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Report Highlights:

Post revises down its Marketing Year (MY) 2023/24 production estimates to 150 million metric tons (MMT) due to (i) the recent floods in Brazil's southernmost state of Rio Grande do Sul and (ii) lower yields across several states. Amidst lower soybean output and solid gross crushing margins, Post reduces export estimates to 94 MMT while increases crush volumes to 55.1 MMT. Different local forecasting agencies have revised up Brazil's MY 2023/24 soybean area based on new geoprocessing data and satellite imagery. Similarly, Post revises up its current MY area estimates to 45.8 million ha. For outyear, Post revises up area and production forecasts to 46.3 million ha and 160 MMT respectively, with national yields at 3,456 kg/ha. Post also increases production of soybean meal and oil due to higher crushing, with soybean oil industrial consumption (for biodiesel) sustaining growth in MY 2023/24 and MY 2024/25.

AREA, PRODUCTION AND YIELD (MY 2023/24)

Area

Post revises up its 2023/24 area estimate by 600 thousand hectares (ha) to 45.8 million ha. This represents a one percent increase compared to the previous report, and a three percent increase compared to 2022/23 area estimate, maintained at 44.6 million ha. Over the past months, several forecasting agencies have reported the identification of new soybean areas through the usage of geoprocessing technologies and satellite imagery.

On June 13th, Brazil's National Supply Company (CONAB) revised up its 2023/24 soybean area estimates to roughly 46 million ha, indicating the identification of new planted fields across the states of Maranhão, Goiás, Pará, Mato Grosso, Rio Grande do Sul and Minas Gerais. Similarly, Agroconsult, a leading local agricultural forecasting private agency responsible for Brazil's largest private-led crop tour (Rally da Safra), also raised its MY 2023/24 area estimates from 45.7 million ha to 46.4 million ha.

Production

Post revises down MY 2023/24 production estimates to 150 million metric tons (MMT), a 2.6 MMT reduction (two percent) compared to the previous report, largely due to May's unprecedented floods in the southernmost state of Rio Grande do Sul (RGDS) and lower yields in Mato Grosso, Mato Grosso do Sul, Paraná and São Paulo. Revised national yields are at 3,275 kg/ha (48.7 bushels per acre), three percent lower than Post's March report, and ten percent behind 2022/23 record productivity.

Brazil now enters the period known as '*vazio sanitário*'. In order to control pest and disease infections, as soybean rust, no live soybean plant is permitted in fields for nearly three months. On May 13th, the Ministry of Agriculture and Livestock (MAPA) published the sowing calendar for the main producing states based on an agricultural climate risk zoning analysis (ZARC, in Portuguese). Early soybean sowing in Mato Grosso (compared to the traditional September 15th sowing kick off) and Paraná should allow a better weather window for a second crop, known as *safrinha*, of corn or cotton (the latter in the state of Mato Grosso).

Farmers adopting to ZARC rules tend to be less exposed to climate-related risks and enjoy access to government-funded agricultural programs, as the Agricultural Activity Guarantee Program (PROAGRO, in Portuguese) and the Rural Insurance Premium Subsidy Program (PSR, in Portuguese).

Table 1

Brazil's official "Vazio Sanitário" and sowing calendars

	"Vazio Sanitário" calendar	**Sowing calendar**
Mato Grosso	June 8th – September 6th	September 7th – January 7th
Mato Grosso do Sul	June 15th –September 15th	September 16th – December 31st
Goiás	June 27th –September 24th	September 25th – January 2nd
Minas Gerais	Jule 1st – September 30th	October 1st – January 8th
São Paulo	June 1st/June 15th – August 31st/September 15th	September 1st/September 16th – December 24th/January 10th
Paraná	June 2nd/June 22nd – August 31st/September 20th	September 1st/September 21st – December 30th/January 19th
Rio Grande do Sul	July 3rd – September 30th	October 1st – January 28th

Source: MAPA. Table elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA).

State-level highlights

Mato Grosso

Table 2

Area, production, and yield estimates for the state of Mato Grosso, by reporting source (MY 2022/23 – MY 2023/24)

	2023/24			**2022/23**		
	Area (1000 ha)	**Production (1000 MT)**	**Yield (kg/ha)**	**Area (1000 ha)**	**Production (1000 MT)**	**Yield (kg/ha)**
CONAB	12.376	39.344	3,179	12.086	45.600	3,773
IBGE	12.396	39.102	3,154	11.981	44.463	3,711
IMEA[1]	12.478	39.050	3,130	12.122	45.317	3,738

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[1] Mato Grosso's Institute of Agricultural Economics (IMEA)

Farmers concluded harvesting between April 19th and 26th, according to the Mato Grosso's Institute of Agricultural Economics (IMEA). The medium-north region (encompassing municipalities such as Lucas do Rio Verde, Nova Mutum, Sinop, Sorriso, Nova Ubiratã, and others), was the first to conclude harvesting as of March 15th. Constant rains during April slightly delayed the harvest pace in the remaining areas in the southeast region, which ended harvest in the state as of mid-April.

CONAB reports that more favorable weather conditions since late December benefitted late sowed fields with better average yields compared to areas planted in early September-October. During the last quarter of 2023, an El-Niño-driven hot and dry weather pattern reduced yield outlooks by damaging vast parts of the state's soybean fields during critical vegetive stages.

Between January and June 2024, IMEA reduced Mato Grosso's yield projections by three percent, from 3,215 kg/ha (47.8 bu/ac) to its consolidated 2023/24 estimate at 3,130 kg/ha (46.5 bu/ac). This 16 percent reduction compared to 2022/23's record yield (3,738 kg/ha; 55.6 bu/ac) is largely explained by a three percent area increase conducted by IMEA, from 12.2 million ha to 12.5 million ha, following new geoprocessing analysis and satellite imagery from December 2023 to April 2024. Consolidated 2023/24 production estimates have remained unchanged by IMEA at 39 MMT. Upcoming empirical data (such as exports and crushing volumes) in the coming months may indicate a better-than-anticipated yield, despite IMEA having already consolidated its MY 2023/24.

Table 3

Mato Grosso's Production, Supply and Demand (PS&D), 1000 MT (MY 2022/23 – MY 2024/25)

		2022/23	2023/24	2024/25
Supply	Beginning stocks	0.99	0.90	0.63
	Production	45.32	39.05	43.68
	Imports	-	-	-
Demand	Internal state consumption	11.76	12.13	12.47
	Consumption by other states	5.31	3.95	4.41
	Exports	28.34	23.24	26.91
	Ending stocks	0.90	0.63	0.52

Source: IMEA. Table elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA).

Table 4

Area, production, and yield estimates for the state of Rio Grande do Sul, by reporting source (MY 2022/23 – MY 2023/24)

	2023/24			2022/23		
	Area (1000 ha)	**Production (1000 MT)**	**Yield (kg/ha)**	**Area (1000 ha)**	**Production (1000 MT)**	**Yield (kg/ha)**
CONAB	6.765	20.193	2,985	6.555	13.018	1,986
IBGE	6.707	20.282	3,024	6.642	12.693	1,911
EMATER/RS[2]	6.682	19.533	2,923	6.658	12.970	1,948

Between late April and early May, over 440 municipalities of Brazil's southernmost state of Rio Grande do Sul (RGDS) were impacted by their worst climate catastrophe. Record high rainfall levels (up to nearly 800 millimeters in some regions) led to unprecedented floods. Agriculture and livestock were amongst the hardest hit sectors as farms across all regions of the state were underwater for days and weeks.

Pre-floods estimates by the Association of Technical and Rural Extension Enterprises of Rio Grande do Sul (EMATER/RS) projected an area of 6.7 million ha and production at a record high of 22.3 MMT (average state-wide yields at 3,329 kg/ha; 46.8 bu/ac). If confirmed, this would change RGDS back to the position of Brazil's second largest soybean producer in 2023/24. After two seasons affected by dry weather and below-potential production, local farmers expected to yield a full harvest, which would help to offset productivity losses in the Center West region. For more information about the agricultural impacts in Rio Grande do Sul, please see Post's voluntary report "Unprecedented floods in Rio Grande do Sul threaten Brazil's agricultural output | BR2024-0009".

According to EMATER/RS, up until the start of the rains, yield outlooks across RS were very favorable, with outstanding peaks at 5,400 kg/ha (80.3 bu/ac) in some regions and median productivity at 3,300 kg/ha (49.1 bu/ac) across the state. On June 4th, EMATER/RS published a preliminary assessment of agricultural losses. For soybeans, they estimate that nearly 1.49 million ha (22 percent of total area) were affected by the floods, leading to over 2.71 MMT in soybean losses (12 percent of pre-floods expected output) across 15.6 thousand rural properties. With that, EMATER/RS's revised output is at 19.5 MMT with average yields as low as 2,923 kg/ha (43.5 bu/ac).

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[2] Association of Technical and Rural Extension Enterprises of Rio Grande do Sul (EMATER/RS).

Figure 1
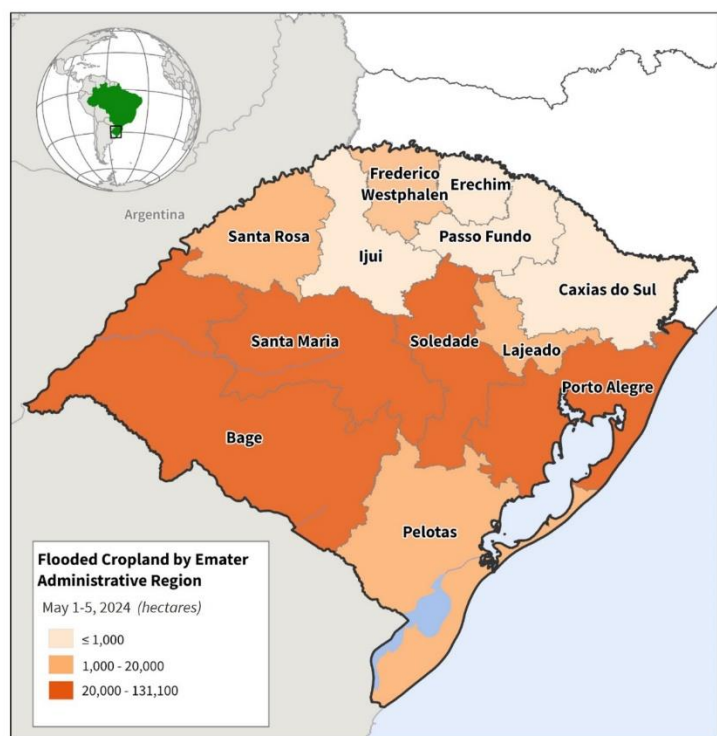
Rio Grande do Sul Flood Statistics by Administrative Region

Rio Grande do Sul is traditionally Brazil's state that finishes harvesting the latest. EMATER/RS estimated that nearly three-quarters of the area had already been harvested when the rains started. As of June 20th, harvesting had been concluded as better weather conditions allowed machineries to enter the fields.

Post-floods harvested grains show significant levels of moisture and quality issues as traders have reportedly rejected soybean shipments with moisture above 25 percent in some regions of the state. The adverse weather also damaged soybean storage silos across several municipalities, casting further

Sources: NOAA/NESDIS, VIIRS Flood Extent (May 1- May 5); ESA WorldCover 2021; UMD GLAD Soybean Cropland Layer, 2023. Chart elaborated by: FAS-Washington.

doubt on RGDS's 2023/24 soybean output.

Goiás

Table 5

Area, production, and yield estimates for the state of Goiás, by reporting source (MY 2022/23 – MY 2023/24)

	2023/24			2022/23		
	Area (1000 ha)	**Production (1000 MT)**	**Yield (kg/ha)**	**Area (1000 ha)**	**Production (1000 MT)**	**Yield (kg/ha)**
CONAB	4.802	16.711	3,480	4.547	17.735	3,900
IBGE	4.655	16.145	3,468	4.435	16.749	3,777

According to CONAB, soybean harvest concluded in the state between May 12th and 19th, with isolated episodes of pests and diseases compromising yields in some late sowed fields. Rains during March and early April slightly hindered harvesting progress but were beneficial for plants in final pod filling stages. CONAB increased its Goiás's area estimates by four percent between April and June, from 4.6 million ha to 4.8 million ha, due to new fields identified in the state's northwestern and westerns regions.

<u>Mato Grosso do Sul</u>

Table 6

Area, production, and yield estimates for the state of Mato Grosso do Sul, by reporting source (MY 2022/23 – MY 2023/24)

	2023/24			2022/23		
	Area (1000 ha)	**Production (1000 MT)**	**Yield (kg/ha)**	**Area (1000 ha)**	**Production (1000 MT)**	**Yield (kg/ha)**
CONAB	4.005	11.315	2,825	3.775	14.054	3,723
IBGE	4.020	11.290	2,808	3.884	14.193	3,654
FAMASUL[3]	4.214	12.347	2,930	4.005	15.007	3,747

Soybean harvest in Mato Grosso do Sul concluded between May 12th and 19th, according to CONAB, with noticeable yield reductions as unfavorable weather across the state had negatively influenced productivity outlooks. Such conditions led reportedly led to both water stress in late sowed fields across the southwestern and western regions, and higher moisture and low sunlight levels in the center-northern region. CONAB also reported incidences of brown stink bugs and whiteflies in late sowed areas, which further pressured yields down.

As of May 22nd, Mato Grosso do Sul's Livestock and Agriculture Federation (FAMASUL) consolidated MY 2023/24 area, production and yield estimates is at 4.2 million ha, 12.3 MMT, and 2,930 kg/ha (43.6 bu/ac), respectively. These numbers represent an 18 percent area reduction (from 2022/23's 15 million ha) and a 22 percent yield reduction (from last season's 3,747 kg/ha; 55.7 bu/ac). Lack of rains during September and October slowed sowing progress, compared to previous years, while hot and dry weather in the last quarter of 2023, during critical plant development stages, hindered an appropriate yield outlook.

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[3] Mato Grosso do Sul's Livestock and Agriculture Federation (FAMASUL).

Paraná

Table 7

Area, production, and yield estimates for the state of Paraná, by reporting source (MY 2022/23 – MY 2023/24)

	2023/24			2022/23		
	Area (1000 ha)	**Production (1000 MT)**	**Yield (kg/ha)**	**Area (1000 ha)**	**Production (1000 MT)**	**Yield (kg/ha)**
CONAB	5.817	18.354	3,155	5.799	22.385	3,860
IBGE	5.819	18.513	3,181	5.834	22.455	3,849
DERAL[4]	5.819	18.513	3,181	5.834	22.556	3,866

According to Paraná's Rural Economy Department (DERAL), harvest in the state concluded between April 22nd and 29th, with 83 percent of grains rated as good and 17 percent rated as average, as of April 29th. Paraná also suffered the consequences of poor weather conditions since early in the season. At first, farmers experienced higher rainfall levels, reduced photoperiods and lower than-average temperatures. Then, weather conditions switched to high temperatures reducing soil moisture during key reproductive phases and shortening the soybean plants' vegetative cycle.

Paraná was the state that suffered the most with rust infection. According to the Brazilian Antirust Consortium, the state registered 128 rust cases, two fifths of all Brazil's 324 cases during MY 2023/24. Over 80 percent of all cases were identified between October and December 2023, when early season rains enabled the proliferation of the disease.

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[4] Paraná's Rural Economy Department (DERAL).

Figure 2

Soybean rust cases in across main producing states during MY 2023/24
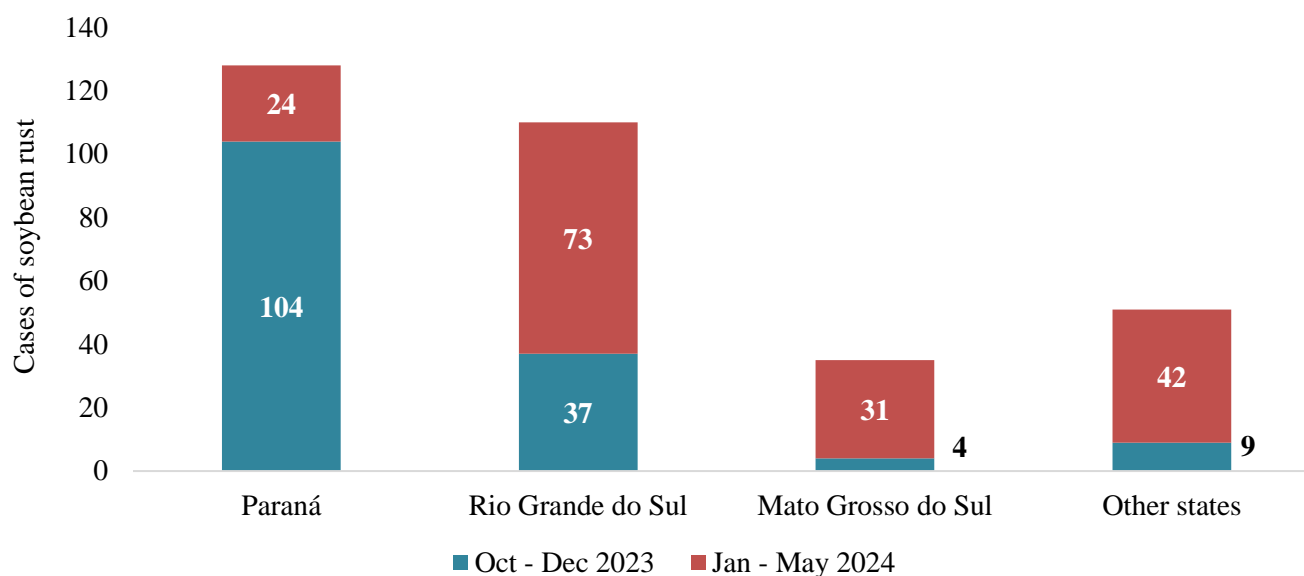
Source: Brazil's Anti-rust Consortium (Consórcio Antiferrugem). Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA).

In this scenario, DERAL reduced by 15 percent the state's yield outlook, between November 2023 (3,746 kg/ha; 55.7 bu/ac) and its latest projection (3,181 kg/ha; 47.3 bu/ac), as of May 27th. Compared to MY 2022/23, Paraná's yields are down by 18 percent from last year's 3,866 kg/ha (57.5 bu/ac), driving output down by nearly four MMT (from 22.6 MMT to 18.5 MMT).

Minas Gerais

Table 8

Area, production, and yield estimates for the state of Minas Gerais, by reporting source (MY 2022/23 – MY 2023/24)

	2023/24			2022/23		
	Area (1000 ha)	**Production (1000 MT)**	**Yield (kg/ha)**	**Area (1000 ha)**	**Production (1000 MT)**	**Yield (kg/ha)**
CONAB	2.252	7.790	3,459	2.171	8.346	3,844
IBGE	2.252	7.669	3,405	2.214	8.459	3,821

According to CONAB, local farmers finished 2023/24 harvesting between May 5th and 12th, with yields varying according to the sowing period. Early planted fields suffered the most with the high temperatures and lack of appropriate rainfalls. Those area sowed, or resowed, between late October and mid-December enjoyed better soil moisture levels. At last, fields planted in December had their productive potential compromised by growing outside the ideal window, despite also benefiting from a more positive weather and water levels in the soil. CONAB also reported infections of silverleaf whiteflies across the state, which pressured yield expectations.

AREA, PRODUCTION AND YIELD (MY 2023/24)

Area

Post revises up its MY 2024/25 area forecast by 650 thousand ha to 46.3 million ha mostly due to an increased MY 2023/24 baseline area estimate. This new projection maintains a one percent area increase from the previous report. If confirmed, this value would represent a slowdown in Brazil's soybean area expansion as average yearly growth had been at nearly four percent over the last decade. The main drivers behind such marginal area increase are reduced available capital to incorporate new lands – resulting from lower soybean rentability compared to previous seasons – and expensive access to credit as basic interest (known as SELIC, in Portuguese) remains at double digits (currently at 10.5 percent/year).

Production

Post revises up its MY 2024/25 production by 2.5 MMT to 160 MMT, a two percent increase from previous report. In the current season, Brazilian farmers experience tighter margins and profits mostly due to yield losses caused by climate adversities and falling international prices between late 2023 and early 2024. Despite this scenario, recent devaluation of the Brazilian real alongside enhanced prices may offer a better-than-anticipated financial relief to producers. This would mostly allow farmers to maintain the technological package (seeds, inputs, fertilizers, etc) used in the last seasons, improving yield projections. Post currently forecasts national average yields at 3,456 kg/ha (51.4 bu/ac), a six percent increase compared to MY 2023/24, but still five percent behind MY 2022/23 record productivity (3,632 kg/ha; 54 bu/ac).

During periods of financial austerity, Post contacts have reported that Brazilian farmers are more prone to secure investments in quality inputs to maintain yields rather than expanding area. Marginal incorporation of new fields will likely take place across Brazil's Center West (mainly Mato Grosso, Mato Grosso do Sul and Goiás) and the MATOPIBA region (composed by the Northern and Northeastern states of Maranhão, Tocantins, Piauí and Bahia). In the case of Mato Grosso, IMEA projects MY 2024/25 area at 12.6 million ha, an increase of less than one percent compared to their current MY estimate. The Southern states of Rio Grande do Sul and Paraná have virtually reached its total soybean area capacity.

Figure 3

Evolution of Soybeans Planted Area, Production and Yield in Brazil compared to 10-year trendline area and yield forecasts (MY 2004/05 – MY 2024/25)
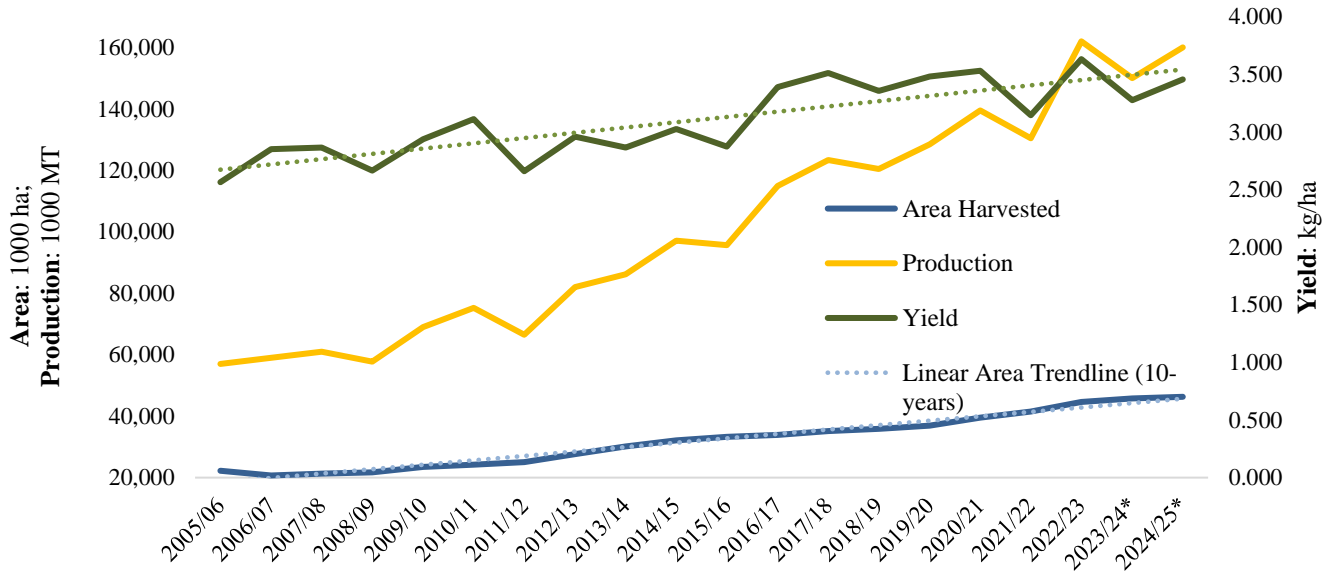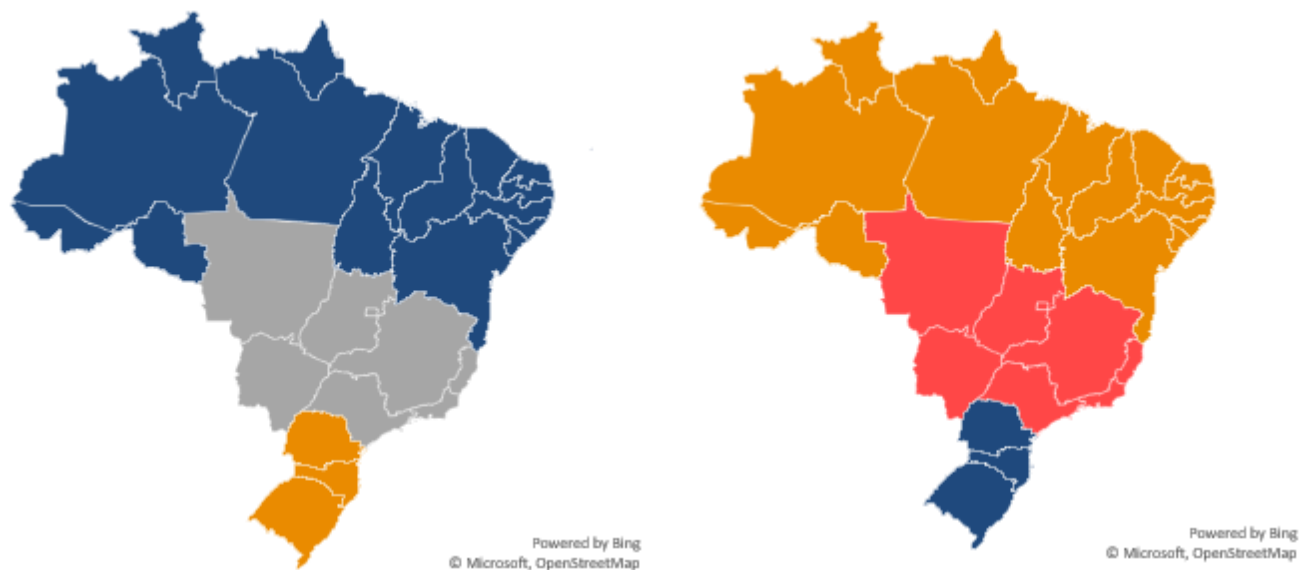

Source: FAS. Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA). Note: Data for the MY marked with (*) considers Post's estimates and forecasts.

Post adopts a more conservative approach to outyear MY 2024/25 area and yield forecasts. Linear trendline considering the past ten seasons (MY 2014/15 – MY 2023/24) point to area and yield numbers at 46.373 million ha and 3,570 kg/ha (53.1 bu/ac). These numbers are 0.2 percent and 3.3 percent higher than Post's MY 2024/25 forecast, respectively. While Post's outyear area already assumes a trendline expansion (difference of only 73 thousand ha), Post understands that the factors below may pressure yields below trendline levels.

1. La Niña: according to the U.S. National Oceanic and Atmospheric Administration's (NOAA) Climate Prediction Center, as of June 13th, there is a 65 percent chance of a La Niña weather pattern starting on the three-months season of June-August-September 2024. Probability peaks at 85 percent of probability in the three months of November-December-January 2024/2025. Differently from an El Niño phenomenon, a La Niña is known for causing above the average rainfalls in Brazil's Northeast and droughts in the Southern region, which encompasses the states of Paraná, Santa Catarina and Rio Grande do Sul (Figure 4). Agrometeorological models often do not accurately forecast La Niña impacts in Brazil's Southeast and Center West regions.

Figure 4

Likely impacts of La Niña (left) and El Niño (right) phenomena across Brazilian states

Source: Flavio Henrique Mendes (Brazilian researcher). Charts elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA). Note: orange = less rains; blue = more rains; red = high temperatures; gray = unclear correlation.

Brazilian soybean growers experienced La Niña effects at some point in half of the last ten seasons, with different consequences. The Table 9 compares this phenomenon's effects by considering the soybean yield variation of a season compared to the average of the immediate previous five seasons (i.e. variation of 2023/24 yields compared to average 2018/19 – 2022/23 yield). In 2016/17 and 2017/18 seasons, yields were above five years average by double digits (18 percent and 16 percent, respectively). In Brazil's record 2022/23, national yields were seven percent higher than five years average. In these three seasons, Brazil experienced a weak La Niña. In 2021/22, however, Brazil's last major weather-related soybean loss before the current MY, yields reduced by nine percent compared to historical average amidst a stronger La Niña, with Southern states bearing the hardest the consequences.

Table 9

Comparison between El Niño/La Niña Phenomena and Brazil's yield variation (MY 2014/15 – MY

Region/State	Season/MY									
	2014 /2015	2015 /2016	2016 /2017	2017 /2018	2018 /2019	2019 /2020	2020 /2021	2021 /2022	2022 /2023	2023 /2024
North	0%	- 19%	7%	9%	7%	11%	6%	4%	6%	0%
Northeast	4%	- 35%	27%	46%	19%	20%	18%	5%	7%	0%
Center West	- 1%	- 3%	11%	16%	8%	12%	5%	2%	7%	- 12%
Mato Grosso	2%	- 7%	8%	13%	7%	11%	5%	8%	7%	- 12%
Mato Grosso do Sul	9%	4%	18%	19%	7%	14%	6%	- 30%	10%	- 16%
Goiás	- 14%	6%	15%	21%	11%	15%	6%	11%	6%	- 7%
Southeast	- 2%	16%	19%	23%	6%	11%	6%	3%	6%	- 12%
South	13%	8%	27%	10%	2%	- 11%	7%	- 45%	-2%	11%
Paraná	8%	0%	25%	11%	- 7%	16%	0%	- 40%	18%	- 4%
Rio Grande do Sul	22%	17%	32%	10%	11%	- 39%	15%	- 53%	- 26%	30%
Brazil (CONAB)	4%	- 1%	18%	16%	7%	5%	7%	- 12%	5%	- 4%
Brazil (WASDE)	4%	- 2%	18%	16%	7%	8%	6%	- 9%	7%	- 2%
El Niño/La Niña Magnitude	WE	VSE	WL	WL	WE		ML	ML	WL	ME

2023/24)

Source: CONAB (yield estimates) and NOAA (El Niño/La Niña influence and strength). Table elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA). Note: WE = weak El Niño; ME = medium El Niño; VSE = very strong El Niño; WL = weak La Niña; ML = medium La Niña.

While the precise magnitude of this year's La Niña phenomenon remains to be seen, latest available data from CPC indicate the highest probability of a weak La Niña (up to -0.5 ° Celsius). Considering the uncertain La Niña effects on Center Western weather conditions, Post adopts a more conservative yield forecast. Upward revisions, or otherwise, in the coming reports are possible as new agrometeorological data becomes available.

2. Rio Grande do Sul: with the recent climate disaster afflicting several links of the state's agricultural sector, including soybean farmers and traders, it is possible that RGDS farmers supply lower volumes in

MY 2024/25. According to EMATER/RS, floods disproportionately affected soybean areas (1.49 million ha, which is 86 percent of affected area across all crops), causing the majority of grain crop losses (2.71 MMT, 69 percent of total crop losses). These significant impacts will arguably lea to financial hard times as producers will need to restructure their properties, physically and economically. Amidst lower prices and high production costs, RGDS farmers may reduce MY 2024/25 area and investments, potentially pressuring Brazil's national wide yields downwards. It is noteworthy that portions of the state have remained underwater for weeks. In the case of flooded agricultural fields, fertility levels and soil integrity issues may hinder yields in the upcoming seasons.

3. Lower rentability: Mato Grosso's soybean growers have faced thigh margins during 2023/24 season, with a similar outlook expected for 2024/25. According to IMEA, the difference between a weighted price used for soybean commercialization and its breakeven margin has been of R$ 1.43/60kg bag (US$ 12 cents/bu), as of May 2024 estimates. This value is significantly below the R$ 34.42/60kg bag (US$ 290 cents/bu) and R$ 78.89/60kg bag (US$ 663 cents/bu) in the 2022/23 and 2021/22, respectively. With less available capital, producers will likely be less prone to invest in area expansion and highly technology intensive inputs.

Figure 5

Evolution of farmers' yield and breakeven point in Mato Grosso (MY 2021/22 – MY 2024/24)
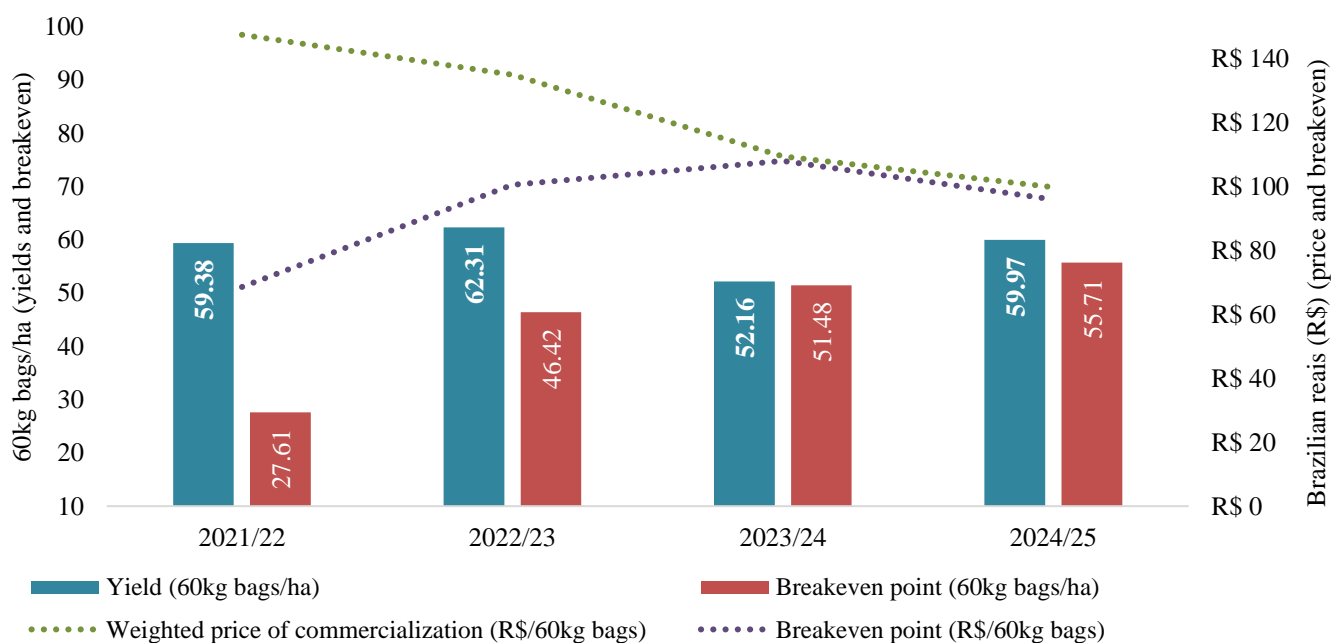

Source: Brazil's National Rural Learning Service (SENAR) and IMEA with data from the monitoring of the costs of agricultural production in Mato Grosso (Acapa-MT, in Portuguese) Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA).

4. High costs of production: according to the Agricultural Policy and Defense Committees of the Mato Grosso Soybean and Corn Producers Association (Aprosoja-MT), agricultural inputs prices remain 53 percent higher than pre-pandemic levels, on average, despite notable reductions since 2022. Monoammonium phosphate ($NH_4H_2PO_4$) has registered the highest spike between March 2020 (R$ 2,023/MT; US$ 375/MT) and March 2024 (R$ 3,855 /MT; US$ 715/MT), representing a 91 percent increase in four years. The price of other fertilizers and inputs also significantly increased in this period, most notably NPK macronutrients (61 percent); single superphosphate (SSP) (47 percent); urea (44 percent); and potassium chloride (KCl) (22 percent).

According to IMEA, consolidated MY 2023/24 overall economic costs of production fell by five percent compared to MY 2022/23, from R$ 7,622/ha (US$ 1,413/ha) to R$ 7,276/ha (US$ 1,349/ha). A reduction of nearly 25 percent in the costs with fertilizers more than compensated slight increases in costs of opportunity, depreciation, rent, maintenance, and labor. For MY 2024/25, IMEA forecasts a plateaued trend, with a modest one percent reduction to R$ 7,196/ha (US$ 1,334/ha).

Figure 6 and Figure 7

Evolution of main costs of production by type of costs (left) and aggregated categories of costs of production in Mato Grosso (MY 2021/22 – MY 2024/25)
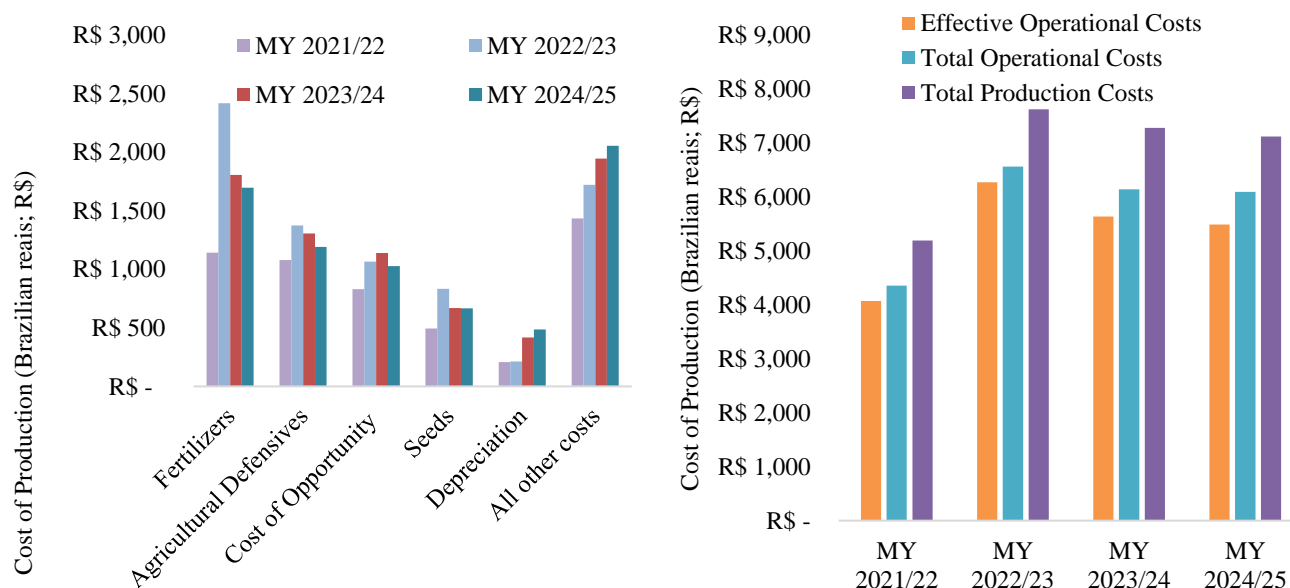
Source: IMEA. Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA). Note: "All other costs" include financing and insurances, lease, maintenance, taxes and fees, labor, post-production, mechanized operations, family labor, and other general costs.

DOMESTIC CONSUMPTION

Post revises up its MY 2023/24 crush volumes by 600 thousand MT to 55.1 MMT, nearly one percent higher than MY 2022/23's revised number at 54.6 MMT. Such revision in the previous MY considers the consolidated crushing numbers by the Brazilian Association of Vegetable Oil Industries (ABOIVE) between February 2023 and January 2024. For MY 2024/25, Post forecasts Brazil's crush at 55.3 MMT.

Post considers three main reasons for both MY's projections. First, Brazil's increased biofuels blend mandate driving higher crushing volumes. As of March 2024, the federal government raised it from B12 to B14 with projections to reach B15 by March 2025.

Secondly, gross crushing margins remain attractive at an average of R$ 432/MT (US$ 80/MT) between February and May 2024. Although it is 17 percent below MY 2022/23 (R$ 522/MT; US$ 97/MT), gross margins remain higher than seasons between MY 2018/19 and MY 2021/22.

Figure 8

Evolution of gross crushing margins in Brazil (MY 2018/19 – MY 2023/24)
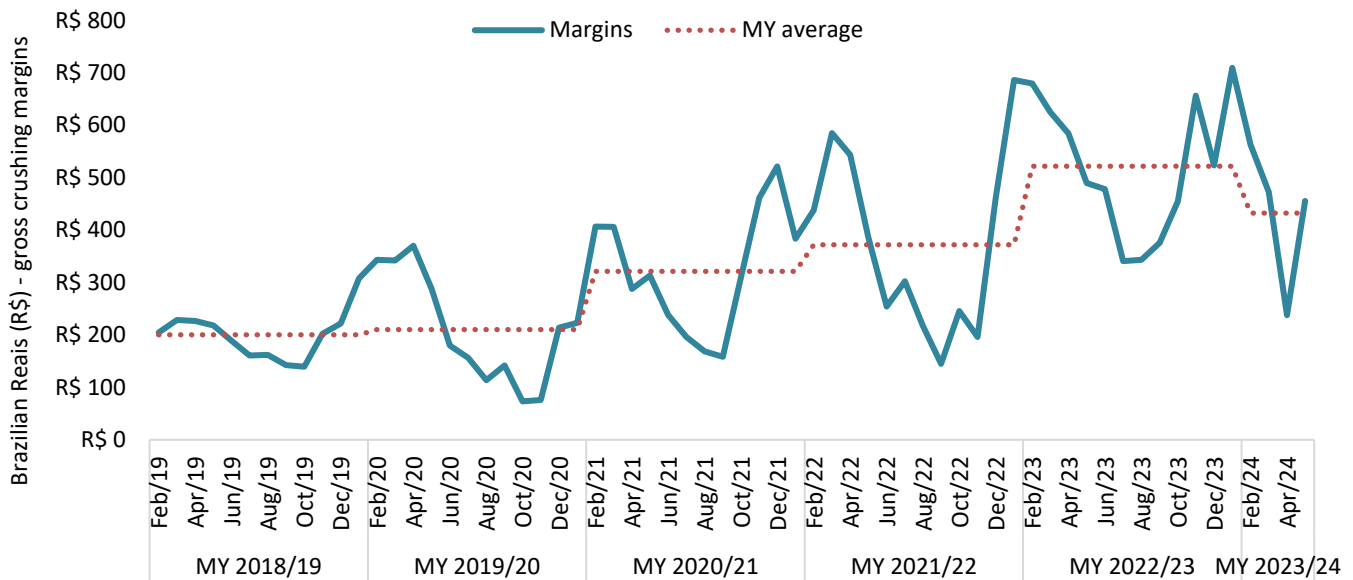
Source: ABIOVE. Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA). Note: for calculations, it was considered domestic spot prices for soybean (grain), soybean oil and soybean meal, all in MT unit.

Finally, Argentina is set to resume high levels of soybean crushing in MY 2023/24, claiming back the position as the world's main soybean oil and meal exporter. This may reduce the incentives for Brazilian crushers to export processed products – particularly soy oil –, redirecting its supply to domestic consumption.

For soybean oil, Post revises up production numbers for all three analyzed marketing years due to increased crushing volumes and slightly higher extraction rate, rounded at 20 percent. For MY 2022/23, production estimate is revised up from 10.4 MMT to 10.9 MMT. MY 2023/24's estimate is increased by 520 thousand MT to 11 MMT. Outyear MY 2024/25 forecast is adjusted upwards by 460 thousand MT to 11.1 MMT. An important driver behind these revisions is the consolidated estimates of biodiesel (B100) production by the Brazilian National Agency for Petroleum, Natural Gas and Biofuels (ANP).

Between February 2023 and January 2024, Brazil reportedly produced 7.7 million cubic meters of biodiesel, presumably using 4.7 MMT of soybean oil, considering the average share of oil used in this fuel's production. This new estimate is 12 percent higher than last report's 4.2 MMT. Considering this new 2022/23 soybean oil industrial consumption baseline, Post revises up MY 2023/24 and MY 2024/25 numbers to 5.9 MMT and 6.4 MMT, respectively.

The regions of Center West and South are the main biodiesel producers in Brazil, having been responsible for nearly 91 percent of the country's output in MY 2022/23 (February 2023 – January 2024).

Figure 9

Evolution of monthly domestic consumption of soybean oil used in biodiesel production, in the current MY and the previous five MYs
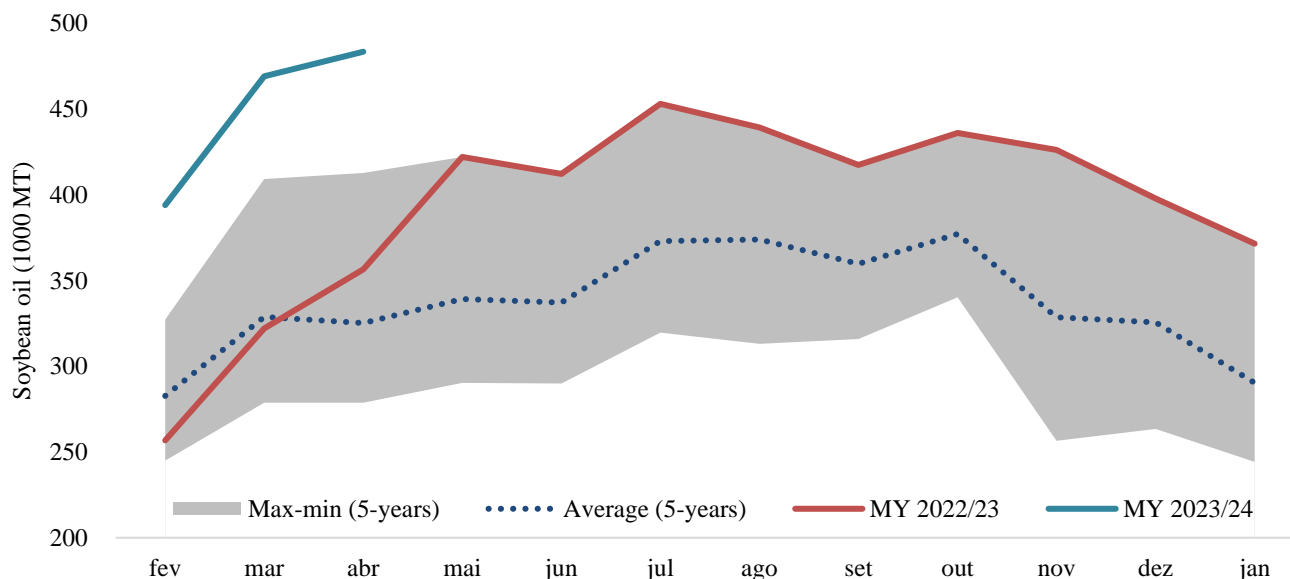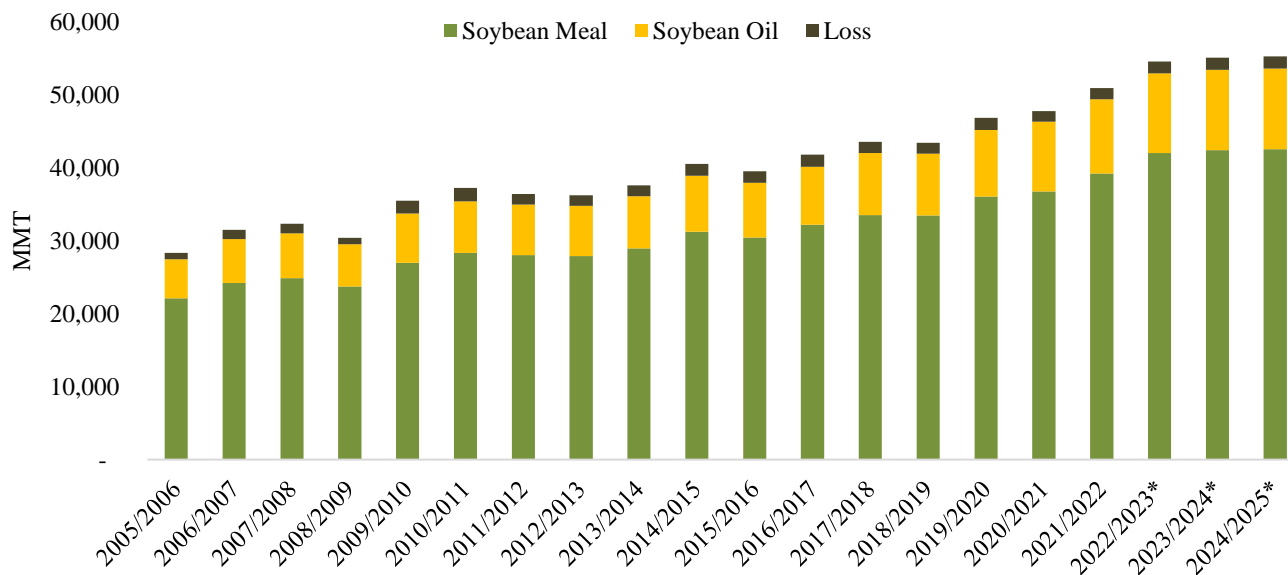

Source: ANP. Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA). Note: to reach these numbers, Post converted ANP's biodiesel production from cubic meters to MT, and then considered the percentage of soybean oil used in biodiesel production.

For soybean meal, Post's production volumes changed slightly from previous report's due to higher crushing numbers and new extraction rate, rounded at 77 percent. MY 2023/24 production estimate is at 42.4 MMT – 127 thousand MT higher than Post's last estimate – while outyear MY 2024/25 production forecast is at 42.6 MMT. Feed consumption remains unchanged for both seasons at 21 MMT.

Figure 10

Evolution of Soybeans Crushing, and Soy Meal and Oil Production in Brazil (2005/06 – 2024/25)

Source: USDA Foreign Agriculture Service (FAS). Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA). Note: (a) data for the latest three MY, marked with (*), considers Post's estimates and forecasts; (b) is considered loss the quantity crushed minus the produced quantity of soy meal and oil.

The recent floods in Rio Grande do Sul have also impacted the state's crushing supply chain. Market reports indicate grain deliveries reaching soybean drying and storage facilities with moisture levels as high as 30 percent (usually soybean grains leave the farms at an average of 16 percent of moisture). While this has created logistical bottlenecks, Post contacts report that the situation in Rio Grande do Sul should not significantly impact Brazil's national wide crushing projections, and that fuel stocks are enough to curb any shortage risk.

Brazil's energy policymakers also reacted to the calamity in Rio Grande do Sul. On May 6th, ANP allowed for a 30-day waiver in the biodiesel blend mandate for the state, from the current 14 percent (B14) to two percent (B2). Representatives from Brazil's oil, gas and biofuels industries mentioned logistical challenges in their operations. The state is the fourth largest crusher in Brazil, with installed capacity to process up to 31.8 thousand MT per day (15 percent of national capacity), according to ABIOVE.

PRICES AND COMMERCIALIZATION

Despite average May 2024 CBOT prices (US$ 1,216 cents/bushel) being 12 percent lower than average May 2023's (US$ 1,383 cents/bushel), international prices have reacted compared to April's 2024. In part, concerns about Brazil's 2023/24 crop amidst the disaster in Rio Grande do Sul fostered a recent slight recovery.

Figure 11
Evolution of CBOT Prices Compared to Domestic (Spot) Prices (MY 2020/21 – MY 2023/24)
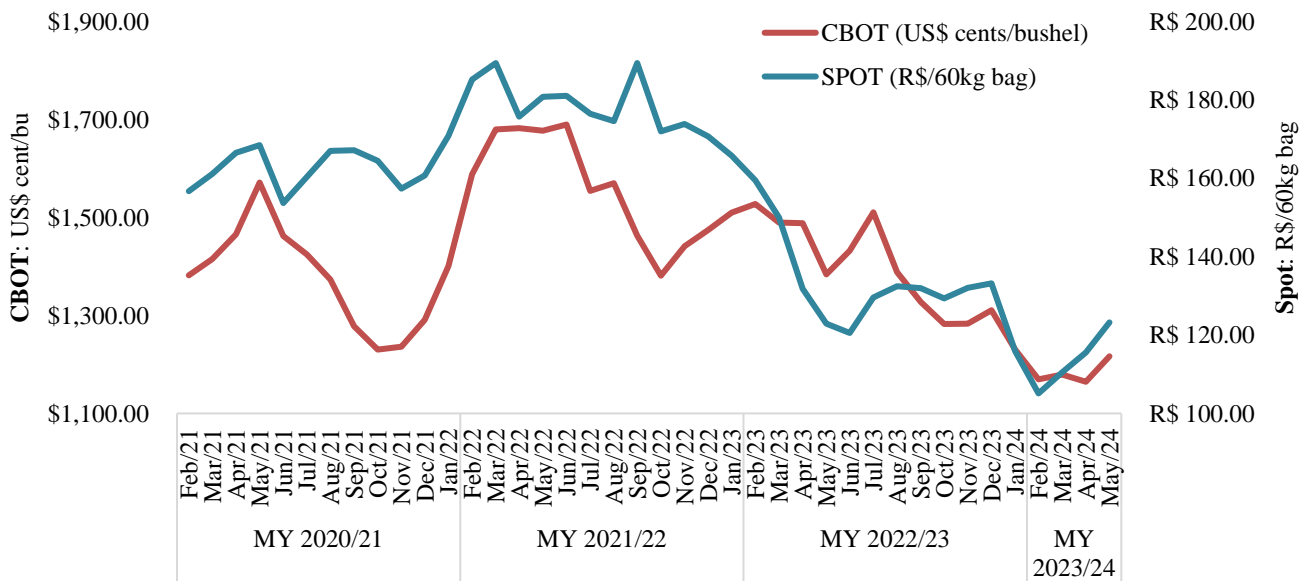
Source: Safras & Mercados. Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA).

Looking ahead, Post contacts report that prices and basis should remain positive throughout the rest of 2024, creating a more favorable environment for producers to sell. Also, a recent devaluation of the Brazilian real (R$) against the U.S. dollar – down by over 10 percent between January 15th, 2024 and June 12th, 2024 – have supported domestic prices. Financial market analysts project the U.S. dollar above R$ 5 for the rest of the year.

This scenario has trigged Brazilian farmers to increase soybean commercialization. According to Safras & Mercados, a leading local agricultural consultancy company, national wide old MY 2023/24 crop selling was at 41 percent as April 5th (16.7 percentual points behind five years average); by June 10th, it reached 64.6 (closer to the five years average of 70 percent of commercialization). For new MY 2024/25 crop, farmers have sold 10 percent of expected crop (against 18 percent by the same period in the five years average).

In Mato Grosso, farm selling reached 78 percent and 17 percent for MY 2023/24 and MY 2024/25 crops, respectively, according to IMEA. These values are 22 percentual points and 10 percentual points

ahead of March 2024 commercialization levels, respectively, indicating that Mato Grosso's farmers more aggressively caught up sales to benefit from slightly better market conditions in the short term.

As for MY 2024/25, prices should be significantly pressured due to a forecasted record soybean harvest in the United States alongside Brazil's second largest output in history (the latter considers Post's projections).
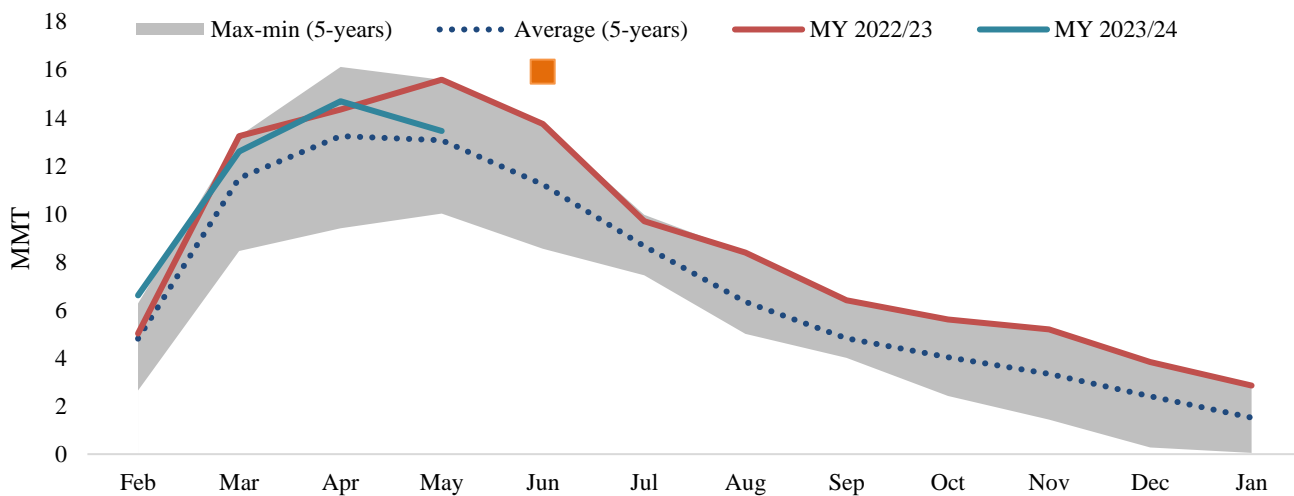
TRADE

Soybean (MY 2023/24)

Post revises down Brazil's MY 2023/24 exports estimates to 94 MMT (one percent less than Post's previous report) due to reduced crop output and slower export performance since February 2024. Up until May 2024, Brazil exported 47.3 MMT of soybeans in the current MY, two percent less than in the same period last year (February 2023 – May 2023). Still, this volume is 11 percent higher than the average of the past five years (42.6 MMT) for the first four months of a MY. In June 2024, Brazil's soybean line up is at approximately 15.9 MMT, of which 11.9 MMT had already been shipped until June 22nd, according to ANEC.

Exports on January and February 2024 were record for these months, indicating high MY 2022/23 ending stocks. Soybean shipments on March and May 2024 underperformed compared to the same months last MY, which may evidence reduced output due to lower national wide yields. MY 2023/24's export program, however behind MY 2022/23's pace, remains well above five years average as Brazil braces for its second highest export performance. Data of actual exports in the coming months will be crucial to assess whether this MY's international sales will be similar to last season's record 103.9 MMT.

Figure 12

Evolution of Brazil's soybean monthly exports, in the current MY and the previous five MYs

Analyzing Brazil's exports sub nationally, Mato Grosso's and Mato Grosso do Sul's reduced February – May 2024 soybean shipments volumes have driven down Brazil's early MY export performance, compared to the same period last season (Table 10).

Table 10

Comparison between soybean production across key states and their respective state-level soybean exports, in the current MY and the previous five MYs

State	Feb – May Exports (MMT)			% of Exports vs Production (1)	Five-year Average % of Exports vs Production (2)
	MY 2023/24	MY 2022/23	Five Years Average		
Mato Grosso	16,3	17,7	15,6	42%	62%
Goiás	5,8	5,7	4,4	35%	53%
Paraná	4,4	3,8	4,1	24%	53%
Minas Gerais	3,6	3,4	2,6	46%	70%
Mato Grosso do Sul	3,3	3,5	2,6	29%	43%
Rio Grande do Sul	1,6	1,0	2,3	7%	62%
Others	12,5	13,1	10,9		
Total	**47,3**	**48,2**	**42,6**		

From the demand side, China's soybean purchases remain strong, with February – May 2024 imports at 29.5 MMT. This value is close to the registered in the same period in 2023, at 31.5 MMT. Brazil supplied 70 percent of this volume (20.6 MMT), and the United States supplied 26 percent (7.5 MMT). With basis in the Port of Paranaguá becoming positive in May 2024 (at nearly US$ 9.75 cent/bu) – and likely to remain positive at least until December – and a further devalued Brazilian real, local exporters are set to register the second largest export season in history. Reduced MY 2023/24 crop due to lower yields in and the floods in the South are notably the main restraints keeping Brazil from reaching triple digits export volumes until January 2025.

Figure 13

Evolution of China's Feb-May soybean imports, in the current MY and the previous five MYs
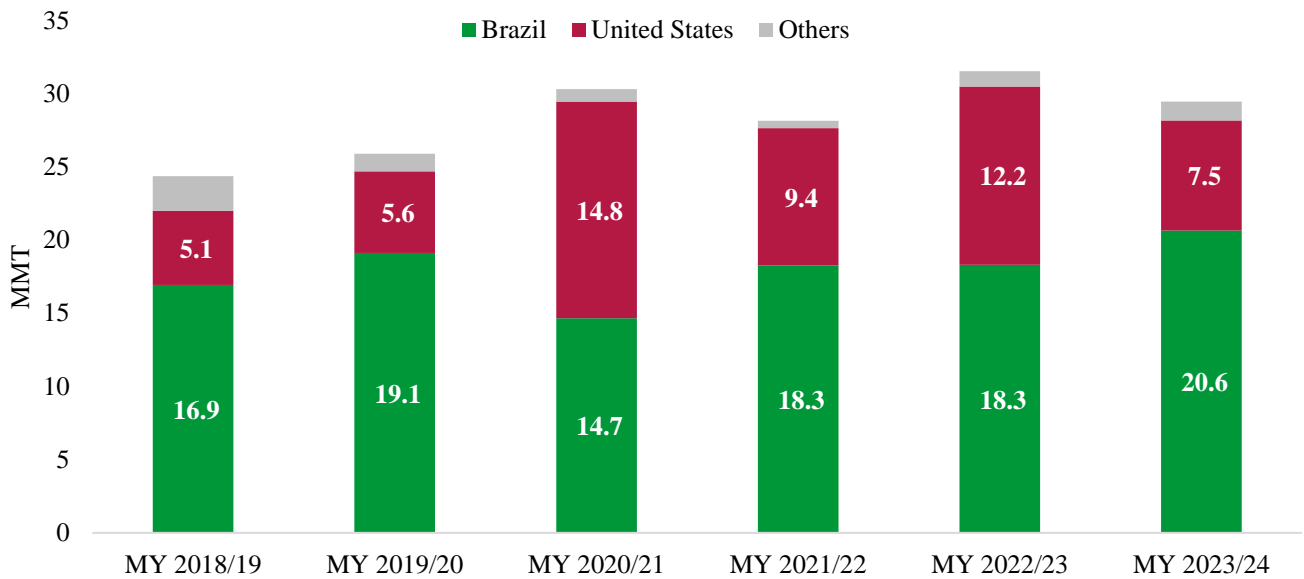
Source: TDM. Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA).

Post also raises its MY 2023/24 imports estimates to 700 thousand MT. Since the beginning of the MY (February 2024), Brazil already imported 401 thousand MT, which is five times more than the same period last year (78 thousand MT) and 123 percent above the five seasons February – May average (180 thousand MT). Paraguay supplied virtually all Brazil's soybean imports (99 percent), as the neighbor country reaps a record harvest.

Soybean (MY 2024/25)

For outyear, Post maintains its soybean exports forecast at 99 MMT. The main reasons include: (i) sustained international demand (forecasted three percent yearly growth, according to USDA's June WASDE) – mostly from Asia –; (ii) higher harvested volumes; (iii) a favorable exchange rate; and (iv) higher competitiveness compared to other competitors, as the United States.

Assuming low La Niña impacts across key producing states, Brazil should harvest its second largest crop ever, behind only to MY 2022/23, according to Post numbers. From the demand side, China's record forecasted crushing and imports volumes should more than offset its record high stock-to-use ratio (31 percent by the end of MY 2024/25). Brazil should continue to claw a significant share of China's imports due its relatively lower production costs and devaluating local currency. In turn, this scenario will likely pressure prices further down and strengthen U.S.-Brazil soybean competition in foreign markets.

Post will monitor the developments of recent U.S.-China trade policy rivalry. On one hand, China filled a formal dispute at the World Trade Organization (WTO), on March 2024, against U.S.'s provisions towards its domestic electric vehicle industry through 2022 Inflation Reduction Act (IRA). On the other, the United States raised tariffs on a range of Chinese-origin goods. Amidst previous trade tensions in 2018 and 2019, Brazil's soybean exports thrived when China raised tariffs on U.S. soybeans.

By-products (MY 2023/24 and MY 2024/25)

For soybean oil, Post revises down MY 2023/24 to 1.1 MMT, a down from last report's 1.3 MMT estimate. The main drivers behind this downward revision include: (i) India's reduced imports estimates; (ii) Brazil's slow early MY export performance; (iii) Argentina's resumption in world supply of soybean by-products and (iv) higher Brazilian domestic demand for biodiesel.

India is traditionally the main importer of Brazil's soybean oil, buying nearly half of Brazilian soybean oil exported in the previous five MYs. However, according to USDA WASDE's PS&D, India's imports estimates for MY 2023/24 are down by approximately one quarter, compared to MY 2022/23, mostly driven by reduced demand for human consumption.

Brazil registered February – May 2024 soybean oil exports at 443.8 thousand MT. This value is 55 percent behind the same period in the last MY (986.2 thousand MT) and 31 percent behind the average of the past five MY (645.6 thousand MT).

Figure 14

Evolution of Brazil's soybean oil monthly exports, in the current MY and the previous five MYs
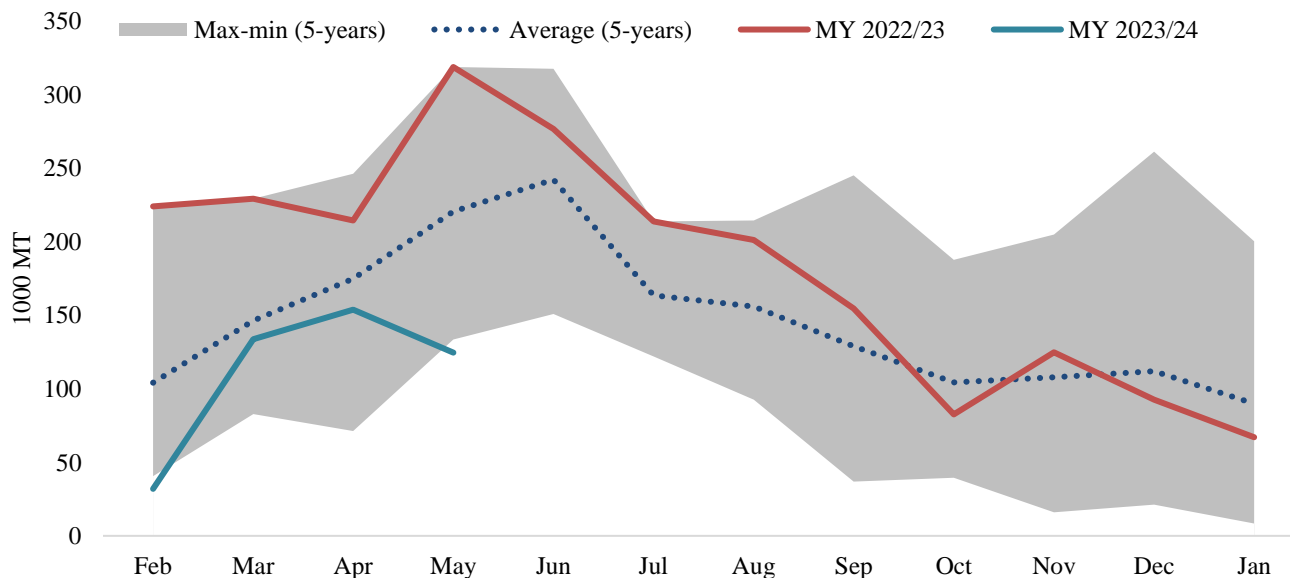

Source: Brazil's Secretariat of International Trade (SECEX). Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA).

'Alongside a reduced world imports outlook for MY 2023/24, Argentina has resumed its high volumes of soybean crush and exports of by-products. Between February – May, Argentina exported 2.1 MMT of soybean oil (Figure 16), a 53 percent increase from the same period last season (when farmers experienced massive crop losses, which implied in lower crush and exports) and 24 percent higher than the five years average for this period. Risks of riots across Argentina involving different sector, including grain crushers, may negatively impact the country's supply available for exports, and, if confirmed, possibly open opportunities to increased Brazil by-products exports.

Figure 15 (left) and 16 (right)

Argentina's Feb-May soybean meal (left) and oil (right) exports (MY 2018/19 – MY 2023/24)
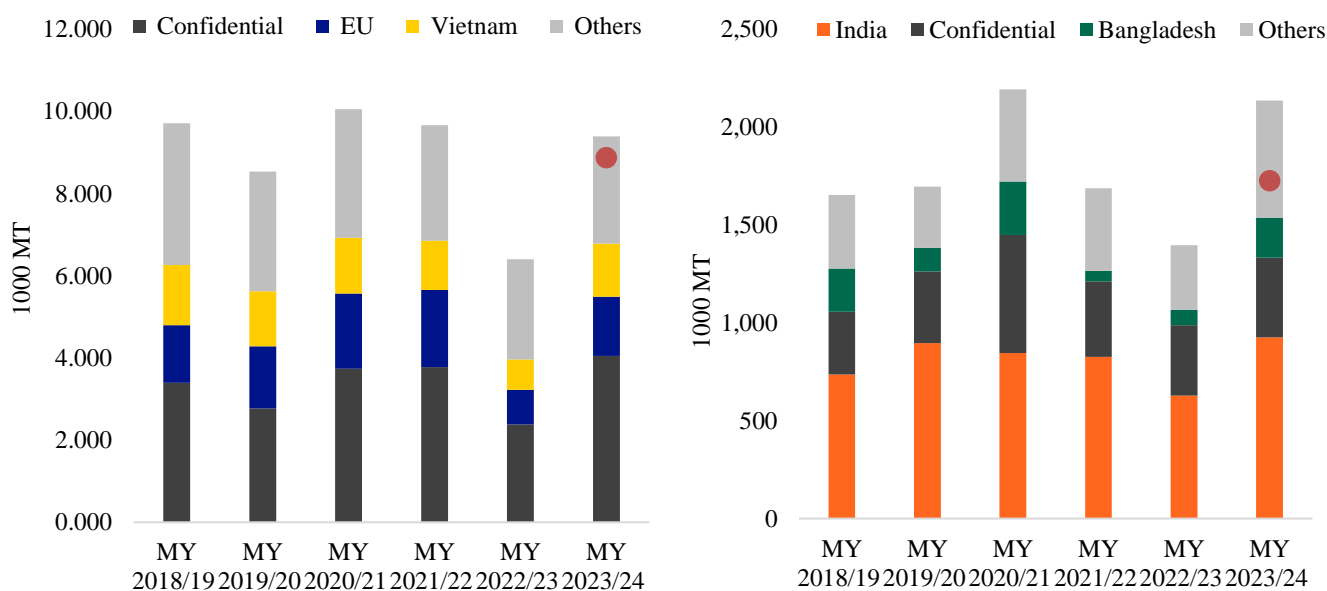
Source: TDM. Chart elaborated by: Post Brasilia (Office of Agricultural Affairs – OAA). Note: the red circle over the MY 2023/24 data bar represents the 5-years average export volumes during the Feb-May period.

For 2024/25, Post revises up soybean oil exports by 200 thousand MTs to 1.2 MMT due to both a record high domestic crush and a five percent forecasted increase in world imports, largely driven by India (17 percent higher than MY 2023/24 estimates).

Regarding soybean meal, Post maintains MY 2023/24 exports estimates at 21.5 MMT in the back of higher crushing volumes and growing world imports outlook (up by eight percent compared to MY 2022/23, according to USDA's WASDE). For MY 2024/25, post slightly revises up meal export forecast to 21.7 MMT (two percent higher than previously reported) due to Brazil's record high soybean crush and higher imports forecast. However, soybean meal prices are set to be significantly pressured in the medium term as crush in Brazil, the United States and Argentina increasingly outpace world meal imports in the coming seasons (due to higher domestic demand for biofuels).

Post also revises up MY 2024/23 import estimates to 25 thousand MT. This revision considers that Brazil has already imported, between February and May 2024 alone, imported 10 thousand MT.

STOCKS

Post assumes USDA WASDE's beginning stocks for MY 2022/23 in Brazil, at 5.6 MMT. This elevates back year ending stocks and consequently MY 2023/24 beginning stocks. By the end of the current season, Post estimates stocks at 3.5 due to high crushing volumes and strong exports. For MY 2024/25, Post forecasts ending stocks at 5.7 MMT as total supply (beginning stocks plus production) reaches nearly 164 MMT.

Post estimates soybean oil MY 2023/24 ending stocks at 782 thousand MT as reduced exports do not seem capable of absorbing higher crushing volumes. For outyear, Post's forecasts stocks to resume to regular levels at 482 thousand MT due to increased industrial domestic demand for biodiesel production. Soybean meal stocks remain relatively unaltered, except for slight changes resulting from revised supply and demand forces explained above (higher crushing, stable feed demand and marginal export growth next MY).

Table 11

Soybean Production, Supply and Distribution

Oilseed, Soybean (Local)	2022/2023		2023/2024		2024/2025	
Market Year Begin	Feb 2023		Feb 2024		Feb 2025	
Brazil	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted (1000 HA)	44,600	44,600	45,800	45,800	47,300	46,300
Beginning Stocks (1000 MT)	5,625	5,625	7,971	5,648	6,821	3,598
Production (1000 MT)	162,000	162,000	153,000	150,000	169,000	160,000
Imports (1000 MT)	181	298	600	700	150	250
Total Supply (1000 MT)	167,806	167,923	161,571	156,348	175,971	163,848
Exports (1000 MT)	101,870	103,885	97,000	94,000	109,000	99,000
Crush (1000 MT)	54,165	54,590	54,000	55,100	54,500	55,300
Food Use Dom. Cons. (1000 MT)	0	0	0	0	0	0
Feed Waste Dom. Cons. (1000 MT)	3,800	3,800	3,750	3,650	4,000	3,700
Domestic Consumption (1000 MT)	57,965	58,390	57,750	58,750	58,500	59,000
Ending Stocks (1000 MT)	7,971	5,648	6,821	3,598	8,471	5,848
Total Distribution (1000 MT)	167,806	167,923	161,571	156,348	175,971	163,848
Yield (MT/HA)	3.632	3.632	3.341	3.275	3.573	3.456

Table 12

Soybean Oil Production, Supply and Distribution

Oil, Soybean (Local)	2022/2023		2023/2024		2024/2025	
Market Year Begin	**Feb 2023**		**Feb 2024**		**Feb 2025**	
Brazil	**USDA Official**	**New Post**	**USDA Official**	**New Post**	**USDA Official**	**New Post**
Crush (1000 MT)	54,165	54,590	54,000	55,100	54,500	55,300
Extr. Rate, 999.9999 (PERCENT)	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
Beginning Stocks (1000 MT)	357	357	503	412	528	782
Production (1000 MT)	10,833	10,918	10,800	11,020	10,900	11,060
Imports (1000 MT)	21	21	25	100	25	40
Total Supply (1000 MT)	11,211	11,296	11,328	11,532	11,453	11,882
Exports (1000 MT)	2,333	2,199	1,850	1,100	1,500	1,200
Industrial Dom. Cons. (1000 MT)	4,300	4,710	4,800	5,900	5,200	6,400
Food Use Dom. Cons. (1000 MT)	4,075	3,975	4,150	3,750	4,225	3,800
Feed Waste Dom. Cons. (1000 MT)	0	0	0	0	0	0
Domestic Consumption (1000 MT)	8,375	8,685	8,950	9,650	9,425	10,200
Ending Stocks (1000 MT)	503	412	528	782	528	482
Total Distribution (1000 MT)	11,211	11,296	11,328	11,532	11,453	11,882

Table 13

Soybean Meal Production, Supply and Distribution

Meal, Soybean (Local)	2022/2023		2023/2024		2024/2025	
Market Year Begin	**Feb 2023**		**Feb 2024**		**Feb 2025**	
Brazil	**USDA Official**	**New Post**	**USDA Official**	**New Post**	**USDA Official**	**New Post**
Crush (1000 MT)	54,165	54,590	54,000	55,100	54,500	55,300
Extr. Rate, 999.9999 (PERCENT)	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700
Beginning Stocks (1000 MT)	3,534	3,534	2,475	2,461	2,965	2,413
Production (1000 MT)	41,707	42,034	41,580	42,427	41,965	42,581
Imports (1000 MT)	8	9	10	25	10	5
Total Supply (1000 MT)	45,249	45,577	44,065	44,913	44,940	44,999
Exports (1000 MT)	22,474	22,917	20,500	21,500	20,500	21,700
Industrial Dom. Cons. (1000 MT)	0	0	0	0	0	0
Food Use Dom. Cons. (1000 MT)	0	0	0	0	0	0
Feed Waste Dom. Cons. (1000 MT)	20,300	20,200	20,600	21,000	21,200	21,000
Domestic Consumption (1000 MT)	20,300	20,200	20,600	21,000	21,200	21,000
Ending Stocks (1000 MT)	2,475	2,461	2,965	2,413	3,240	2,299
Total Distribution (1000 MT)	45,249	45,577	44,065	44,913	44,940	44,999

Attachments:

No Attachments