## ORANGE PROCESSING AND ORANGE JUICE PRODUCTION IN THE 2022/23 SEASON:

A survey carried out through independent auditing of each of the companies associated with CitrusBR and also consolidated by external auditing revealed that the total oranges processed in the Sao Paulo and Minas Gerais Citrus Belt in the 2022/23 season was estimated at 265,292,217 boxes of oranges of 40.8 kg of which $243,967,550$ boxes were processed by CitrusBR members and close to 21.3 million boxes were processed by non-members.

With the final estimated Juice Yield on Fruit of 280.58 boxes of oranges to produce one metric ton of FCOJ Equivalent in aggregate for CitrusBR members and non-members, the final estimate for total orange juice production for the 2022/23 season was of 945,529 metric tons of FCOJ Equivalent.

The Sao Paulo and Minas Gerais Citrus Belt has been going through four expressively low cycles in a row. With a production of 269 million boxes of oranges in the 2020/21 season, 263 million in the 2021/22 season, 314 million in the 2022/23 season, and 309 million in the 2023/24 season, the harvest has been negatively impacted, particularly in the last 2022/23 season. Droughts during the bloom setting period have impeded the crop from bouncing back to its usual bi-annual swing effect, alternating larger production seasons to smaller ones. Graph 1 presents the historical orange production in Brazil in millions of 40.8-kilogram boxes.

## Orange Production in the Citrus Belt of the States of São Paulo and Triângulo Mineiro

(in millions of 40.8 kg boxes)


Table 1 explains the sharp decline of orange juice production in the 2022/23 season when compared to today's final estimates to those originally projected by CitrusBR for the same cycle as announced on August 29h, 2022. As demonstrated below, we are considering the Brazilian fresh fruit market at 40 million boxes for statistical reasons. It's possible to assume a loss of 8 million boxes in the 2022/23 season due to difficulties in harvesting. But, because of the lack of formal data about the Brazilian fresh fruit market, it's possible that these losses are bigger, possibly reaching 12 million to 15 million boxes. These events caused substantial delays in harvesting schedules, deferring a large chunk of the fruit for processing into the off-season months from January to April 2023 instead of earlier in-season months from June to December. Moreover, there was a substantial loss of brix and juice content on fruit harvested.

We estimate a reduction of oranges for processing of 11.6 million boxes, from the original 276.9 million boxes to the final 265.2 million forecasted. We can see a disappearance effect of 43,300 metric tons of FCOJ Equivalent in Industry production. In addition, the deterioration of juice yield on fruit from the originally estimated 269,3 boxes per metric ton to 280,58 caused an additional disappearance of 39,600 metric tons of FCOJ Equivalent. These situations reduced 82,471 metric tons of FCOJ Equivalent in the 2022/23 season.

## Variances in total industry orange juice production in the 2022/23 season

|  |  | Originally <br> Projected Aug 29th, 2022 <br> Statement |  | Total Variance | Percent Variance |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Orange Production Total Fundecitrus PES Crop Forecast | 40.8 Kg Boxes | 316,950,000 | 314,210,000 | (2,740,000) | -0.9\% |
| Oranges For Fresh Fruit Consumption Plus Loss On Ground | 40.8 Kg Boxes | (40,000,000) | (48,918,000) | (8,918,000) | 22.3\% |
| Oranges For Processing Total Industry | 40.8 Kg Boxes | 276,950,000 | 265,292,000 | (11,658,000) | -4.2\% |
| Juice Yield On Fruit | Boxes Per Metric Ton FCOJ Equiv. | 269.30 | 280.58 | 11.28 | 4.2\% |
| Orange Juice Production Total Industry | Metric Tons FCOJ Equiv. | 1,028,000 | 945,529 | $(82,471)$ | -8.0\% |

## AUDITED INVENTORIES ON JUNE 30TH, 2023:

The same survey revealed that the Global Inventories of Brazilian Orange Juice, converted into Frozen Concentrated Orange Juice Equivalent to $66^{\circ}$ Brix (FCOJ Equivalent), held by its associates on June $30^{\text {th }}$, 2023, amounted to 84,745 metric tons, a decrease of $40.7 \%$ compared to the 143,104 metric tons in the same period last year.

Graph 2 presents historical data for existing Brazilian Orange Juice Inventories held by CitrusBR's members worldwide on June $30^{\text {th }}$ of every season.

## Historical data for existing Brazilian Orange Juice inventories held by CitrusBR's members Worldwide - June $30^{\text {th }}$

Tons of 66 Brix FCOJ Equivalent (FCOJ+NFC)


This historic low inventory has jeopardized the industry's ability to serve the global customer base on a continuous basis with the highest standards. We have seen a loss of the ability to blend-in the highest standards of stocked products from the previous season. From the first few months of production to the next season, only early-midseason varieties are available for production to ship into the markets.

## SEVERE DECREASE IN THE FLORIDA, MEXICO AND SPAIN PRODUCTIONS:

Graph 3 presents historical orange production in Florida, which has been facing severe effects of HLB Citrus Greening disease over the past decade. Last September, Hurricane lan brought production down from 41.2 million boxes of 40.8 kg in the 2021/22 season to 15.8 million in the 2022/23 season. The total loss amounted to 25.4 million boxes. This caused an additional 87,300 tons of supply to disappear from the world market. Meanwhile, the Mexican and Spanish crops saw severe droughts and crop reductions while experiencing a strong demand for oranges in their fresh fruit sectors.

Orange Production in Florida
(in millions of 40.8 kg boxes)


## DEVELOPMENT OF THE QUALITATIVE ASPECTS FOR THE 2023/24 CROP

After a rainy start to the year, with temperatures below historical averages for both maximum and minimum values, the Brazilian orange crop 2023/24 has generated fruits with good size development so far. The late maturation and increased acidity resulted in low brix during the first months of the crop. A medi-um-low ratio and bitter notes above historical levels were noted.

As presented by Fundecitrus in May this is mainly a two-blooming season. Therefore, with the arrival of fruits from the second blooming, improved conditions are expected. With the advancement of the El Niño phenomenon, higher temperature profiles are forecasted from October onwards, contributing to a decrease in fruit acidity and an increase in the ratio by the end of the period. However, for Q3, even though a reduction of bitter notes is expected, the medium-low ratio and lower brix shall prevail.

## INVENTORY PROJECTIONS FOR JUNE 30 ${ }^{\text {TH }}$, 2024:

When looking at the 2023/24 season with a crop $1.6 \%$ lower than the previous one in the Sao Paulo and Minas Gerais Citrus Belt, added to the challenges related to Brix, it is possible to foresee the possibility of supply disruption throughout the season. Therefore, at this moment, it is difficult to assess the conditions of supply and demand in the coming months and, consequently, predict the levels of orange juice stocks for June 30th, 2024.

# São Paulo, August, 30 ${ }^{\text {th }} 2023$ 

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