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Report Highlights:

The Brazilian orange crop for Marketing Year (MY) 2023/24 is forecast at 408 million 40.8-kg boxes (MBx) - standard reference, equivalent to 16.5 million metric tons (MMT), a decrease of 1.03 percent compared to the estimate of current crop MY 2022/23 (around 412.3 million boxes or 16.67 MMT), due to the incidence of greening, which has been affecting Brazil's citrus belt. Meanwhile, the average fruit weight is expected to be 158 grams for MY 2023/24, as a result of unfavorable climate and diseases, with expectations of lower production and fruit quality. FCOJ 65 Brix equivalent production for MY 2023/24 is forecast at 1.05 MMT, a decrease of 1.64 percent vis-à-vis the estimate for MY 2022/23 (1.12 MMT), due to downward expected availability of fruit for processing provoked by extremely high temperatures and the greening incidence. A significant share will keep supplying the U.S. market due to limited juice availability from Florida provoked by hurricane Ian.

FRESH ORANGES

PS&D Table

The following table provides total Brazilian fresh orange production, supply, and distribution (PS&D) for Brazilian (BR) marketing years (MY, July-June) 2022/23, 2023/24, and 2024/25. The MY mentioned above are equivalent to U.S. MY 2021/22, 2022/23, and 2023/24, respectively.

Table 1

Production, Supply and Distribution for Brazilian Fresh Oranges

Oranges, Fresh Market Year Begins Brazil	2021/2022		2022/2023		2023/2024	
	Jul 2022		Jul 2023		Jul 2024	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted (HECTARES)	614100	614100	617600	600000	0	590000
Area Harvested (HECTARES)	546400	546400	537100	510000	0	500000
Bearing Trees (1000 TREES)	228000	228000	231000	200476	0	198000
Non-Bearing Trees (1000 TREES)	34300	34300	38800	40000	0	42000
Total No. Of Trees (1000 TREES)	262300	262300	269800	240476	0	240000
Production (1000 MT)	16932	16932	16753	16673	0	16500
Imports (1000 MT)	28	28	27	27	0	30
Total Supply (1000 MT)	16960	16960	16780	16700	0	16530
Exports (1000 MT)	0	0	0	0	0	0
Fresh Dom. Consumption (1000 MT)	4669	4669	4690	4500	0	4530
For Processing (1000 MT)	12291	12291	12090	12200	0	12000
Total Distribution (1000 MT)	16960	16960	16780	16700	0	16530

(HECTARES) ,(1000 TREES) ,(1000 MT)

Note: There is a one-year lag between the BR MY and the U.S. MY. For example, BR MY 2023/24 is equivalent to U.S. MY 2022/23. To ensure data continuity, the current Brazilian MY 2023/24 will be referred to as U.S. MY 2022/23 throughout this report.

General

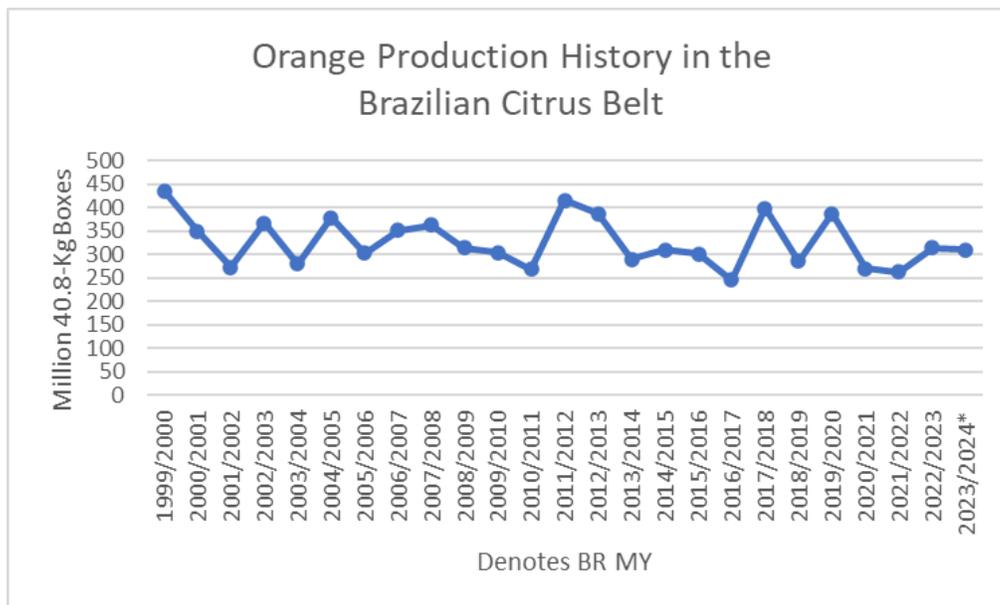
Post forecasts the total Brazilian orange crop for MY 2023/24 (July/June) at 408 million 40.8-kg boxes (MBx) - standard reference, equivalent to 16.5 million metric tons (MMT), a decrease of 1.03 percent compared to current Post estimate for MY 2022/23 (412.3 million boxes or 16.67 MMT), due to greening incidence.

The commercial area of the state of São Paulo and the western part of Minas Gerais (known as “Triângulo Mineiro”) should produce 307 million 40.8-Kg boxes (12.52 MMT) for MY 2022/2023, a projection based on the most recent data released by the Defense Fund for Citriculture (Fundecitrus) in December 2023. Considering the total citrus belt estimated production, approximately 27.60 million boxes should be harvested in the Triângulo Mineiro region, as reported by Fundecitrus, and 280 million boxes in São Paulo.

Around 30 percent of Brazil’s orange production is destined to the market and 70 percent is used for juice processing. The main orange varieties that Brazil produces are Hamlim, Westin, Rubi, Valencia

Americana, Seleta, Pineapple, BRS Alvorada, Pera Rio - pear orange, Valencia, “Folha Murcha” Valencia, and Natal. The citriculture chain in Brazil is highly industrialized.

Figure 1
Orange Production History in the Brazilian Citrus Belt



Source: Fundecitrus Data, chart elaborated by OAA Brasilia
2023/2024*: projection

The graph above (Figure 1) shows the orange crop production history in the Brazilian citrus belt, reflecting significant oscillations over the course of twenty-four years, ranging from 450 million 40.8Kb boxes in BR MY 1999/00 to 250 million BR MY 2010/11. During its big harvests, the Brazilian citrus belt produced an average of 400 million boxes, particularly in BR MY 2011/12, 2012/13, 2017/18, 2019/20. However, in the past four market years, the average has fallen around 100 million to an average of 300 million.

According to Post contacts, the current average of orange boxes produced in the Brazilian citrus belt reaches 915 boxes per hectare, even though some larger citrus growers produce 2,000 boxes per hectare due to the following reasons: 1- adapted varieties (more productive plants) and a mix of varieties (early oranges are very productive, compared to the others, mid-season and late); 2- densification of orchards (in the 1980s there were around 250 trees/ha. now there are about 700 trees/ha); 3- pruning and management techniques for better productivity and more day-to-day management. Today, 70 percent less pesticides are used in each pesticide application.

Data from Fundecitrus shows an estimate to the weight of oranges at 160 grams (255 fruits per box) upon the current harvest, representing an increase of 3.77 percent in relation to the average weight recorded in the previous crop MY 2021/22, and a 1.23 percent growth in average weight when compared to the last ten crops.

Production



Bags of collected oranges in a Brazilian crop field

According to data from the Brazilian Institute of Geography and Statistics - IBGE in November 2023 citrus is produced in Brazil on 584,443 hectares. The citrus belt accounts for approximately 83 percent of the cultivated area in Brazil. Taking into account the estimated 307 million of boxes produced in the Brazilian citrus belt in MY 2022/23, post contacts inform that 300 million are produced in São Paulo and Minas Gerais regions, of which 50 million are in natura and 250 million are used for processing. According to Fundecitrus, the second half of 2023 has observed Minas Gerais producing more than Florida. Approximately 27.02 million boxes are expected to be produced in the Triângulo Mineiro region for MY 2022/23, against 16 million boxes in Florida.

In Brazil, citrus growers plant and sell according to market demand, many of them through juice industry contracts. The citrus belt, however, also has the highest incidence of plants with symptoms of the main citrus disease, greening (or Huanglongbing - HLB). According to data published by Fundecitrus in 2023, 38 percent of the plants in the citrus belt have symptoms of the disease.

Rainfall was frequent and voluminous from January to April 2023 throughout the São Paulo citrus belt, making MY 2022/23 orange crop produce fruit with good size development. Moreover, the decrease in the estimated production of pear orange in the citrus belt is being offset by an increase in the production of early varieties. Recent data from Fundecitrus reports that oranges of the early varieties benefited from the abundant rainfall in the beginning of 2023, which resulted in an estimate of 2.27 million boxes. The other varieties (Pera Rio, Valencia, Valencia Folha Murcha and Natal) have an estimate down by 4.39 million boxes, due to the size of the fruit, smaller than expected.

Throughout 2023, temperatures reached astonishing numbers, ranging from 95°F to 104°F. The process known as “evapotranspiration”, by which the land transfers water and plants transfer transpiration to the atmosphere, is higher as the heatwave increases. With the arrival of the dry season from May 2023 to August 2023, rain became scarce in the citrus belt region in São Paulo, falling 26 percent below the average, causing the trees to suffer from drought stress.

According to the Brazilian Economic Research Center (CEPEA), throughout 2023, many oranges were withered and sunburned, varieties that consumers do not usually buy. To avoid those fruit conditions and premature fruit fall, many producers anticipated the harvest of late varieties, mainly Valencia and Natal. Abundant rain in October 2023 relieved drought stress, but the availability of oranges on the fresh market remained restricted.

A heatwave that hit the state of São Paulo in November 2023 caused partial fruit abortion, which is when the fruit falls off before the final filling stage. This happens so that the tree does not die. At high temperatures, the fruit's stomata close - the structure that ensure gas exchange -, automatically reducing photosynthesis and negatively impacting the production.

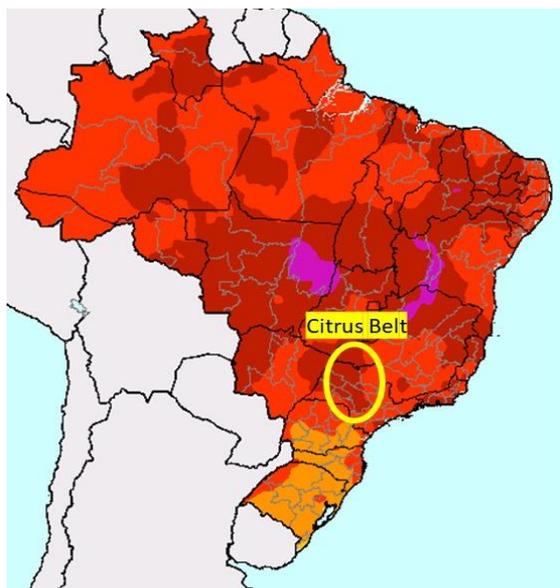
In irrigated areas damages tend to be mitigated, since orange flowers are more advanced. These areas are in the north of São Paulo state, where temperatures are usually higher. Irrigation facilitates planting, since the regular rainfall cannot always be proper for crops, and it can reduce the risk of high temperatures. According to Fundecitrus, the practice of irrigation is considered a complementary strategy. There are around 36 percent of irrigated hectares in the citrus belt and 63 percent of non-irrigated hectares, or hectares without information on irrigation.

Fundecitrus emphasized in its most recent orange crop forecast from December 2023 that the citrus belt harvest reached 82 percent of production in the middle of November 2023, 26 percent faster compared to previous years. To produce oranges all year round, nine months of harvest are needed, which runs from May to February.

With El Niño in Brazil, heat waves started in June 2023. High temperatures and rain shortage in the Brazilian citrus belt is expected to continue to be a cause of concern for the next harvest (MY 2023/24), according to Post contacts. According to the U.S. National Oceanic and Atmospheric Administration (NOAA), along with its National Weather Service and funded U.S. institutions, an El Niño forecast from November 2023 has a 62 percent probability of continuing until April or June 2024.

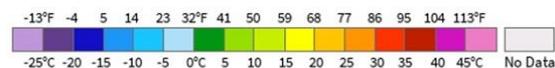
Figure 2

Maximum Daily Temperature in Brazil, Dec 4-10, 2023



A compilation of surveys by Brazilian institutions, including the Brazilian National Institute of Meteorology, released in November 2023 a newsletter on El Niño. The climate forecast for December 2023/January-February 2024 indicates a greater likelihood of temperatures above the normal range in most of the country, including the citrus belt area.

The Brazilian map in Figure 2 on the left highlights the current behavior of high temperatures in Brazil (Dec 4-10), showing evidence that El Niño may worsen the temperature oscillations in most of Brazil. In the citrus belt area, red color shades on the map indicate temperature ranging from 86°F to 104°F.



Source: NOAA/CPC

Area

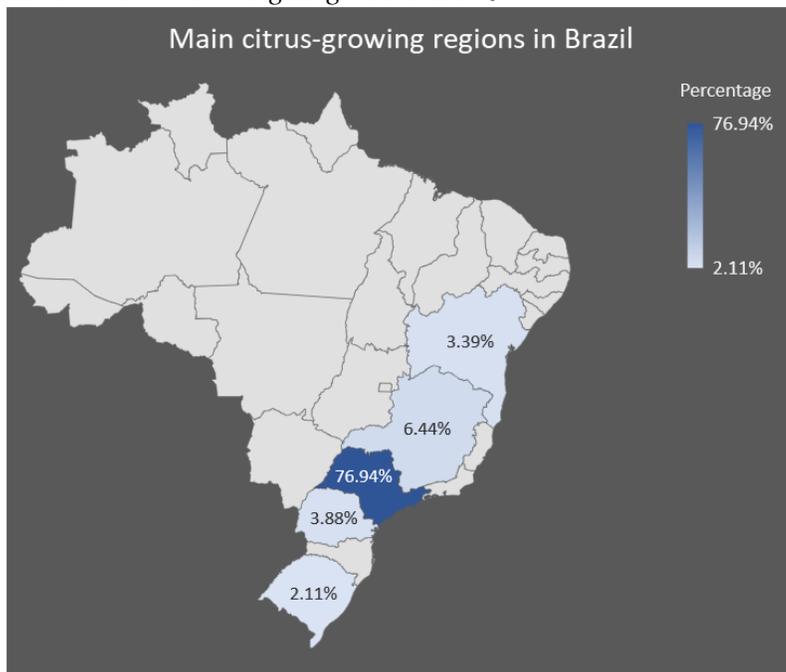
Post forecasts the area planted for oranges at 590,000 ha for MY 2023/24, 10,000 ha downward compared to Post current estimate for MY 2022/23 (600,000 ha), due to densely cultivated plants.

São Paulo is the only state that compiles trees planted and tree inventory data. According to Crop Forecast Survey data from Fundecitrus (PES in Portuguese) from May 2023, bearing trees total 169.29 million and cover an area of 399,415 hectares in the citrus belt. This represents an increase of 0.41 percent in the number of trees over the previous, released in 2022.

Even though the whole country produces oranges, the Brazilian map in Figure 3 below shows the main citrus-growing regions in Brazil, according to data from IBGE (2022). It denotes the states of Bahia (3.39 percent); Paraná (3.88 percent) and Rio Grande do Sul (2.11 percent) as the main orange production states outside of the Brazilian citrus belt (76.94 percent in São Paulo and 6.44 percent in Minas Gerais).

Figure 3

Main Citrus-Growing Regions in Brazil

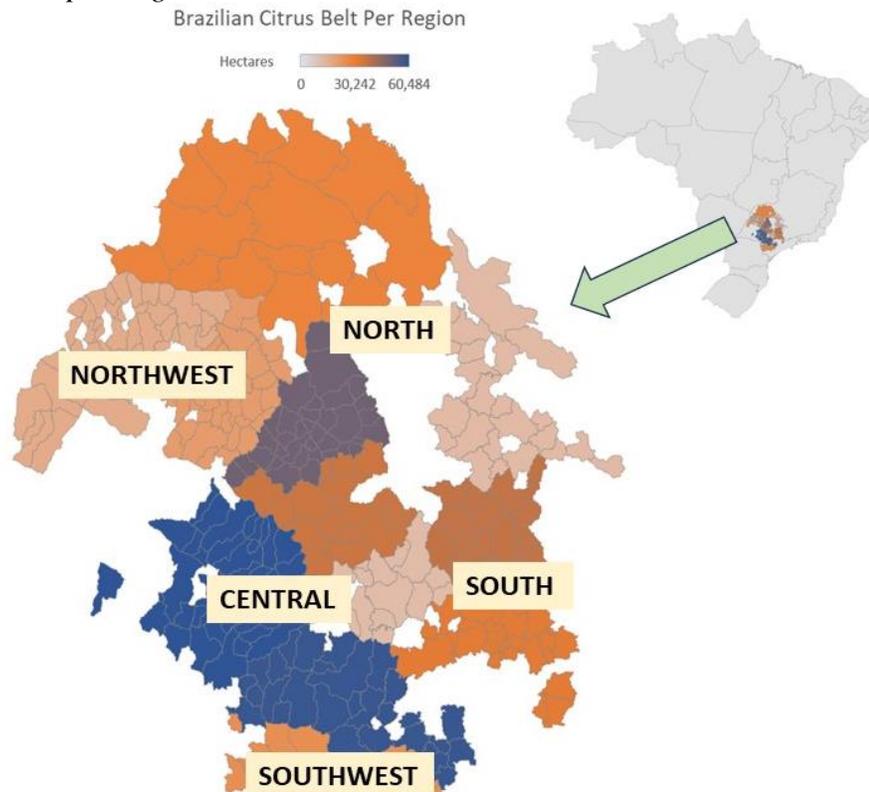


Source: IBGE 2022, chart by OAA Brasília

Data on the map in Figure 4 below covers the area of land planted with orange trees in each of the twelve regions that make up the five sectors of the citrus belt: North, Northwest, Central, South and Southwest. Variation in area is indicated by colors. The darkest color, for example, in navy blue, denotes regions where there are the most land in used for orange tree planting, including, among other municipalities, Avaré, with 58,824 ha and Duartina, with 60,446 ha. Meanwhile, there are 12,169 ha in Altinópolis and 11,570 in Brotas, highlighted in the map by the lightest shade of orange.

Figure 4

Brazilian Citrus Belt per Region



Source: Fundecitrus, elaborated by OAA Brasília

Currently in Brazil there are a total of 5,134 orange grove properties, most of them large producers with high productivity. In addition to pests, high production costs and an insufficient labor force has driven many small producers away from the industry. As reported by Post contacts, it costs around BRL 40 million to invest in a citrus farm.

The current scenario makes it increasingly likely that citrus farming, especially on small and medium farms, will be converted to other crops, such as sugar cane in the São Paulo region or livestock farming. The main reason is because the production of sugar cane in São Paulo is less risky than that of oranges. Moreover, there are already mills in the São Paulo region, making it easier to switch the production to a new commodity. Thus, prices of other crops may define the fate of the Brazilian citrus industry in the coming months. Fundecitrus highlights, however, that the production of oranges requires a smaller area for production, compared with other crops. Orange production compared with sugarcane, for example, has an area 14 times smaller and a profitability of around 2.5 times higher.

In the long term, Post contacts report that the trend of the orange industry expanding outside the São Paulo and Minas Gerais area is likely to continue. In the state of Bahia, for example, the greening disease does not exist, due to the climate and the distance from the main region of the citrus belt.

The next couple of years will be crucial to determine which new areas Embrapa considers to be promising for citrus planting in the so-called expanded citrus belt. Besides taking climate risk into account, agricultural planning for planting and producing citrus in new areas must include the use of healthy seedlings produced in a protected environment.

Recent studies conducted by Fundecitrus and Embrapa funded by Innocent Drinks, a British-based company that produces smoothies and juice, have found that the entire citrus belt holds a stock of approximately 36 million tons of carbon, equivalent to 133.4 million tons of carbon dioxide (CO₂). This is the same emitted by the city of São Paulo in around eight years. The absorption of the gas can contribute to reducing the impacts of global warming, according to Embrapa, since the agricultural land functions simultaneously as the source and the drain for carbon, while stabilizing and securing fauna in the citrus farming areas.

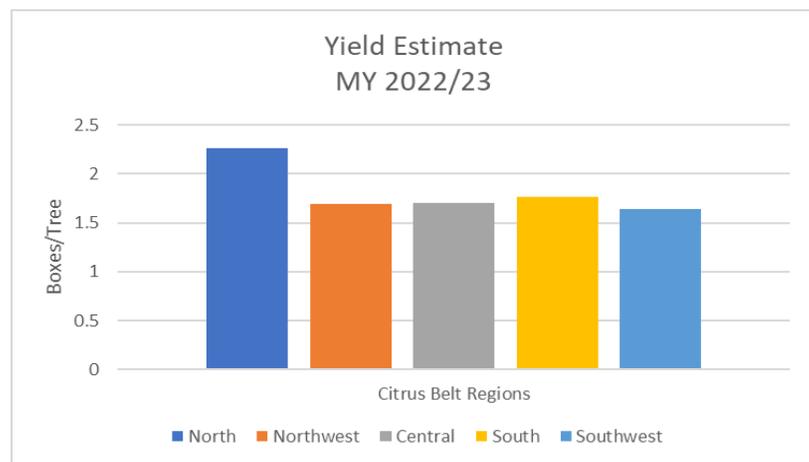
Tree Inventory and Yields

For MY 2023/24, Post forecasts 1.80 boxes/tree, a decrease of 1.1 percent from the estimate for MY 2022/23 (1.82 boxes/tree) due to the potential negative impacts of greening and El Niño. Total Brazilian tree inventory for MY 2023/24 is forecast by Post at 240 million trees and estimated at 240.5 million trees for MY 2022/23. The decrease is mainly expected in the São Paulo commercial citrus belt.

The graph from Figure 5 below shows the current yield estimate from Fundecitrus for MY 2022/23, with a total of 1.83 boxes/tree embracing all five regions of the citrus belt. The north stands out as the most productive region, with 2.26 boxes/tree estimated.

Figure 5

Yield Estimate in the Brazilian Citrus Belt

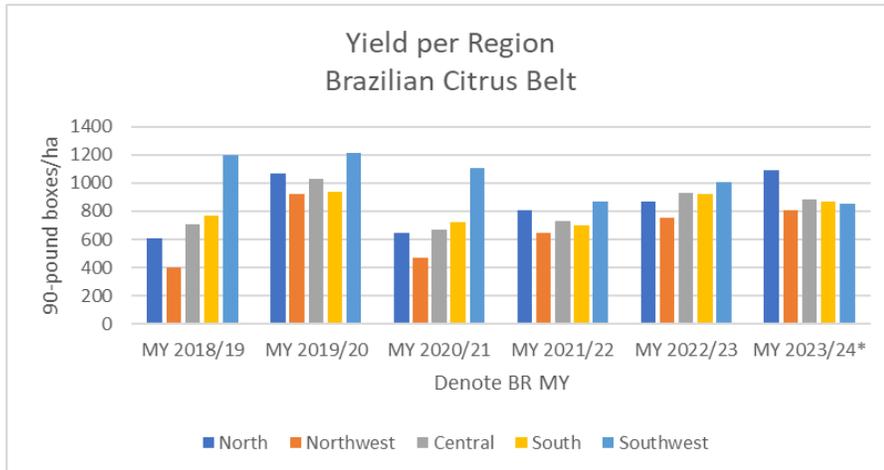


Source: Fundecitrus, chart by OAA Brasilia

Post forecasts the average fruit weight in the Brazilian citrus belt for MY 2023/24 to be 158 grams, as a result of unfavorable climate and disease impact, with expectations of lower production and fruit quality. Moreover, Post forecasts 258 fruits to fill a 40.8-Kg/90-pound box. Considering all orange varieties, Fundecitrus reports that it is estimated 255 fruits to make up a 40.8-kg box for MY 2022/23 in

the citrus belt. For that amount, oranges weight is estimated at 160 grams, in contrast to the previous projection of 165 grams.

Figure 6
Yield per Region in the Brazilian Citrus Belt



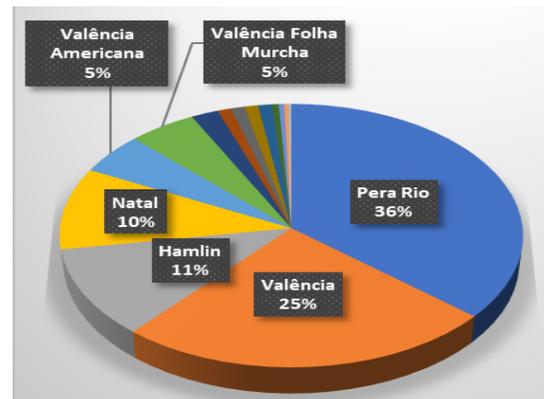
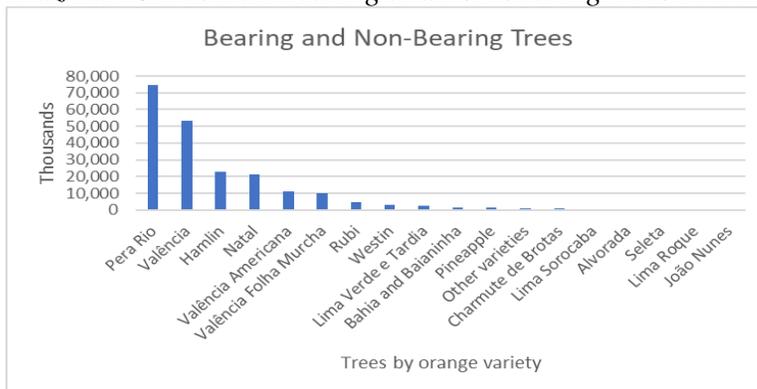
The graph in Figure 6 on the left shows productivity of the Brazilian citrus belt (São Paulo and Triângulo Mineiro) per hectare, split by region within the last five crops, including estimate from Fundecitrus to the current MY 2022/23 (BR MY 2023/24).

Source: Fundecitrus, chart by OAA Brasilia
*Estimate

The graph also shows the North of citrus belt increasing in productivity in MY 2022/23 (BR MY 2023/24) compared to the previous figure in MY 2021/22 (BR MY 2022/23), from 868 90-pound boxes per hectare to 1,088, 25 percent higher. The number is similar to MY 2021/22 in Southwest, when it had 1,008 boxes per hectare. Productivity in the southwest region decreased 15 percent in MY 2022/23, with a total estimate of 852 boxes per hectare in MY 2023/2024.

Figures 7 and 8 below show what varieties of bearing trees stand out, highlighting Pera Rio (36 percent) and Valencia (25 percent), with a total of 74.872 million and 53.101 million, respectively. Lima Roque trees total 37,000 units and João Nunes only 2,000, which are considered, among many other trees, at virtually zero.

Figures 7 and 8
Brazilian Citrus Belt Bearing and non-bearing trees in 2023



Source: Fundecitrus, chart by OAA Brasilia

Post estimates orange trees for MY 2022/23 at 200.476 million bearing trees and 40 million non-bearing trees throughout Brazil. Fundecitrus estimates the citrus belt to have 202.88 million orange trees, of which 169.29 million are bearing and 33.59 million are non-bearing. It is worth highlighting planting,

which reached 28,869 hectares planted in 2022 in the citrus belt. There has been expansion of citriculture taking place mainly in regions with a lower incidence of greening compared to traditional regions.

One of the main citrus companies in Brazil, Louis Dreyfus, has organized a project to expand the distribution of the citrus belt in order to escape pests, a four-year mission that already includes 10,000 ha approved for planting in Mato Grosso do Sul. According to Post contacts, Mato Grosso do Sul is suitable in terms of climate, but the fact that it is a warmer region could hinder performance and make the area less desirable for cultivation. Paraná, on the other hand, has good conditions for citrus farming, but not ideal infrastructure, which is more solid in the existing citrus belt.

Post contacts inform that there are studies being conducted between partners on drought stress, plant health and canopies. One of these studies includes a type of transgenic tree that would be resistant to disease.

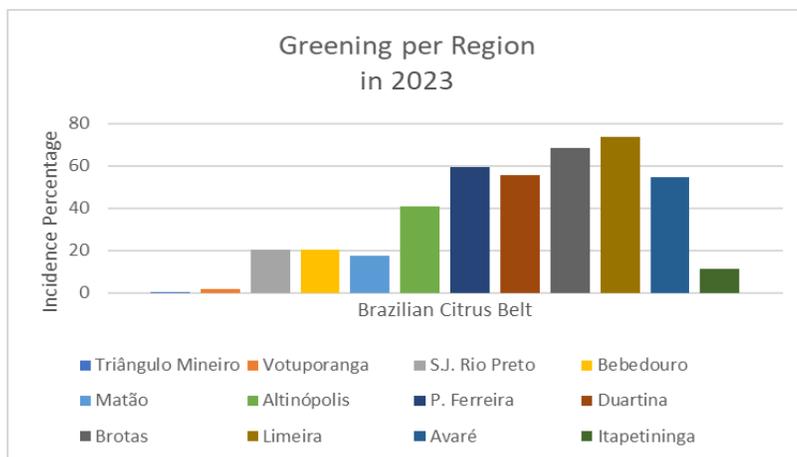
Greening

In recent years, citrus cultivation has been heavily impacted by the occurrence of pests and diseases, especially Huanglongbing (HLB) or greening. The greening bacterium multiplies rapidly in susceptible plants, reaching high populations in just 40 days. In Brazil, the damage is accentuated in the country's main producing region, the citrus belt.

A large increase in the incidence of greening in the country has led citrus growers in the citrus belt to look for areas where the disease is still absent, such as in the state of Goiás, or where it occurs with a lower incidence, such as in the states of Minas Gerais, Paraná and Mato Grosso do Sul. The main impact of the disease is still to be observed, since its severity has not yet reached critical levels, considering that the citrus belt is facing the initial stage so far. According to data reported by Fundecitrus in May 2023, there are in the citrus belt a total of 77.22 million contaminated trees, 34.79 million in the initial stage, equivalent to 17 percent; 24.93 million or 12.3 percent facing the intermediate stage; and 17.5 million facing extremely greening severity, equivalent to 8.6 percent.

Figure 9

Incidence of Greening per Region in 2023



Source: Fundecitrus data, chart by OAA Brasilia

A disease survey data by Fundecitrus, reflected in the graph on the left (Figure 9), shows that the regions with the highest incidences in the citrus belt are Limeira (where the incidence rose from 70.72 percent in 2022 to 73.87 percent in 2023), Brotas (from 49.41 percent to 68.53 percent), Porto Ferreira (from 47.05 percent to 59.65 percent), Duartina (from 25.37 percent to 55.66 percent) and Avaré (from 31.80 percent to 54.79 percent).

The Brazilian National Program for the Prevention and Control of Huanglongbing (HLB), created by the Brazilian Ministry of Agriculture and Livestock (MAPA), has established that raising seedlings in certified nurseries greenhouses is the ideal method to control the disease. It is a way of containing the spread of greening to new planting sites. The states outside the citrus belt include Bahia, Paraná, Goiás, Espírito Santo, Mato Grosso do Sul, and Rio Grande do Sul and together they embrace more than ten percent of the orange production in Brazil, against over 80 percent of the citrus belt of São Paulo and Triângulo Mineiro, according to data from IBGE.

Prices

The orange index price series is published by the University of São Paulo's Luiz de Queiroz College of Agriculture (ESALQ), along with CEPEA, for both the domestic fresh market and products delivered to orange juice processing plants in the state of São Paulo. Prices for the fresh market are for fruit on the tree.

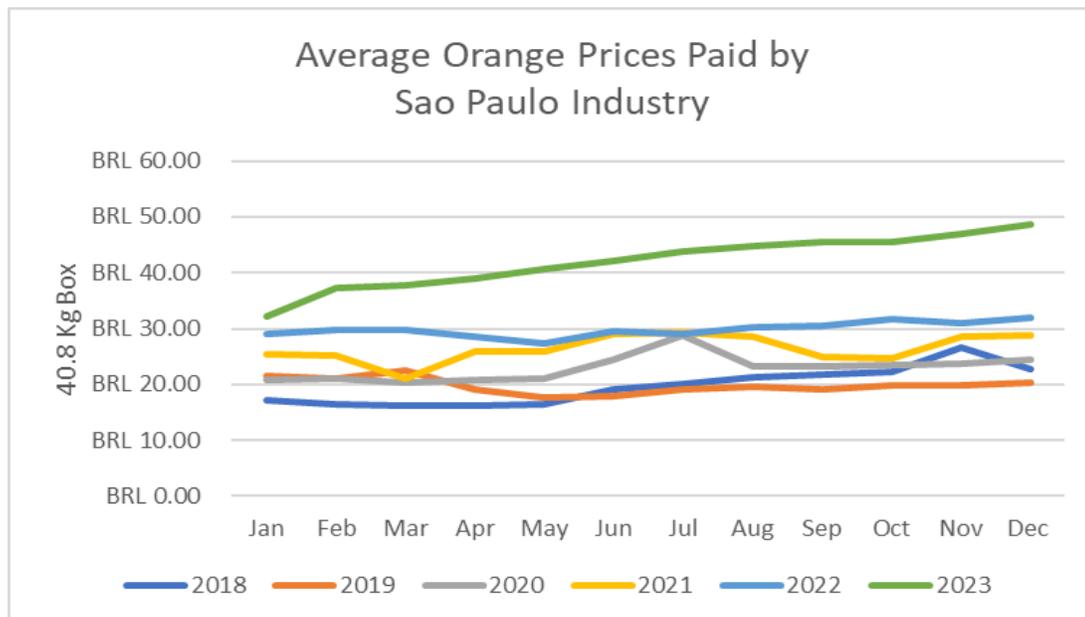
At the end of each calendar year, there is high demand from the industry, causing prices to rise due to low stock levels. The rise in fruit prices could guarantee a new record for exports in 2023, directly linked to the increase in the average price paid in dollars for fruit. *Hortifruti Brasil* magazine points out that favorable climate in Brazil (temperatures ranging from 73°F to 89°F), logistical conditions and less competition from abroad, compile Brazil's competitive advantages for the citrus cultivation. According to Post contacts, expertise, infrastructure, and entrepreneurs with ability to invest also compose those advantages.

Fruit delivery for orange juice production contract prices in 2023 has ranged from approximately BRL 32.00/box in January 2018 to a considerable increase of almost BRL 50.00/box in December 2023. Higher prices in 2023 are, among others, a result of lower fruit supply in the United States and consequently increase of demand, limiting fruit availability. Note that some contracts may include a premium depending on the price of orange juice. According to Post contacts, there is concern among producers about the possibility of not fulfilling their contracts, thus generating a more aggressive search for oranges. They also inform that the minimum price guarantee policy is rarely used for fruit, even though there must be a minimum producer price.

In the international context, Post contacts inform that the supply of orange juice is 12 percent below demand, year after year. For every percentage point of price increase on the shelf, there is a two percent drop in consumption.

The graph below (Figure 10) reflects the average of orange prices paid by São Paulo Industry/Spot Market (all orange varieties) The average prices are in Reais referring to 40.8-kg box (fruits delivered to processing plant). In 2023, box prices ranged from BRL 42 to BRL 48. According to Globo Rural, some producers stated that some deals have already been closed for more than BRL 50 a box in December 2023.

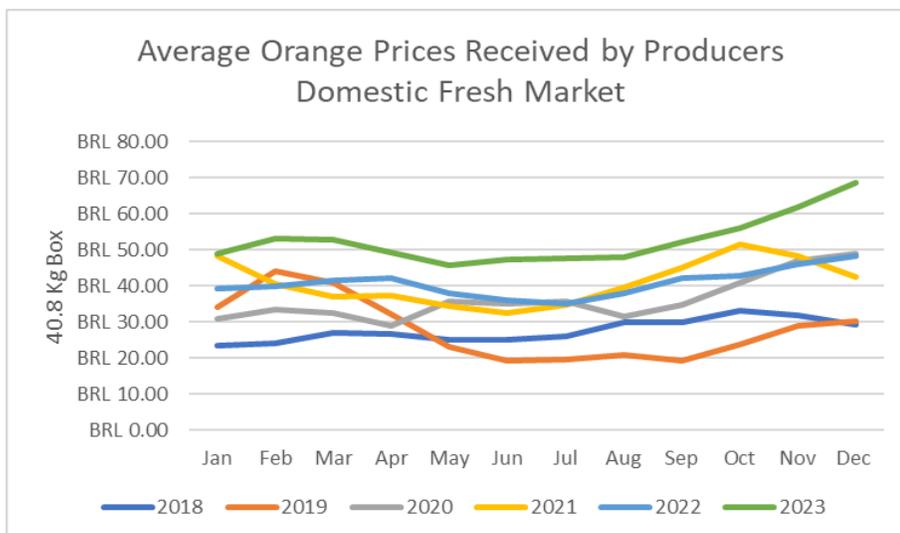
Figure 10
Average Orange Prices Paid by São Paulo Industry



Source: CEPEA/ESALQ, elaborated by OAA Brasilia

Figure 11
Average Orange Prices Received by Producers in Domestic Fresh Market

Orange Prices Received by Producers in Domestic Fresh Market (all orange varieties: Pera, Natal, Valencia, Lima, Baia, with harvest fluctuations depending on the time of year). Average Prices in Reais - R\$ 40.8-kg box (Fruits on Tree/In Natura) reflect a significant increase in 2023, having hit record highs ranging from BRL 47 to BRL 68.



Source: CEPEA, chart by OAA Brasilia

The graph above (Figure 11) shows that orange prices received by producers have increased in 2023, ranging from BRL 50 per 90-pound box in January 2023 to more than BRL 60 in the end of the year. The warm weather has increased liquidity in the market, bringing an increase in demand for oranges, lower supply and boosted prices. In mid-November 2023, pear oranges averaged BRL57.09/box, on the tree. Valencia, on the other hand, was sold at BRL 53.94/box.

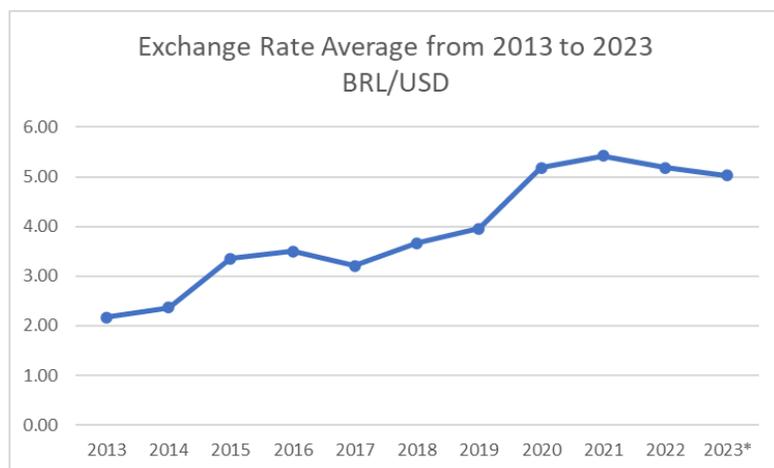
Brazil's focus is on producing in natura oranges that are good-looking and with no peel flaws because they are more valuable. In addition, producers that provides oranges to the juice industry have a higher cost, as it involves harvesting and transportation.

Exchange Rate

The graph below shows the official exchange rate as released by the Brazilian Central Bank from 2019 to 2023.

Figure 12

Exchange Rate from 2013 to 2023



Source: Brazilian Central Bank/BACEN, chart elaborated by OAA Brasilia

*Average calculated from December 1 to December 8, 2023

The fluctuation of the exchange rate US Dollar (USD) to Brazil Real (BRL) over the last ten years has undergone expressive variations, including significant increases, especially after the occurrence of the pandemic in 2020. Within the referred period, the peak occurred in 2021, when one dollar reached the equivalent average of BRL 5.51. In 2023, the exchange rate has been stable, at around BRL 5.00.

Consumption



Post forecasts total Brazilian orange consumption for MY 2023/24 at 4.53 MMT, an increase of 0.6 percent compared to Post estimate for MY 2022/23, at 4.5 MMT, due to greater imports and a higher demand for orange in natura to meet healthier diet habits. These figures include actual domestic consumption plus losses from the natural drop, harvesting, transportation, and packing.

Note that fruit delivered to processors for “not from concentrate” (NFC) orange juice production for the domestic market will not be included as fresh oranges consumption but as “Delivered to Processors for NFC Production”. Fresh domestic consumption estimates are calculated as the difference between production estimates and the volume of oranges delivered to processors for FCOJ and NFC produced for domestic consumption and export.

Studies carried out through a partnership between Fundecitrus and University of São Paulo (USP) evaluated the consumption of citrus fruits and juices and their association with nutrient intake and proved that they prevent nutritional deficiencies. In addition, orange juice is a rich source of bioactive compounds, such as polyphenols and carotenoids, which help reduce oxidative and inflammatory stress, improve blood lipid levels, help control blood glucose and blood pressure, and modulate the intestinal microbiota. The study shared the higher the intake, the lower the risk of cardiovascular disease, obesity and overweight.

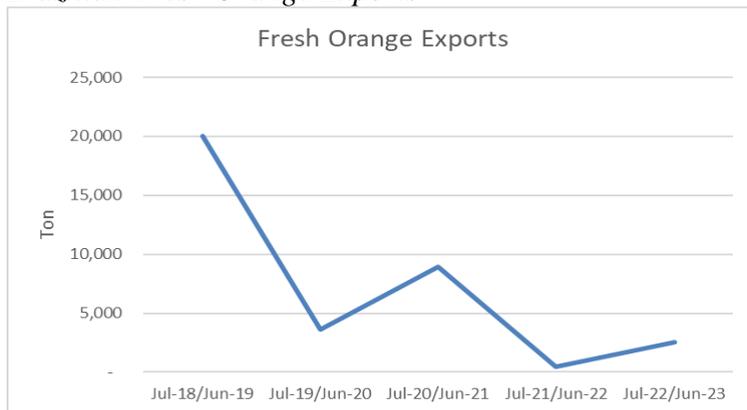
Trade

In February 2022, CitrusBR signed a project called "Peiex-Agro" with the Brazilian Promotion Agency Apex-Brasil, which was negotiated during the second half of 2021 and focused on the European market. The aim of the project, with an investment of BRL1.56 million, was to advertise the image of the Brazilian orange juice in Europe, promoting it as a healthy and sustainable product, capable of meeting the demands of European consumers.

Exports

Total fresh orange exports for MY 2023/24 are projected at virtually zero, just like the previous season, according to updated information on the trade flow from SECEX. For MY 2022/23, Post keeps estimate at virtually zero. Brazil has limited market access to other countries, and most exports are shipped to European countries, occurring during the harvest of the commercial crop, between June and December.

Figure 13
Brazilian Fresh Orange Exports



Source: TDM, chart by OAA Brasilia

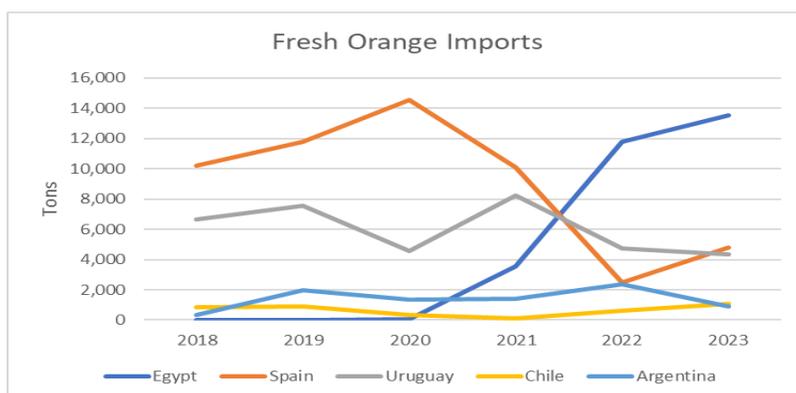
As shown in the graph above, Brazil exported insignificant volumes of fresh oranges in BR MY 2022/23. Paraguay, Uruguay and Argentina were the main importers, but there has been a global export decrease of 95 percent from crop BR MY 2020/21 to MY 2021/22, with an increase of 18 percent in BR MY 2022/23. Exports are virtually zero to the European Union, as well as to Canada and the United States

Imports

Total fresh orange imports for MY 2023/24 are forecast to be at 30,000 MT, an increase of 3,000 MT compared to Post current estimate for MY 2022/23, at 27,000 MT, based on trade partnerships. For MY 2022/23. Egypt, Uruguay, Spain, and Argentina are the major countries of origin for imported oranges from July 2022 to June 2023.

Brazil has a strong relationship with Spain in the context of horticulture, generating significant portion on trade flow. Imported oranges are generally distinctive in texture and flavor from Brazilian ones. The table below shows fresh orange imports (NCM 0805.10.00) by country of origin.

Figure 14
Brazil's Fresh Orange Imports



Source: SECEX, chart by OAA Brasilia

The graph above (Figure 14) highlights the increase of fresh orange imports from Egypt, reaching 74 percent more imports from 2021 to 2023. Egypt signed a Free Trade Agreement with Mercosul (the South American trade bloc, including Brazil) in 2017. The first test batches of Egyptian oranges arrived in Brazil in 2020, a total of 75 tons. A year later, Egyptian orange exports to Brazil reached 3,600 tons. In 2022 exports stood at 11,800 tons and have almost reached 14,000 tons in 2023.

Worldwide, from July 2022 to June 2023, Brazil imported 26,572 tons of fresh oranges, a slight decrease of approximately 1,500 tons compared to previous crop season. However, the average of 25,000 tons from the last five years remains stable. From January to December 2023 (until the closing of this report), Brazil imported a total of 24,661 tons, equivalent to USD 19 million.

ORANGE JUICE

Production

PS&D Table

The following table provides total Brazilian orange juice production, supply, and distribution (PS&D) for BR MY 2022/23 and BR 2023/24, and the initial forecast for BR MY 2024/25. The MY mentioned above are equivalent to U.S. MY 2021/22, 2022/23 and 2023/24, respectively.

The table include NFC production for exports converted to Frozen Concentrated Orange Juice (FCOJ), 65 Brix equivalent. The following conversion factor: 1 metric ton of FCOJ 65 Brix equals 5.4 to 5.6 metric tons of NFC 11.6 Brix.

Table 2

Production, Supply and Distribution of Brazilian Orange Juice

Orange Juice Market Year Begins Brazil	2021/2022		2022/2023		2023/2024	
	Jul 2022		Jul 2023		Jul 2024	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Deliv. To Processors (MT)	12291000	12291000	1209000	12200000	0	12000000
Beginning Stocks (MT)	15000	15000	9000	9000	0	8170
Production (MT)	1135000	1135000	1125000	1124170	0	1105700
Imports (MT)	0	0	0	0	0	0
Total Supply (MT)	1150000	1150000	1134000	1133170	0	1113870
Exports (MT)	1068000	1068000	1050000	1050000	0	1034870
Domestic Consumption (MT)	73000	73000	75000	75000	0	75000
Ending Stocks (MT)	9000	9000	9000	8170	0	4000
Total Distribution (MT)	1150000	1150000	1134000	1133170	0	1113870
(MT)						

*Note: There is a one-year lag between the BR MY and the U.S. MY. For example, BR MY 2022/23 is equivalent to U.S. MY 2021/22. To ensure data continuity, the current Brazilian MY 2023/24 will be referred to as U.S. MY 2022/23 throughout this report.

Production



Post Brasilia forecasts the total Brazilian FCOJ 65 Brix equivalent production for MY 2023/24 at 1.05 MMT, a decrease of 1.6 percent vis-à-vis the current Post estimate for MY 2022/23 (1.12 MMT), due to downward expected availability of fruit for processing provoked by extremely high temperatures and the greening incidence. Orange juice figures include NFC production for exports converted to FCOJ 65 Brix equivalent. There is no official estimate for NFC supply and demand in Brazil.

According to CitrusBR, juice production in MY 2022/23 had a decrease of 1.6 percent vis-à-vis the previous crop at the citrus belt, added to challenges related to Brix (the ideal mix of oranges to the ideal concentration). To meet certain orange juice standards, it is necessary to mix different varieties of oranges from between harvests, depending on the period of the year. Early oranges, for example, are not considered ideal, but when mixed with mid-season and late oranges, the consumption preference standard is achieved. In light of

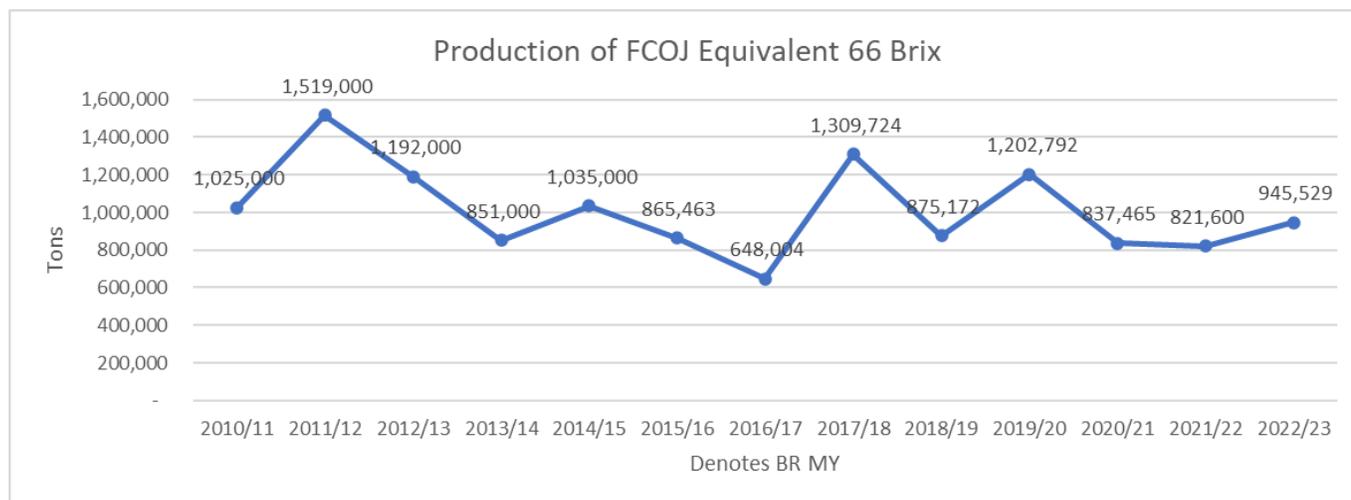
that, it is possible to expect supply disruptions between that and the next crop, even though it has been considered early for the industry to evaluate the impacts on supply and demand. According to Post contacts, when processing ends, three months of stock is needed, the average amount of 255 MT.

Orange juice production is concentrated in the state of São Paulo, which leads the ranking, followed by Minas Gerais and Paraná. According to CitrusBR, the total number of oranges processed in the São Paulo and Minas Gerais citrus belt region in MY 2021/22 (BR MY 2022/23) harvest was estimated at 265.3 million boxes of 40.8 kg oranges, of which 243.9 million boxes were processed by CitrusBR members and around 21.3 million boxes were estimated to have been processed by non-members. CitrusBR members are: Citrusuco; Cutrale; and Louis Dreyfus.

In the citrus belt, the harvests have been impacted in different ways, with 269 million orange boxes in MY 2019/20 crop, 263 million in MY 2020/21 crop, 314 million in MY 2021/22 and 307 million in MY 2022/23 crop (latest estimate from Fundecitrus). Droughts during the flowering period prevented the crop from returning to its usual biannual effect, alternating years of higher and lower production.

According to Post contacts, Brazil has been producing around 85 thousand MT of FCOJ per month, with a shortfall of 15 thousand MT per month to meet the market demand.

Figure 15
Production of FCOJ Equivalent 66 Brix in Brazilian Citrus Belt



Source: CitrusBR, chart by OAA Brasilia

The graph above (Figure 15) shows the flow of Brazilian FCOJ Equivalent 66 Brix in the Brazilian citrus belt, which reached its peak in the last ten years, an approximate amount of 1.6 MMT in MY 2010/11 (BR MY 2011/2012). It decreased five harvests later to 648,004 MT in MY 2015/16 (BR MY 2016/17), reaching a new peak in the following crop, with 1.3 MMT produced.

Consumption



Post maintains the outlook of domestic FCOJ equivalent consumption for MY 2023/24 to 75,000 MT, 65 Brix, the same estimate for MY 2022/23, despite the upcoming risks addressed in the subchapters above.

Orange juice consumption, especially NFC, has steadily increased in Brazil, making the producers to increase their efforts to reach a larger share of the market in the production of ready-to-drink juices destined directly to consumers, even though that implies a greater challenge for the production chain. Note that NFC consumption converted to FCOJ equivalent is included in the orange juice statistic.

With increasing prices and high demand for orange juice in external markets, domestic consumption is expected to grow at a slower pace. Consumption of FCOJ has fallen by 43 percent in the last 20 years, according to Post contacts.

Orange is a fruit that has many health benefits, one of the reasons why the consumption demand tends to increase. Among other things, orange contains vitamins C, potassium, magnesium, calcium, folic acid, phosphorus, zinc, B-complex iron, fiber and pectin.

Observing the increase in domestic interest and consumption of orange juice, MAPA informs that part of this is due to the legalization of small new companies that serve local markets. Another reason is the constant search by Brazilian consumers for healthier food.

For orange juice, the pandemic was neither good nor bad, according to Post contacts. Demand was stronger in retail but lost out in food service. When the pandemic ended, demand was higher. Because of vitamin C and the increase of home office work, those facts were associated with a higher consumption of orange juice, bringing back a consumption habit.

Trade

Post projects total Brazilian FCOJ 65 Brix equivalent exports for MY 2023/24 at 1.03 MMT, a decrease of 1.9 percent compared to current Post estimate number for MY 2022/23 (1.05 MMT), due to production challenges, mainly impacted by weather conditions and greening incidence.

NFC exports for MY 2023/24 are estimated at 320,000 MT, 65 Brix equivalent, a slight increase of 1.5 percent compared to the previous season (315,000 MT), mainly to keep supplying the U.S. market due to limited juice availability from Florida provoked by hurricane Ian and the Mexican and Spanish market, which have faced severe droughts.

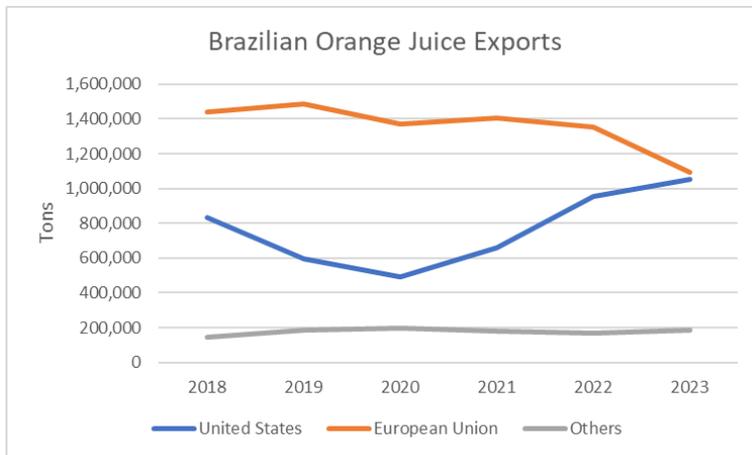
Exports

In Brazil, orange juice is processed into concentrated juice and distributed all over the world. Brazil is the world's leading exporter of orange juice and accounts for nearly 80 percent of the orange juice marketed in the world. For every ten cups of orange juice consumed, seven are produced in Brazil. According to the Institute of Agricultural Economics (IEA-APTA), in the first four months of 2023 the state of São Paulo exported US\$ 682 million in juice, of which 97.3 percent was orange juice.

The largest export markets are European Union, followed by the United States. Even in the face of reduced consumption of orange juice in Europe and the United States, supply is falling at an even faster rate, with very low stocks in Brazilian factories and a projection of greening increase in the next months. Yet, one of the foreign markets that Brazil has focused on to increase orange production is the Asian market.

Exports to the European Union have dipped this season of MY 2022/23, about nineteen percent compared to last year. Meanwhile, exports to the United States are surging. The United States were severely damaged by Hurricane Ian at the end of 2022. U.S. orange production in MY 2022/23 is expected to be 60.7 percent smaller than the previous harvest, and one of the lowest since 1930, according to USDA estimates. Orange juice production in Mexico, another significant producer, has also been lower due to lack of rain.

Figure 16
Orange Juice Exports (Brazilian Main Partners)



Source: SECEX, chart elaborated by OAA Brasilia

The graphic above reflects the market behavior due to production issues faced in the United States, increasing the Brazilian exports. Worldwide, Brazil has exported from July 2023 to November 2023 481,156 tons to the United States and 544,379 to the European Union.

From that same time frame, Brazil has exported almost USD 1.09 billion FOB of orange juice worldwide, with USD 334 million from the United States and USD 608 million from the European Union.

More than 98 percent of exports comes from the Brazilian citrus belt, based at Santos Port.

Imports

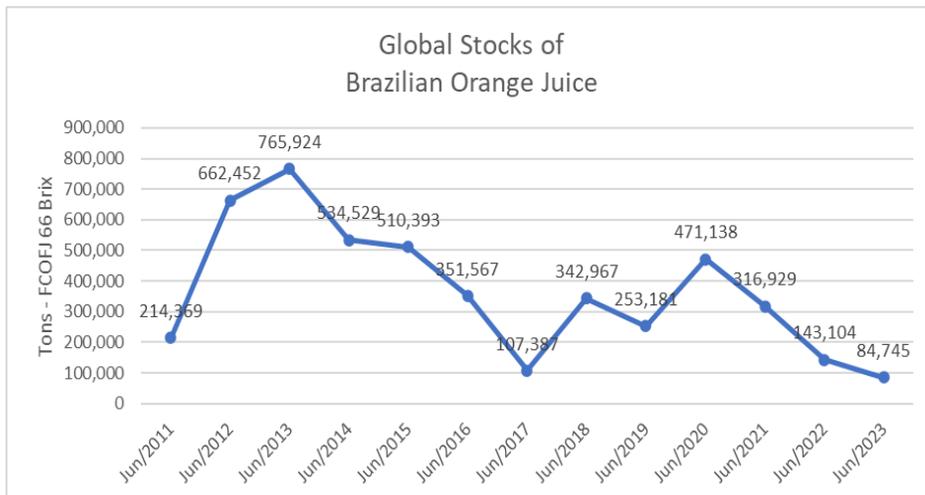
Brazil does not import orange juice.

Stocks

Post forecasts ending stocks of orange juice 65 Brix for MY 2023/24 at 4,000 MT, a high decrease of fifty percent from Post current estimate for MY 2022/23 (8,170 MT), due to information shared by Post contacts on large stock decrease. Stock figures include only stocks in the storage tanks of orange juice facilities (processing plants, port terminals, etc.) in Brazil. They do not include stocks owned by Brazilian companies abroad, e.g., in transit and port terminals in the United States, Europe, and Japan.

CitrusBR global inventories include orange juice in storage tanks at processing plants and port terminals in Brazil and stocks abroad (vessels and port facilities worldwide). This MY 2022/23, Brazilian stocks are therefore estimated to reach the lowest level in history. Ten years ago, orange stocks were over one million tons. However, steady demand and challenges to global supplies, as mentioned above, have depleted reserves.

Figure 17
Global Stocks of Brazilian Orange Juice



Source: Citrus BR data, chart by OAA Brasilia

As shown in the graphic above, stocks of orange juice by CitrusBR members audited on June 30, 2023, converted into FCOJ Equivalent, totaled 84,745 tons, a decrease of 40.7 percent compared to the 143,104 tons recorded in the same period of the previous year. The graphic also reflects the significant drop from June 2020 to June 2023, which came from 471,138 tons to 84,745 tons in 2023, a decrease of 82 percent.

Attachments:

No Attachments