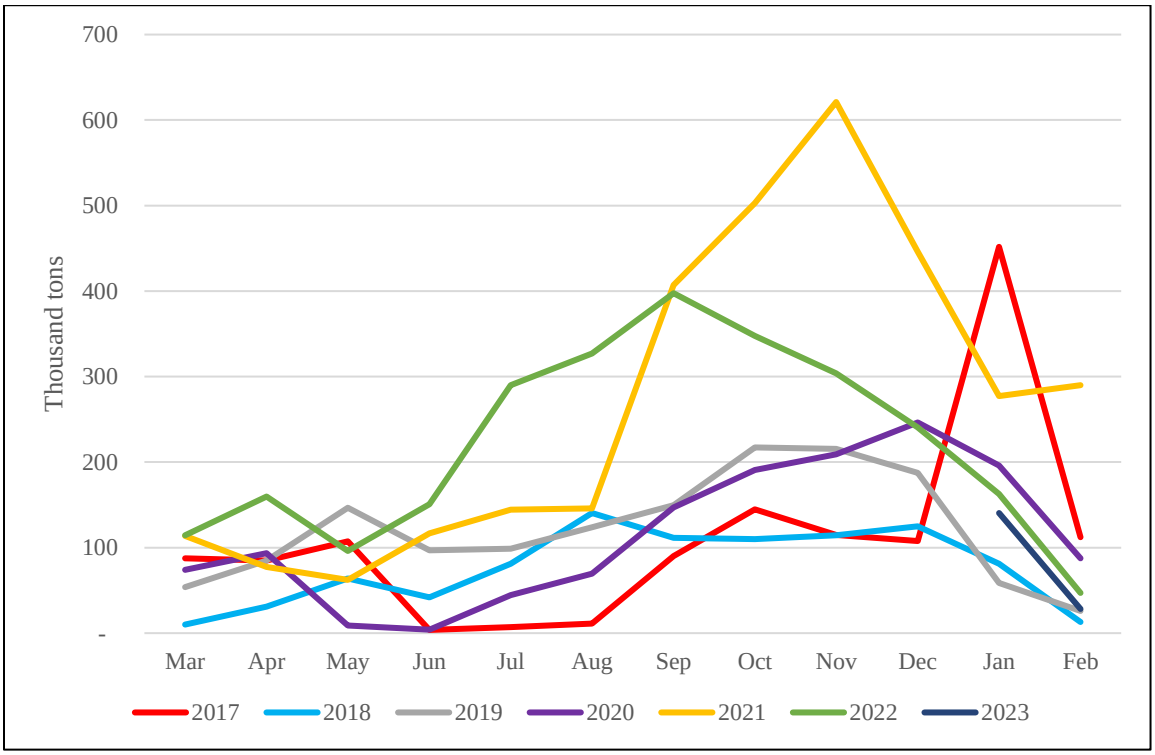
Figure 8
Main Destinations of Brazilian Corn, 2022



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

Based on trendline, Post maintains its estimate for corn imports for MY 2022/23 at 1.3 MMT. Brazil will continue to import most of its corn from neighboring countries, mainly Paraguay, which exports most of the grain to the southern region, where most of the feed industry is located.

Figure 9
Monthly Imports of Corn (MY: March - February)



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

Corn Consumption

Post sets its initial forecast for total corn consumption for MY 2023/24 (March 2024 – February 2025) to 78.5 MMT, almost 7 percent higher than the estimate for MY 2022/23 (March 2023 – February 2024), which Post adjusts to 73.5 MMT. The adjustment is mainly in a reduction on the estimate of Feed and Residual due to increased costs of feed prices and the indication by Post contacts that some growers have started to opt for cheaper alternatives in feed blends, such as wheat.

The sharp increase in food prices has been a challenge for consumption patterns. Between October 2019 and October 2022, food prices rose 51 percent for inflation of 22.45 percent in the accumulated period. Last year, while inflation rose 5.78 percent, food prices increased by 13 percent. Still, according to data from the Brazilian Supermarket Association (ABRAS), consumption in Brazilian homes ended in 2022 with an increase of almost 4 percent compared to the previous year. This figure comprises items from the Brazilian basic food basket, including food, beverages, hygiene and beauty items, and cleaning products. The increase is credited to measures the government took to stimulate economic growth following the Covid-19 pandemic, such as the payment of social stipends and an increase in the offer of formal jobs.

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 37 percent in relation to the previous season and will lead to a rise in total consumption during MY 2023/24. There are currently 18 plants in operation for corn ethanol in the country, located in the states of Mato Grosso, Mato Grosso do Sul, Goiás, Paraná, and São Paulo, but UNEM has indicated that nine others have received construction authorization, which would bring Brazil´s production capacity to 9.6 billion liters of corn ethanol by the 2030/2031 harvest. Three new plants are expected to start operations in 2023 or early 2024. The corn-ethanol plants 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). As such, Post forecasts an increase of 25 percent in the Food, Seed, and Industrial (FSI) Consumption pattern for MY 2023/24, following an expected improvement of economic indexes, which would expand the purchasing power of the population and the foreseen investments in corn ethanol.

RICE

Production, Supply, and Distribution

Table 4
Production, Supply, and Distribution of Rice

Rice, Milled	2021/2022		2022/2023		2023/2024	
Market Year Begins	Apr 2022		Apr 2023		Apr 2024	
Brazil	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	1,618	1,620	1,470	1,470	0	1,380
Beginning Stocks (1000 MT)	1,170	1,170	857	770	0	600
Milled Production (1000 MT)	7,337	7,300	6,936	7,010	0	6,890
Rough Production (1000 MT)	10,790	10,735	10,200	10,309	0	10,132
Milling Rate (.9999) (1000 MT)	6,800	6,800	6,800	6,800	0	6,800
MY Imports (1000 MT)	900	850	900	900	0	980
TY Imports (1000 MT)	826	826	900	900	0	980
TY Imp. from U.S. (1000 MT)	0	0	0	0	0	0
Total Supply (1000 MT)	9,407	9,320	8,693	8,680	0	8,470
MY Exports (1000 MT)	1,400	1,350	1,100	1,000	0	1,110
TY Exports (1000 MT)	1,445	1,454	1,100	1,000	0	1,110
Consumption and Residual (1000 MT)	7,150	7,200	7,050	7,080	0	6,980
Ending Stocks (1000 MT)	857	770	543	600	0	380
Total Distribution (1000 MT)	9,407	9,320	8,693	8,680	0	8,470
Yield (Rough) (MT/HA)	6.6687	6.6265	6.9388	7.0129	0	7.3420

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

Brazil is expected to harvest its lowest rice crop in 25 years. The decrease in production is credited mainly to a reduction in planted area and drought in Rio Grande do Sul, the main rice-producing state. In addition, lower profit margins have discouraged farmers, who have been turning to more profitable crops, such as soy and corn. Rice consumption is also likely to decline, with Brazilians changing eating habits to fast foods and less time-consuming preparations.

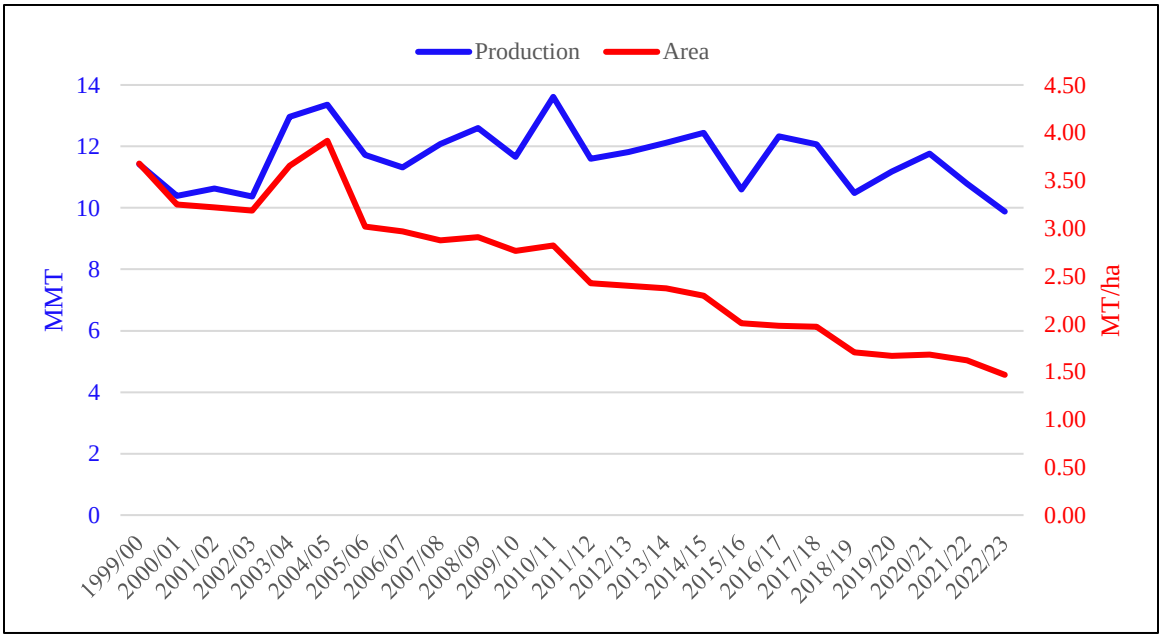
Decreased Rice Production Estimated for MY 2023/24 Despite Higher Yields

Post forecasts rice planted area for MY 2023/24 (April 2024 – March 2025) at 1.38 million hectares (ha). This is based on a continued downward trend, pushed by the loss of profitability of rice crops in

Brazil and high maintenance costs, which have been driving farmers to turn to more profitable crops, such as soybeans and corn. Post projects its initial milled rice production at 6.8 million metric tons (MMT) of milled rice equivalent (MRE), an equivalent of 10.13 MMT of paddy rice. This represents a 1.7 percent drop compared to the previous season and is consistent with the decrease in planted area.

Post forecasts a projected increase in yield, set at 7.32 MT/ha for MY 2023/24 (April 2024 – March 2025). This represents a 4.7 percent increase in productivity in relation to the estimated yield projection for the 2022/23 harvest. Brazil's rice area has decreased by almost 40 percent in the past 10 years, though production has dropped less than half that amount during that period, at around 18.5 percent, due to improving yields.

Figure 10
Rice: Evolution of Production and Area (1999 - 2023)



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

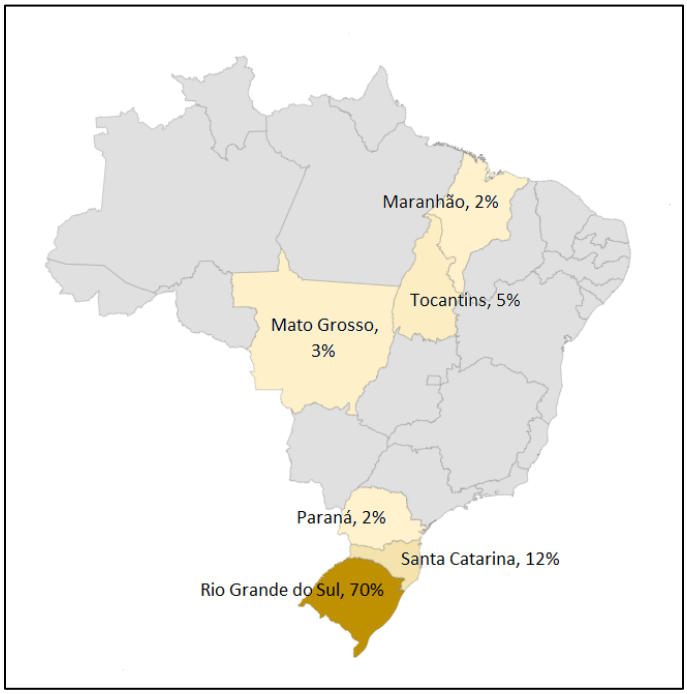
MY 2022/23: Rice Losing Area to Other Crops

For MY 2022/23 (April 2023 – March 2024), Post reduced its estimate of rice planted area to 1.47 million hectares, a 9 percent readjustment from the previous forecast. Rice has been continuously losing space to other more profitable crops, such as soybean and corn, which cost less to produce and bring more profitability. Post decreased its estimate for milled rice production for MY 2022/23 to 7 million metric tons (MMT) of milled rice equivalent (MRE) (an equivalent of 10.30 MMT of paddy rice) from its previous forecast of 7.2 MMT milled rice. Rice yield has also been revised for MY 2022/23 from the previous 6.94 MT/ha to 7.01 MT/ha. Irrespective of the continued decrease in harvested area, rice remains a staple food product in Brazil. It is a traditional grain, especially for historical rice-planting families in Rio Grande do Sul, where it is mainly grown. As such, traditional growers continue to invest in technological improvements, increasing yield returns.

Harvest Outlook

As previously mentioned, rice harvesting is embedded in the culture of various growers in the south of Brazil. This is a practice that has been carried on through multiple generations, making it unlikely to disappear. In addition, rice sowing is also part of the critical soybean-rice rotation cycle of the crop pattern, which benefits the soil in the region. The Federation of Rice Producers of Rio Grande do Sul (FEDERARROZ) states that such a rotation cycle 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, so these farmers are also unlikely to change crops.

Figure 11
Main Rice Producing States, 2022/23



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

- **Rio Grande do Sul**: Rice sowing is progressing at a slower rhythm in comparison to the past season because of the drought suffered in the state, responsible for 70 percent of the production, expected to surpass 6.9 MMT. Consequently, some farmers had to abandon crops due to the dry weather and lack of irrigation water, prioritizing fields where water was more abundant. The levels of reservoirs in some regions have been significantly low, compromising the availability of water for the irrigation of crops. The occurrence of some rains since the last week of February has brought some relief to the levels of reservoirs, but the situation is still of concern. As of March 17th, IRGA calculated that 208,429 hectares had been harvested in the state, representing 25 percent of the total sown area (839,972 ha). Two of the six rice regions had already surpassed 30 percent of the harvested area.

- **Santa Catarina**: Responsible for almost 12 percent of rice production in the country, the state is experiencing a delay in the crop cycle due to a longer period of low temperatures. In addition, low sunlight during the growing season may influence grain yield. Production is expected to be slightly over 1.1 MMT.

- **Tocantins**: The National Supply Agency (CONAB) estimates that the state will suffer a 12.7 percent decrease in the planted area during the 2022/23 harvest due to an increase in production costs in the state. The crops are developing well, but the cut in area will likely be reflected in a production drop, estimated at 0.48 MT.

- **Mato Grosso**: The state is expected to decrease its planted area of rice, following increases in the sowing area of soy and corn. However, good levels of rain have been beneficial for the crops, which should see a slight increase in yield for the 2023/24 harvest.

- **Maranhão**: Responsible for roughly 2 percent of rice production, the state has experienced a sharp drop of 40 percent in the planting of irrigated rice. Factors such as high temperatures and the appearance of bugs in crops have been decreasing yield numbers and rice quality in the state. In addition, some farmers have reported difficulties procuring seeds and other inputs.

- **Paraná:** According to the Department of Rural Economy of Paraná (DERAL/PR) the south region of the state had been going through a period of excessive rain, which delayed the harvest of irrigated rice. Some producers are holding on to part of the production, waiting for better sale prices.

Table 5
Rice Harvest Progress

	2022	2023	
State	**Week of March 19**	**Week of March 12**	**Week of March 18**
Tocantins	37%	30%	50%
Maranhão	0%	3%	3%
Mato Grosso	10.2%	1.5%	6.4%
Santa Catarina	85%	20%	21%
Rio Grande do Sul	20%	15%	20%
Total	**27.1%**	**14.8%**	**19.9%**

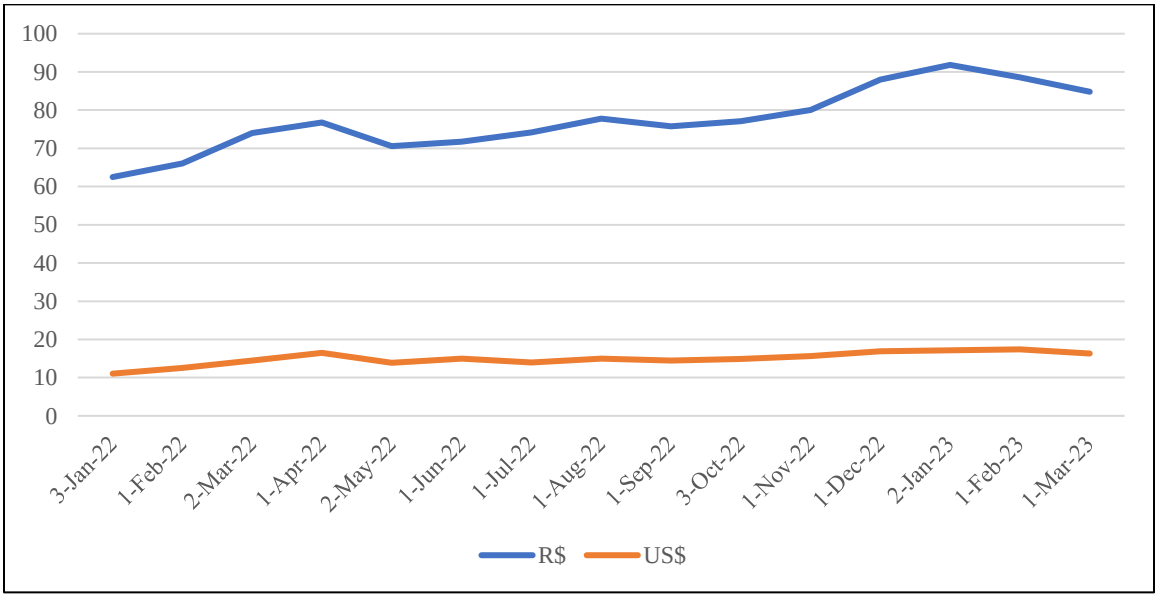
***Data Source**: National Supply Company (CONAB); Graph Post Brasilia*

Rice Prices Remain Stable

The price of rice in the internal market has been lower than usual in March, continuing the trend set in the past months. According to the University of Sao Paulo's Center for Advanced Studies in Applied Economics (CEPEA), in Rio Grande do Sul, a 50-kilo sack was traded at R$ 85.59 (US$ 16.33) on March 21, 2023. This is 0.6 percent lower than the price registered the month before and is almost 7 percent lower than at the beginning of 2023. This has led traders to carry out only occasional negotiations.

With sowing still in the early stages in Brazil and with Argentina presenting low numbers in its current harvest, negotiations are expected to pick up as the interest in Brazilian rice is set to increase.

Figure 12
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*

Aside from federal taxation rules, various states continue to study measures to increase or implement specific taxes on agricultural goods, which can impact the already suffering rice production chain. In December, the state of Tocantins approved a bill that raises from 0.2 to 1.2 percent the rate of the Tax on the Circulation of Goods and Services (ICMS) on products of plant, mineral, or animal origin, aimed at taxpayers carrying out interstate operations or those intended for export, as well as in export-like operations. In November, parliamentarians in Goiás approved the creation of the Infrastructure Fund (FUNDEINFRA), which taxes agribusiness in the state by up to 1.65 percent. However, a court order has suspended this bill in some state regions.

On a federal level, Brazil still has a May 2022 decree that adopts a 10 percent reduction in the import tax of various commodities, including rice. This legislation is currently valid until December 2023, while the new government of President Luiz Inácio Lula da Silva evaluates if it should be kept. However, the Federation of Rice Growers Associations of Rio Grande do Sul (FEDERARROZ) claims this measure is

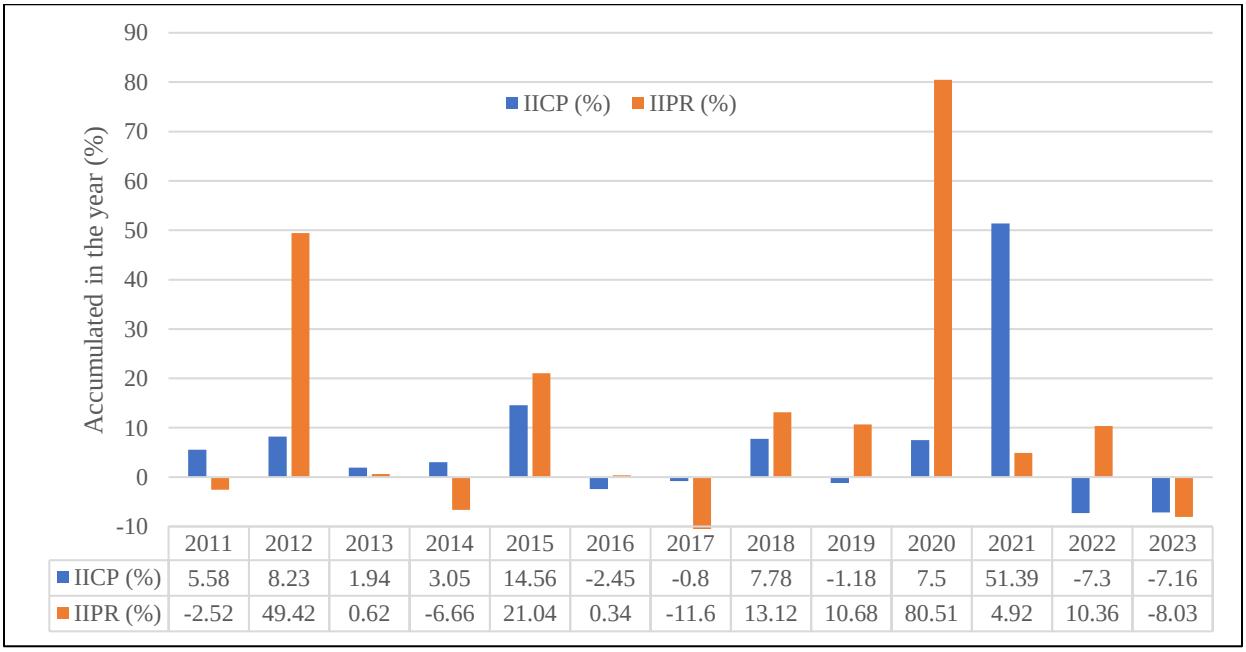
"unnecessary" because it brings little relief to Brazil's inflation, considering that the value of rice practiced outside Mercosur exceeds that observed today in the domestic market and other countries of the bloc, where most of the rice comes from.

Production Costs Decreased, But Economic Measures Generate a New Concern

The Federation of Agriculture of the State of Rio Grande do Sul (FARSUL) released new figures on the production cost and the prices received by rural producers in the state, measured for the major commodities through the so-called Production Costs Inflation Index (IICP) and the Index on Inflation of Prices Received by Rural Producers (IIPR). The first determines the variation in the cost of production, and the latter defines the variations in prices received by producers.

The year began with a drop in agribusiness production costs, as recorded by the IICP. January 2023 saw a decline of 3.31 percent, continuing the sequence of decreases that began in June 2022, mainly due to the 12 percent drop in the cost of fertilizers. However, it should be noted that agricultural production costs in the state are still higher than before 2021 when Rio Grande do Sul saw a sharp upsurge in production costs. On the other hand, the Index on Inflation of Prices Received by Rural Producers (IIPR) increased by 0.18 percent in the first month of this year compared to December 2022, especially in rice and corn. The accumulated amount from January 2022 to January 2023 reached 3.90 percent.

Figure 13
Rio Grande do Sul: Inflation Indexes on Production Costs (IICP) and Prices Received by Rural Producers (IIPR)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
IICP (%)	5.58	8.23	1.94	3.05	14.56	-2.45	-0.8	7.78	-1.18	7.5	51.39	-7.3	-7.16
IIPR (%)	-2.52	49.42	0.62	-6.66	21.04	0.34	-11.6	13.12	10.68	80.51	4.92	10.36	-8.03

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

Brazilian farmers suffer the added burden of the high cost of transportation and lack of grain storage capacity. Brazil´s cargo transportation matrix comprises roughly 65 percent roads, 15 percent railway, and 15.7 percent boat/barges, according to the National Transport Confederation (CNT). In its 2022 study on the conditions of the roads in Brazil, CNT found that 66 percent of the roads were classified as in "regular, bad, or terrible" conditions, with the majority being one-lane highways with poor paving and signage. In addition, many of the roads are still unpaved, and the dirt sections compromise transportation, especially during rainy periods.

The immense size of the country also makes it difficult and burdensome to transport commodities, aside from requiring a large fleet of trucks. In recent harvests, the availability of trucks has not kept up with the growth of grain production. The strong demand for trucks to transport grains, especially soy, may likely increase the freight costs of the second crop corn in the coming months. The same issue is likely to happen with silos, with corn threatening to lose storage space for soy.

Farmers consulted by Post have indicated that many have started investing in building their own silos and storage space. Faced with the impossibility of acquiring new land to grow crops due to high costs or lack of availability, many farmers are focusing on improving their properties to reduce the bottlenecks and expenses resulting from logistical issues.

The Brazilian Association of the Machinery and Equipment Industry (ABIMAQ) estimates that the grain storage deficit in Brazil in 2023 will be 115 million tons. They estimate this will continue to rise on average by five million tons per year due to the increase in Brazilian production. For the association, Brazil may run out of storage units already in the harvest of first season crops for the first time in history. Traditionally, growers tend to store second season crops out in the open when they overlap with first season harvests and storage facilities are already full.

Rice Trade

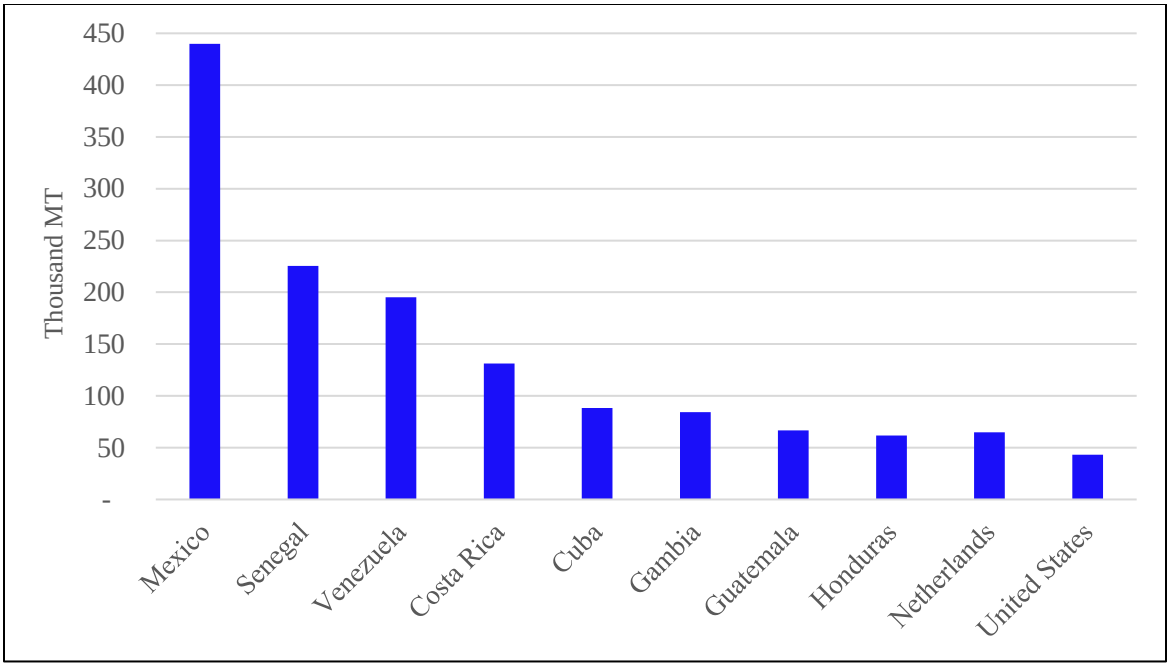
Rice Trade Influenced by Decreased Internal Production

Post sets its initial forecast for rice exports for MY 2023/24 (April 2024 – March 2025) at 1.1 MT, based on the continued interest for rice in international markets and the expectation of favorable grain prices over the exchange rate. Post sets the initial forecast for rice imports at 980,000 MT, a 9 percent increase over the current season, based on the steady supply and trade with Brazil's Mercosur neighboring countries and the indication by Post contacts that trade deals with Mexico are likely to extend past December 2023, following ongoing pressure by the Brazilian domestic industry to continue export trade agreements.

Brazilian rice exporters benefited from the favorable exchange rate and the tax exemption adopted by Mexico, which opened a market of almost 500,000 tons of Brazilian rice to that country throughout 2022, taking away a large percentage traditionally exported from the United States to its neighbor. In January 2023, Mexico was the biggest destination for Brazilian rice, with 39,400 tons being exported from Brazil to Mexico.

According to the Brazilian Trade and Investment Promotion Agency (ApexBrasil), in partnership with the Brazilian Rice Industry Association (ABIARROZ), milled rice exports accounted for roughly 52 percent of the total rice exports in 2022, a decrease of 34 percent in comparison to the precious year. In this same period, paddy rice exports increased by 75 percent in volume compared to the past five years, while imports were 13 percent higher during the same period.

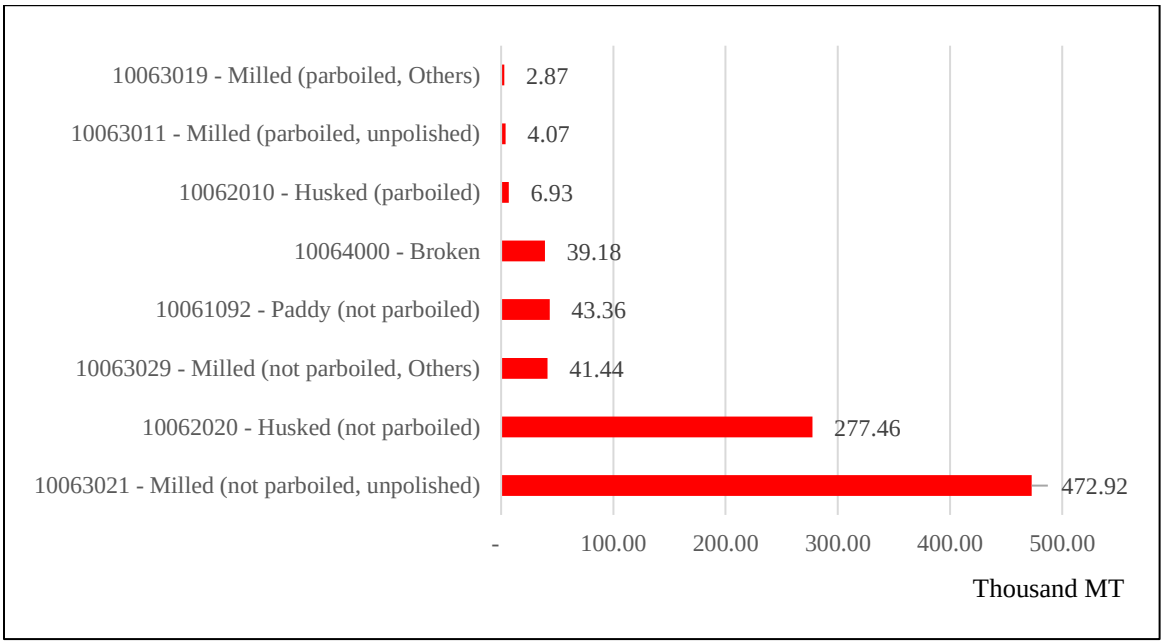
Figure 14
Top Destinations of Brazilian Rice (April 2022 - February 2023)



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

Post decreased its estimate for rice exports for MY 2022/23 (April 2023 – March 2024) to 1 MMT, down from its previous forecast of 1.1 MMT, based on the prediction of lower availability of rice in the domestic market, which will likely improve rice prices in internal trade. Post contacts have also pointed out that the rice trade is somewhat constrained by the logistical hurdles faced by Brazil, where the grain will likely lose space for the favored trade of soy and corn. The weather has also been impacting the lineup at Brazilian ports as the increased rains have halted ships being loaded, given that many crop shipments are bulk and not in containers.

Figure 15
Rice Imports to Brazil by Type (April 2022 - February 2023)



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

Post estimates rice imports for MY 2022/23 at 900,000 MT, almost 6 percent higher than the previous forecast, based on the need to fulfill the Brazilian demand. Brazilian rice imports continue to depend mainly on Mercosur countries, which enjoy tax-free export/import, with Paraguay traditionally accounting for the majority of exports.

Table 6
Top Origin of Brazilian Rice Imports (April 2022 - February 2023)

	Tons	Value (US$)
Paraguay	580,000	216,193,677
Uruguay	198,101	92,979,178
Argentina	103,506	47,786,070
Italy	5,085	7,931,651
Portugal	654	1,188,083
Thailand	430	313,558
Pakistan	199	298,098
Vietnam	122	82,413
India	42	43,226
Spain	28	67,555

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

Rice Consumption

According to data from the Brazilian Supermarket Association (ABRAS), the Consumption in Brazilian Homes ended 2022 with an increase of almost 4 percent compared to the previous year. This figure comprises the basic Brazilian food basket items, including food, beverages, hygiene and beauty items, and cleaning products. The increase is credited to measures the government took to stimulate economic growth following the Covid-19 pandemic, such as the payment of social stipends and the offer of formal jobs.

While rice remains a crucial food ingredient in the Brazilian diet, present in almost 95 percent of households, eating habits have been shifting. A new consumption study shows that many Brazilians are starting to replace rice with fast-food options or other less time-consuming preparations. The exchange of meals for snacks was driven by the increase in the average price of meals away from home (usually done during lunchtime), which grew 36 percent for lower-income classes who consume products such as rice, beans, meat, and cooking oil. The average lunch menu increase was 24 percent for middle-income classes while showing a smaller decrease for the higher social classes, which usually include other ingredients in their meals.

Another reason rice consumption decreases in Brazilians' daily diet is that it is commonly eaten with beans, a food that requires a long cooking period. As a result, bean consumption in Brazil has been decreasing considerably, pulling rice numbers as well. In addition, younger generations have also been opting for a diet with fewer carbohydrates.

Factoring in these scenarios, Post set its initial forecast for rice consumption for MY 2023/24 (April 2024 – March 2025) at 6.98 MMT and decreased its consumption estimate for MY 2022/23 (April 2023 – March 2024) to 7.08 MMT, from the previous 7.20 MMT estimation.

WHEAT

Production, Supply, and Distribution

Table 7
Production, Supply, and Distribution of Wheat

Wheat	2021/2022		2022/23		2023/24	
Market Year Begins	Oct 2021		Oct 2022		Oct 2023	
Brazil	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	2,740	2,740	3,090	3,100	0	3,200
Beginning Stocks (1000 MT)	1,911	1,911	1,183	1,373	0	2,073
Production (1000 MT)	7,700	7,740	10,400	10,600	0	11,000
MY Imports (1000 MT)	6,392	6,392	5,600	5,600	0	5,500
TY Imports (1000 MT)	6,582	6,582	5,600	5,600	0	5,500
TY Imp. From U.S. (1000 MT)	0	0	0	0	0	0
Total Supply (1000 MT)	16,003	16,043	17,183	17,573	0	18,573
MY Exports (1000 MT)	3,070	3,070	4,400	3,500	0	4,000
TY Exports (1000 MT)	3,105	3,105	4,400	3,500	0	4,000
Feed and Residual (1000 MT)	450	400	400	500	0	600
FSI Consumption (1000 MT)	11,300	11,200	11,300	11,500	0	12,000
Total Consumption (1000 MT)	11,750	11,600	11,700	12,000	0	12,600
Ending Stocks (1000 MT)	1,183	1,373	1,083	2,073	0	1,973
Total Distribution (1000 MT)	16,003	16,043	17,183	17,573	0	18,573
Yield (MT/HA)	2.8102	2.8248	3.3657	3.4194	0	3.4375

MY = Marketing Year, begins with the month listed at the top of each column
TY = Trade Year, which for Wheat begins in July. TY 2023/24 = July 2023 – June 2024
Source: Post Brasilia

Wheat Production

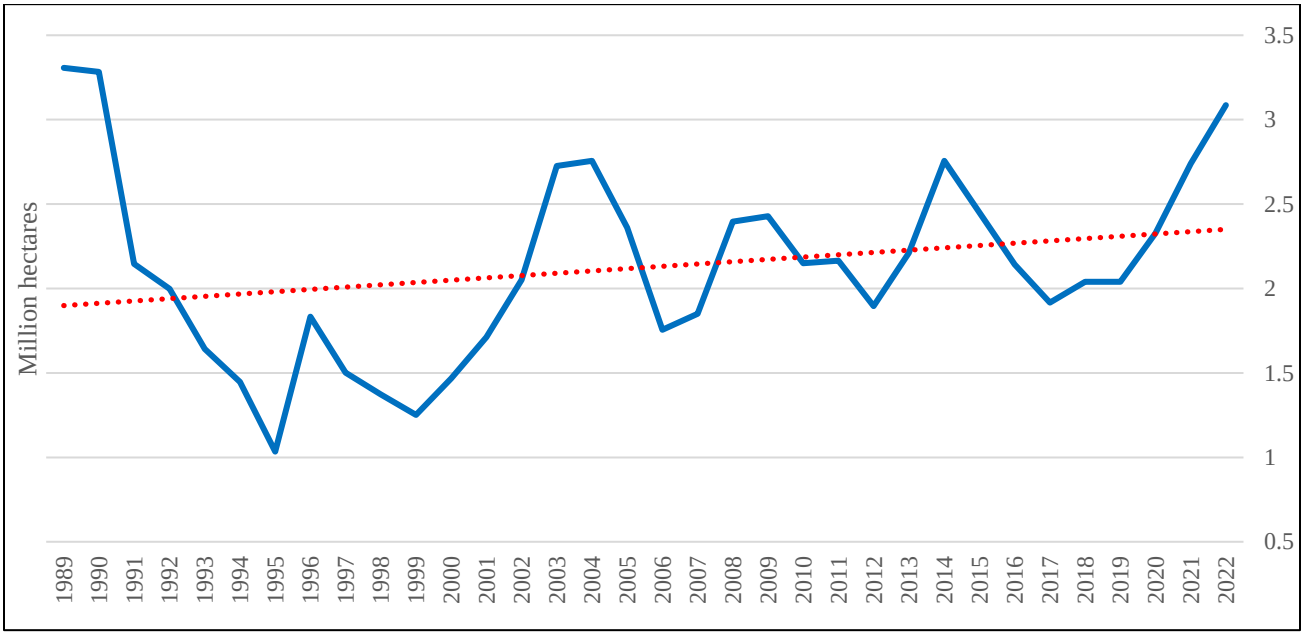
Wheat continues to gain the interest of farmers in Brazil, with growing investment in technologies, including new resistant cultivars adapted to dry climates and more resistant to diseases, providing record production numbers. Furthermore, the possibility of an increase in international demand for wheat, taking advantage of the space left by severe crop problems in Argentina and the war led by Russia on Ukraine, and the decrease in production costs are factors that have increased the optimism of Brazilian producers towards the 2023/24 wheat harvest.

2023/24 Forecasts See Farmers Optimistic About Planted Area, Production, and Yield

For MY 2023/24 (October 2023 – September 2024), Post sets its initial forecasts for wheat planted area at 3.2 million hectares, roughly three percent higher than the previous season. This is based on the growing interest of Brazilian farmers and the availability of idle lands for winter crops. Wheat area has grown slightly in the past five years but may receive an additional boost this coming season if corn crops planted outside the ideal harvesting window fail to develop properly. In this case, farmers may decide to swap crops during the winter season (June – September), potentially increasing the planted area.

The adoption of the "ideal window" for harvesting was set by the Ministry of Agriculture, Livestock and Food Supply (MAPA) in 1995/1996 to provide information to farmers on the best time to plant various crops according to the municipality, the climate, the type of soil and the cultivar cycle, with the intent of passing on to the farmer the period in which there is the least possibility of climatic adversities, which coincide with the most sensitive phases of the crops, thus reducing the probabilities of crop failure.

Figure 16
Wheat Planted Area in Brazil



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

The Brazilian government is investing in studies to increase wheat planted area, production, and yield, though the effects will not be immediately seen this coming season. The Brazilian Agricultural Research Corporation (EMBRAPA) has been adapting wheat cultivars to the Cerrado region, a Savanah-like biome in the center of the country, through investments involving genetic improvement and integrated soil, water, and nutrients, resulting in plant varieties that allow weather resistance and higher grain productivity, with the intent of making Brazil self-sufficient in wheat within the next ten years. For EMBRAPA, this may lead to a future production potential of an added 1 million hectares in an irrigated system and the incorporation of another 2.5 million hectares in the rainfed system, representing about 4 million tons of additional wheat production in the country.

Additionally, in early March 2023, the Brazilian government approved the planting, importing, and commercializing of transgenic wheat cultivar HB4 from the Argentinean company Bioceres. This is the first of this kind of approval in the country, although genetically modified wheat flour was already authorized to be imported into Brazil. For this reason, the measure was well received by industry representatives, as the formal approval now provides a legal backbone to the industry. For the Brazilian Association of Biscuits, Pasta, and Industrialized Breads & Cakes (ABIMAPI), the approval could increase domestic supply, which may ultimately reduce industry costs. The association was initially against the adoption of transgenic wheat but changed its position after a survey it commissioned showed that more than 70 percent of Brazilians would not mind consuming products that contained genetically modified wheat. The HB4 cultivar is one of the cultivars EMBRAPA has been using in its studies in the Cerrado region.

Despite these long-term plans, Post does not envision any abrupt changes to the wheat scenario for MY 2023/24 (October 2023 – September 2024), so it sets the initial forecast for yield at 3.43 metric tons per hectare (MT/ha). Nevertheless, given the continued interest of farmers in growing wheat, Post sets its forecasts in production for MY 2023/24 at 11 MMT, up almost four percent compared to the 2022/23 estimate. Furthermore, with Argentina's wheat harvest being severely hit by drought and Brazil producing increasingly high-quality grain, farmers in the country have expressed optimism about planting more wheat in the upcoming season, which justifies a continued increase in production.

In addition, the National Oceanic and Atmospheric Administration (NOAA) officially decreed the end of the La Niña weather phenomenon, which brought excess rain in the Northeast of Brazil and drought in the south during the 2021/22 season. This has left farmers in the south of Brazil more optimistic about sowing under El Niño at the end of the year. There are also expectations of weather conditions to remain neutral through the country's autumn and early winter of 2023, which may help the production of some winter crops.

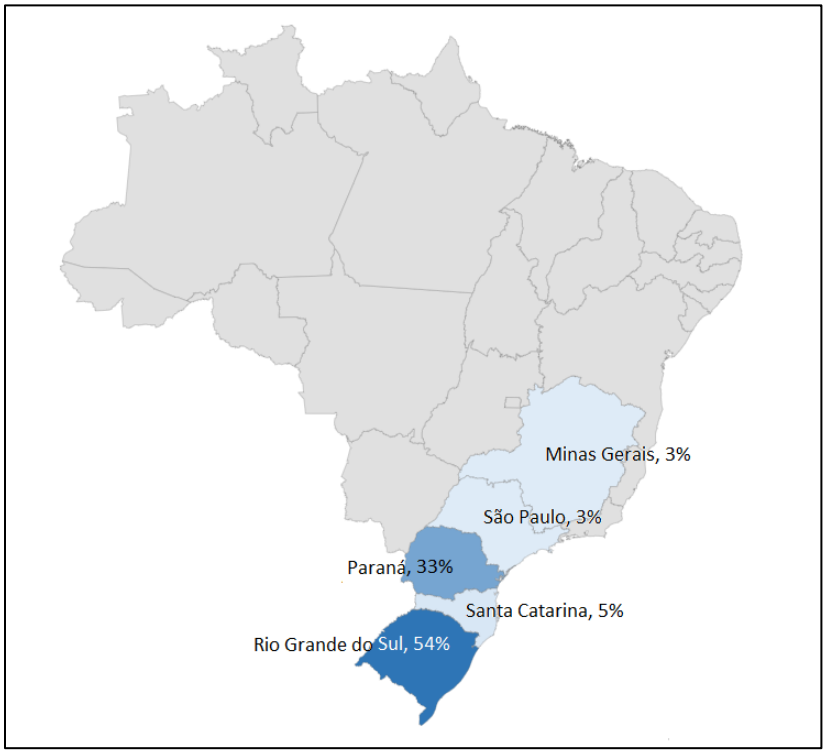
Almost 90 percent of the Brazilian wheat crops are planted in the southern states of Paraná and Rio Grande do Sul, with the country sowing most of its wheat between April and September, depending on the region. Still, the planting timeline falls outside USDA's market year, which runs from October to 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.

2022/23 Season Concluded with Strong Planted Area, Production, and Yield

The 2022/23 wheat harvest has been fully reaped, with the new season set to start sowing from April 2023. Brazil's wheat production had surpassed expectations set out by stakeholders when most optimistic projections envisioned production at 9 million tons. As such, for MY 2022/23 (October 2022 – September 2023), Post revised the estimated production to 10.6 MMT from its previous forecast of 9.6 MMT, driven partly by the record wheat production seen in the state of Rio Grande do Sul. The estimated area harvested remained at 3.1 million hectares, with a boost in yield to 3.41 metric tons per hectare (MT/ha), up almost 10 percent from the previous estimate of 3.11 MT/ha.

The high production in Rio Grande do Sul resulted in the state accounting for roughly half of the wheat production in the country and put the state ahead of traditional wheat grower Paraná, which in the 2022/23 season accounted for approximately 33 percent of production.

Figure 17
Main Wheat Producing States, 2022/23



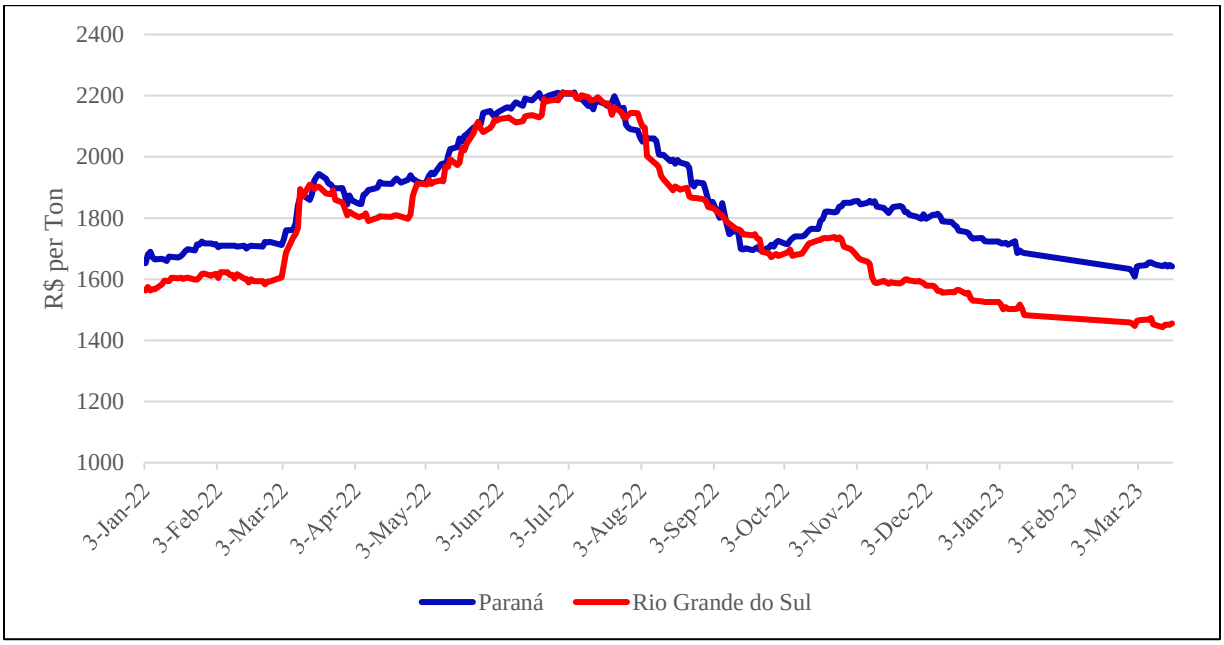
***Data Source**: National Supply Company (CONAB); Graph Post Brasilia*

Wheat Prices Drop While the Economy Show Slow Signs of Improvement

Wheat prices closed in February on a downslide, with the excess production failing to make the commodity more attractive in the domestic market. In addition, the appreciation of the dollar in relation to the Brazilian real led producers to focus on planting other crops, decreasing the trade volume.

On February 28, wheat was negotiated in Rio Grande do Sul at R$ 1,455 (US$ 278.82) per ton, according to the University of Sao Paulo's Center for Advanced Studies in Applied Economics (CEPEA). This is a 4.5 percent drop in relation to the first business day of January 2023 and 8.6 percent lower than at the end of February 2022, when the commodity was traded at R$ 1592.6 (US$ 309.54). In the state of Paraná, the drop was significantly higher, with wheat being sold at R$ 1,625.3 (US$ 311.3) per ton on the last day of February 2023. This is a decrease of almost 6 percent both in relation to the first business day of 2023 and in comparison to February 2022, when it reached R$ 1722.05 (US$ 344.7).

Figure 18
Brazil: Average Wheat Prices



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

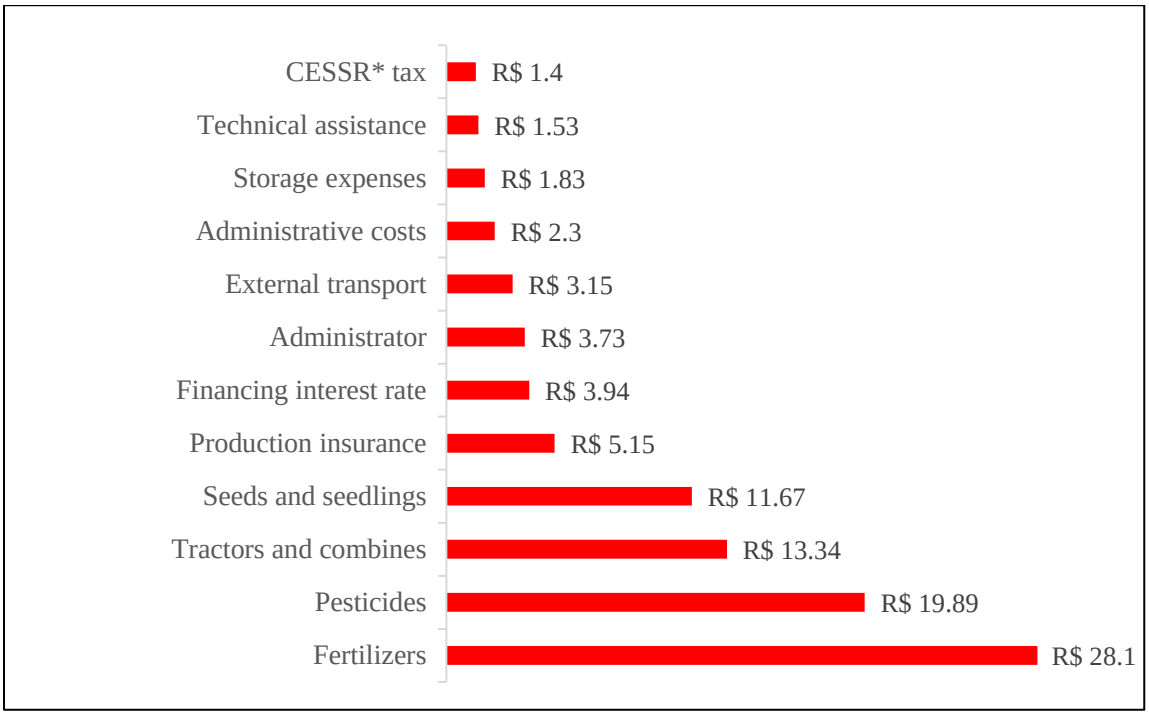
The Brazilian Ministry of Finance has estimated a 1.61 percent growth in the Brazilian Gross Domestic Product (GDP) in 2023. The government's expectation represents a slowdown compared to 2022 when the economy recorded a 2.9 percent increase. According to the government, the economic slowdown this year is related, among other factors, to the rise in interest rates by the Central Bank to combat inflation. For 2024, the Ministry of Finance projected a growth of 2.34 percent for the Brazilian GDP. Nevertheless, the federal government's estimate was well above the financial market's projection, which closed at an increase in GDP of 0.89 percent for 2023 and 1.5 percent for 2024.

The Ministry of Finance projected inflation to reach 5.31 percent this year, well above the ideal target of 3.25 percent. For 2024, the government's forecast is for inflation to reach 3.52 percent. The higher the inflation, the lower the purchasing power of the population, especially those earning lower wages, since the prices of products increase at a higher proportion than the salaries.

Production Costs Improve, but Fertilizers are Still the Weighing Factor

In the last two years, the rise in input prices accompanied the price of grains on the international market. In wheat, production costs are usually associated with inputs (fertilizers, pesticides, and seeds) and operations in the field (fuel and tractors). The high price of fertilizers remained the most significant contributor to the rising cost of wheat production. According to the National Supply Company (CONAB), this input was responsible for approximately 30% of wheat production cost in Rio Grande do Sul in the past harvest. In the estimate of production costs by the Department of Rural Economy of the state of Paraná (DERAL/PR) related to the 2022 harvest, fertilizers were also the input that most impacted the cost of the wheat crop, comprising 27 percent of variable costs, followed by machines representing 10 percent, pesticides with 8.5 percent and seeds with 7 percent.

Figure 19
Variable Production Costs of Wheat in Rio Grande do Sul (September 2022)



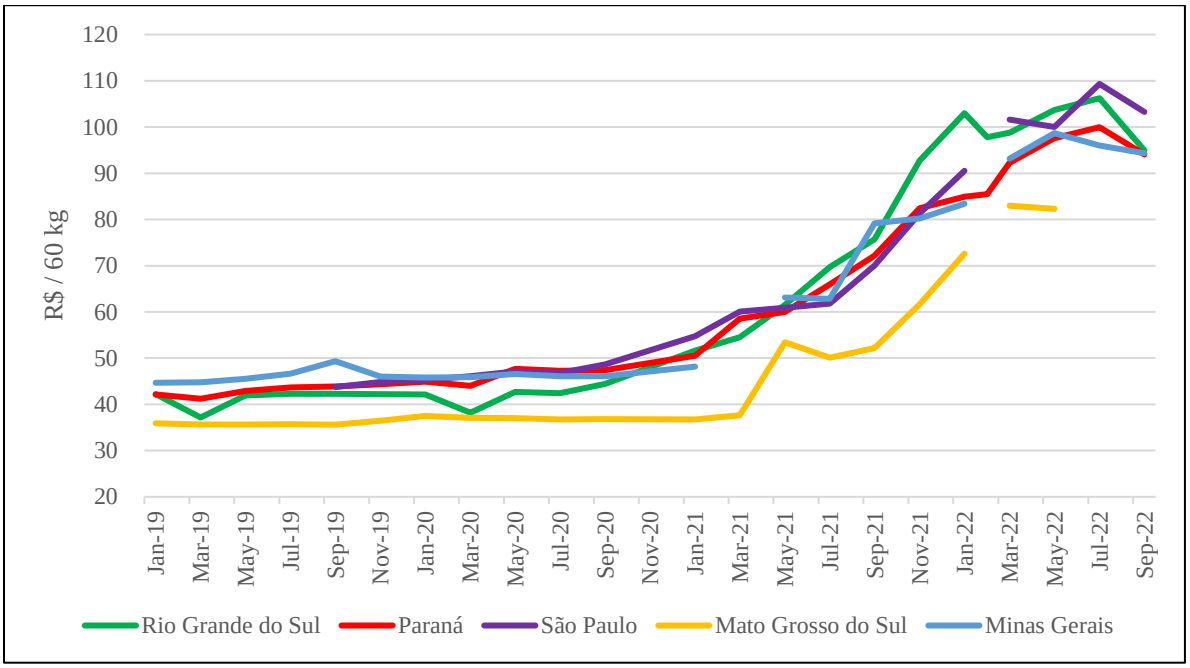
*CESSR = Special Contribution to Rural Social Security
***Data Source**: National Supply Company (CONAB); Graph Post Brasilia*

Farmers will have added demand to grow if wheat prices continue to rise. However, wheat may suffer competition with areas of second crop corn since this grain has proven to be more profitable. Nevertheless, despite isolated circumstances of spikes in variable costs of inputs, production costs have been decreasing, especially compared to past harvests when fertilizers prices skyrocketed. Urea, for example, went from R$ 1,940 in December 2020 to R$ 5,355 in December 2021 and is now being traded in São Paulo for around R$ 2,526.

The Federation of Agriculture of the State of Rio Grande do Sul (FARSUL) released new figures on the production cost and the prices received by the rural producers in the state, measured for the major commodities through the so-called Production Costs Inflation Index (IICP) and the Index on Inflation of Prices Received by Rural Producers (IIPR). The first determines the variation in the cost of production, and the latter defines the variations in prices received by producers.

The year began with a drop in agribusiness production costs, as recorded by the IICP. January 2023 saw a decline of 3.31 percent, continuing the sequence of decreases that began in June 2022, mainly due to the 12 percent drop in the cost of fertilizers since then. However, it should be noted that agricultural production costs in the state are still higher than before 2021 when Rio Grande do Sul saw a sharp upsurge in production costs. On the other hand, the Index on Inflation of Prices Received by Rural Producers (IIPR) increased by 0.18 percent in the first month of this year compared to December 2022, especially in rice and corn. In January 2023, the accumulated in twelve months reached 3.90 percent.

Figure 20
Evolution of Wheat Production Cost



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

Brazilian farmers have the added burden of the high cost of transportation and the need for grain storage capacity. Brazil´s cargo transportation matrix comprises roughly 65 percent roads, 15 percent railway, and 15.7 percent boat/barges, according to the National Transport Confederation (CNT). In its 2022 study on the conditions of the roads in Brazil, CNT found that 66 percent of the roads were classified as in "regular, bad, or terrible" conditions, with the majority being one-lane highways with poor paving and signage. In addition, many of the roads are still unpaved, and the dirt sections compromise transportation, especially during rainy periods.

The immense extension of the country also makes it difficult and burdensome to transport commodities, aside from requiring a large fleet of trucks. In recent harvests, the availability of trucks has not kept up with the growth of grain production. The strong demand for trucks to transport grains, especially soy, and corn, may likely increase the freight costs of the second crop of corn in the coming months, and the higher transportation costs will also reflect on other grains. The same problem is likely to happen with silos since growers tend to store second season crops out in the open when they overlap with first season harvests and storage facilities are already full.

Farmers consulted by Post have indicated that many have started investing in building their own silos and storage space. Faced with the impossibility of acquiring new land to grow crops due to high costs or lack of availability, many farmers are focusing on improving their properties to reduce the bottlenecks and expenses resulting from logistical issues.

The Brazilian Association of the Machinery and Equipment Industry (ABIMAQ) estimates that the grain storage deficit in Brazil in 2023 will be 115 million tons and that this gap will be growing, on average,

by five million tons per year, due to the increase in Brazilian production. For the association, Brazil might run out of storage units already in the harvest of first season crops for the first time in history.

With Rio Grande do Sul producing a record wheat harvest during the 2022/23 season, the state cannot absorb this demand, and exports via ports compete with other crops, such as soy and corn. A solution has been to send wheat to the northeast states through Brazil's coastal routes.

Wheat Trade

2023/24 Exports Opening New Possibilities for Brazil, while Imports Remain Stable

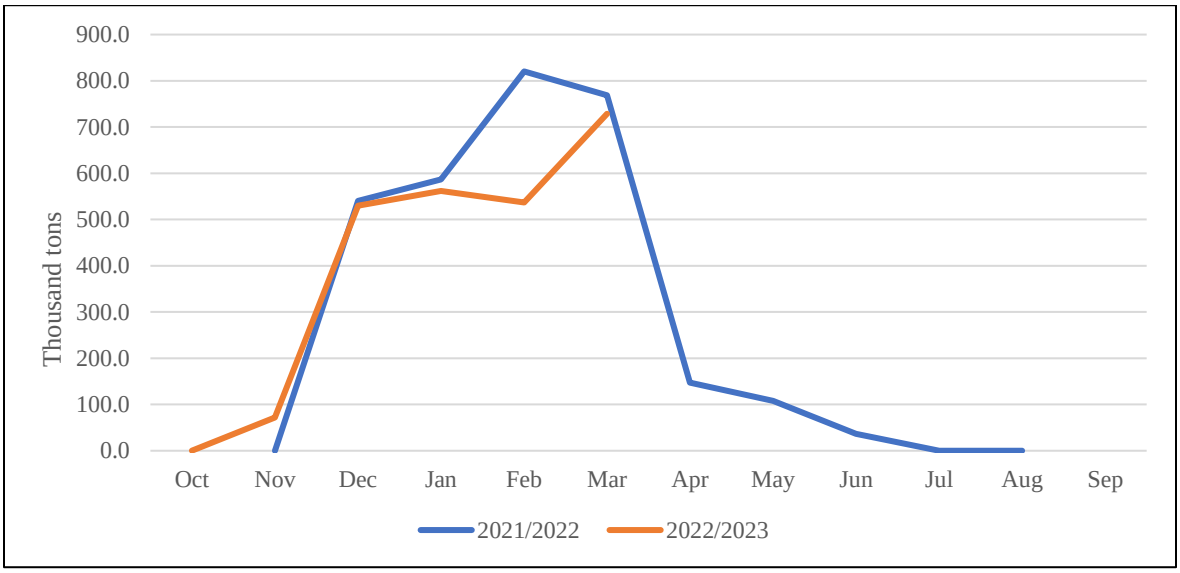
For MY 2023/24 (October 2023 – September 2024), Post sets its initial forecast for wheat export to 4 MMT on a wheat grain equivalent basis (WGE), on the expectation of increased production and the continued improvement of the quality of the Brazilian wheat, which has been drawing the interest of non-traditional markets, such as Bangladesh. 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. This forecast considers the overall pace of trade at the beginning of the current market year and the expectation that global wheat demand will continue to increase. According to the Brazilian Association of the Wheat Industry (ABITRIGO), the increasing quality of Brazilian wheat has also been a determining factor in the rise of exports, with international markets now praising Brazil's 12.5 percent protein content wheat for human consumption.

Post sets its wheat imports forecast for MY 2023/24 at 5.5 MMT on a wheat grain equivalent basis (WGE). Given the tax-free price and proximity for millers, Argentina remains the primary source of Brazilian purchases. While Brazilian production is expected to continue growing, it will likely not be enough to meet the internal demand for the upcoming year. Brazil traditionally imports wheat from Argentina in the first half of the year, corresponding to the availability of the neighboring harvest. A top exporter to Brazil, the United States sends most of its wheat during August and November.

2022/23 Exports and Imports

For MY 2022/23 (October 2022 – September 2023), Post maintains its estimated wheat export at 3.5 MMT on a wheat grain equivalent basis (WGE) based on the current grain trade in Brazilian ports. Peak export months for wheat in Brazil are from December to March. After this window, the grain competes in ports with soy and corn, as Brazil does not have the logistical capacity to drain all its production.

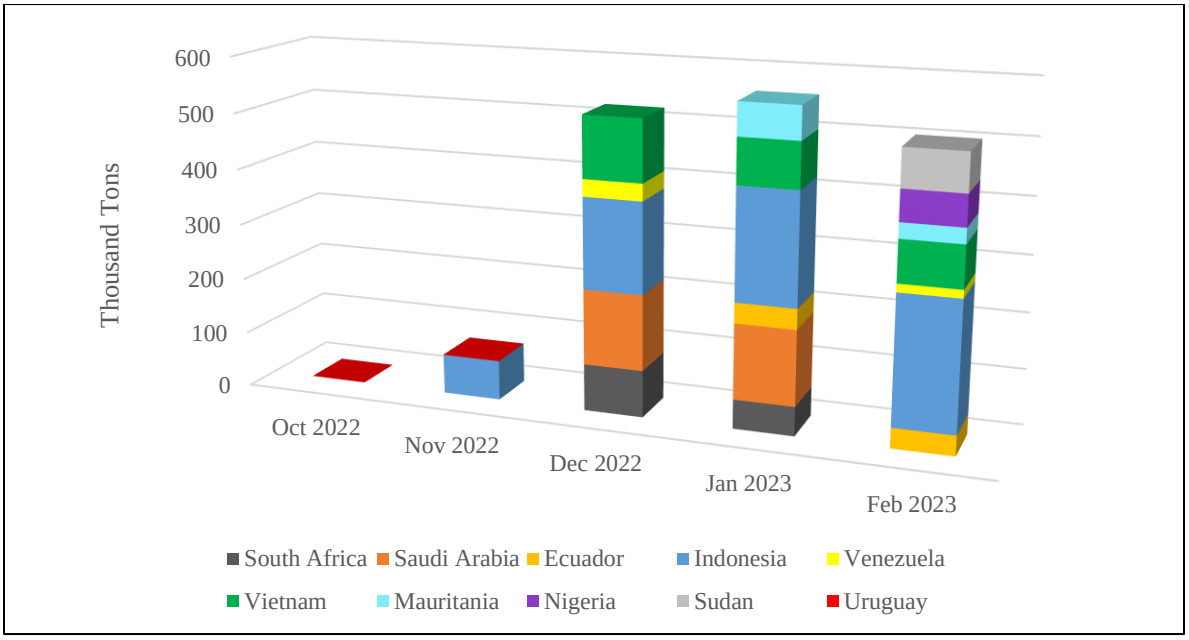
Figure 21
Brazil's Wheat Exports MY (October - September)



***Data Source**: Ministry of Industry, Foreign Trade and Services (MDIC), with March 2022/23 as estimate; Graph Post Brasilia*

Brazil's record wheat production has the potential to offset the diminished availability of wheat typically exported from neighboring Argentina, which has suffered from severe drought. This could place Brazil as the 10th largest wheat exporter in the world for the first time.

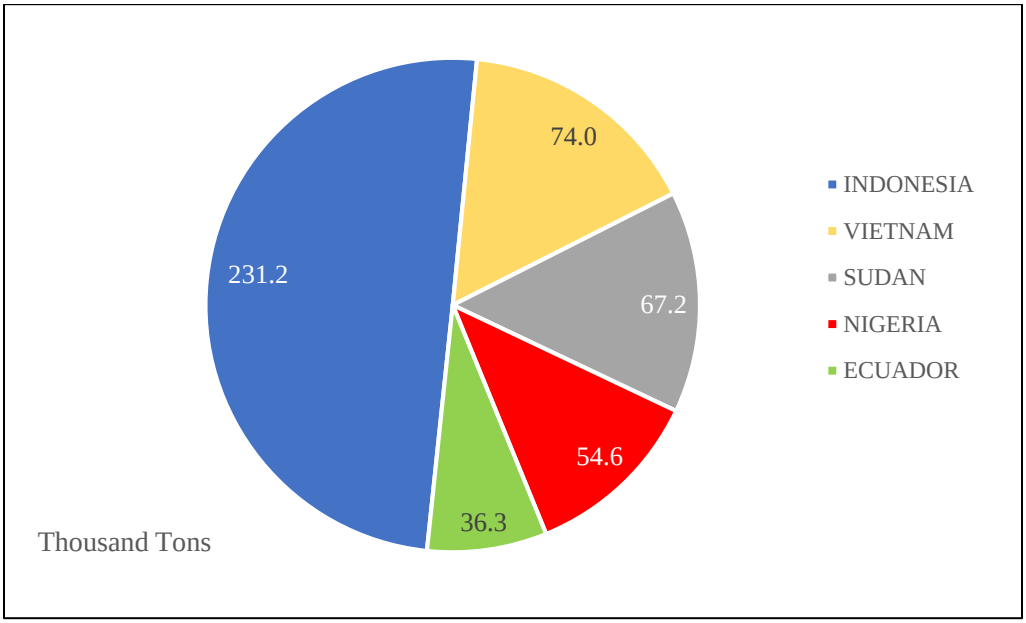
Figure 22
Main Export Destinations of Brazilian Wheat (Oct 2022 - Feb 2023)



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

The National Association for Grain Exports estimates that wheat exports in March will reach 728.5 thousand tons. According to data from the Brazilian Ministry of Industry, Foreign Trade and Services (MDIC), the country exported 536.7 thousand tons of wheat in February, with the main destinations being Indonesia, Vietnam, Sudan, and Nigeria.

Figure 23
Main Destinations of Brazilian Wheat (February 2023)

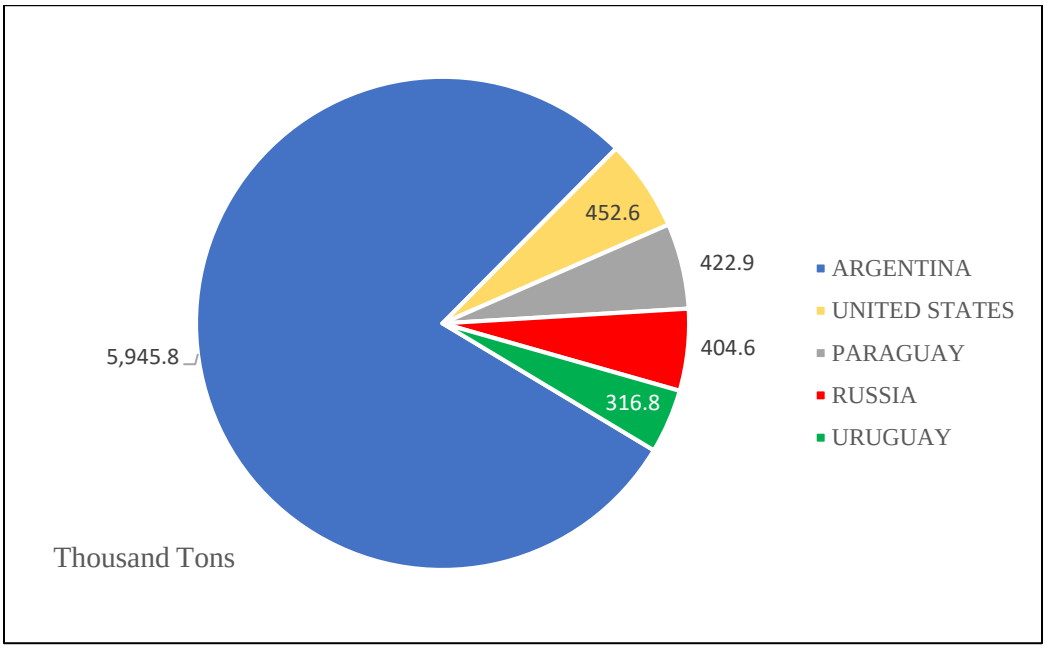


***Data Source**: Ministry of Industry, Foreign Trade and Services (MDIC); Graph Post Brasilia*

Post maintains its estimate for wheat import MY 2022/23 (October 2022 – September 2023) at 5.6 MMT on a wheat grain equivalent basis (WGE). The estimate is based on the pace of trade. With Argentina's wheat production severely impacted, Brazil will need to turn to other countries to fulfill its internal demand. The likely replacement is Russia, as wheat from that country traditionally presents the most competitive prices. However, some analysts consulted by Post have pointed out logistical difficulties in increasing the import of Russian wheat, either for logistical reasons, due to the ongoing conflict in the Black Sea, or for sanitary purposes. Currently, Russian wheat is prohibited from entering Brazil through ports in the south for the risk of bringing contaminants to crops. This may open a window of opportunity for American and European wheat to supply Brazil's internal market. It should be noted that regardless of the country, Brazil continues adopting the duty-free tariff-rate quota (TRQ) for 750,000 MT of non-Mercosur wheat imports.

According to MDIC, in February 2023, Brazil imported 291.6 thousand tons of wheat, almost 34 percent less than in the previous month and a sharp decrease of more than 41 percent over the same month last year. The leading exporters to Brazil were Argentina, which still represented a significant 78 percent of all wheat that entered the country, followed by the United States, Paraguay, Russia, Uruguay, and Canada.

Figure 24
Main Origin of Wheat Imports to Brazil, 2022



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

Wheat Consumption

For MY 2023/24 (October 2023 – September 2024), Post sets its initial forecast for total wheat consumption to 12.6 MMT. This represents a five percent increase on the 2022/23 estimate and is mainly based on the growth of wheat consumption for animal feed and industrial purposes. Analysts consulted by Post have indicated a tendency to use an increased amount of wheat in the animal feed blend in substitution of corn, especially in the state of Rio Grande do Sul, where the drought has impacted corn production in the past months. In Brazil, until recently, wheat was not used in animal feed due to the high cost of production and the availability of other alternative ingredients. However, the use of wheat for grazing has started to become an alternative during the months of March and April, the period between the end of the summer grazing cycle and the start of winter foraging, when there is a high demand for animal feed.

According to the National Union of the Animal Feed Industry (SINDIRAÇÕES), the animal feed market ended 2022 with a productive growth of 1.3 percent. The value corresponds to a production of approximately 82 million tons from January to December last year.

In addition, Brazil is set to open its first wheat ethanol plant in Rio Grande do Sul in 2024, with a processing capacity of 750 tons of wheat per day, generating an annual production of 111 million liters of ethanol.

For MY 2022/23 (October 2022 – September 2023), Post revised its estimated consumption from 11.7 MMT to 12 MMT based on the slight improvement of economic conditions of the population and an increase in Food, Seed, and Industrial (FSI) consumption, which has been bumped up to 11.5 MMT. According to data from the Brazilian Supermarket Association (ABRAS), the Consumption in Brazilian Homes ended 2022 with an increase of almost 4 percent compared to the previous year. This figure comprises the basic Brazilian food basket items, including food, beverages, hygiene and beauty items, and cleaning products. The increase is credited to measures taken by the government to stimulate economic growth following the Covid-19 pandemic, such as the payment of social stipends and the offer of formal jobs.

Nevertheless, despite the growth, wheat flour was one of the products with the most significant price increases throughout the year, estimated by ABRAS as having grown almost 34 percent in 2022. This is reflected in Brazil's relatively stagnant consumption figures for wheat and wheat products.

Post increased its estimate for wheat Feed and Residual consumption for MY 2022/23 to 0.5 MMT, given the expanding animal feed market and the increasing prices of corn, which may result in a slight substitution for wheat in the feed blend. Nevertheless, fears of possible Avian Influenza, which have already affected neighboring countries, have put Brazilian growers on high alert and may severely reduce feed numbers if the bird flu hits the country.

Attachments:

No Attachments