



2021-2022

# TREE INVENTORY AND ORANGE CROP FORECAST FOR THE SÃO PAULO AND WEST-SOUTHWEST MINAS GERAIS CITRUS BELT





# **TREE INVENTORY AND 2021-2022 ORANGE CROP FORECAST FOR THE SÃO PAULO AND WEST-SOUTHWEST MINAS GERAIS CITRUS BELT**

---

## **SECTION I TREE INVENTORY**

<b>1 – INTRODUCTION.....</b>	<b>19</b>
<b>2 – METHODOLOGICAL PROCEDURES.....</b>	<b>21</b>
<b>3 – RESULTS .....</b>	<b>25</b>
3.1 – MAIN CONCLUSIONS ON THE TREE INVENTORY .....	25
3.2 – TABLES OF DATA.....	33
3.3 – ABANDONED ORANGE GROVES .....	106

---

## **SECTION II CROP FORECAST**

<b>1 – 2021-2022 ORANGE CROP FORECAST.....</b>	<b>11</b>
<b>2 – OBJECTIVE SURVEY METHOD FOR THE ORANGE CROP FORECAST .....</b>	<b>14</b>
2.1 – BEARING TREES .....	15
2.2 – FRUIT PER TREE .....	15
2.3 – DROP RATE.....	21
2.4 – FRUIT PER BOX.....	21
<b>3 – TABLES OF DATA .....</b>	<b>23</b>

---



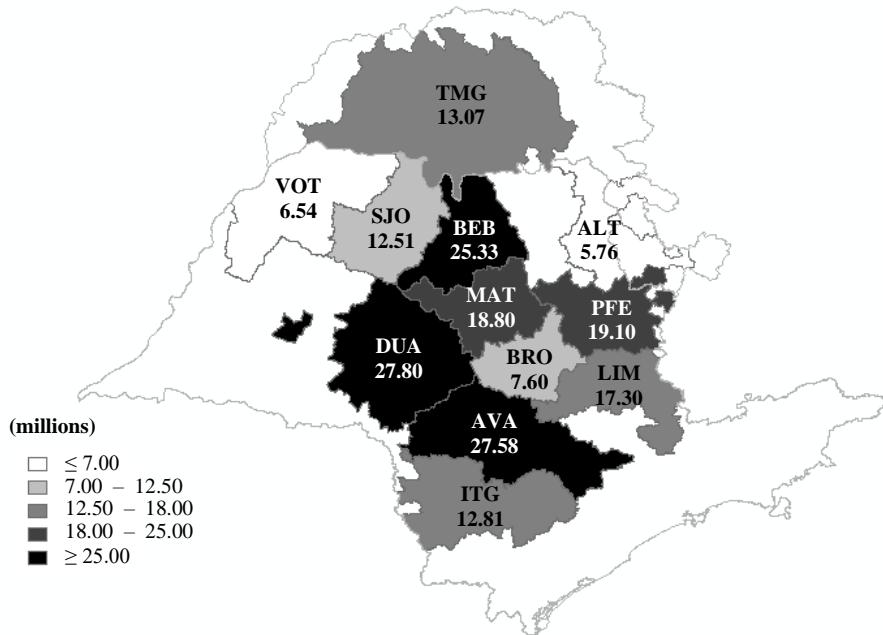
**TREE INVENTORY OF THE SÃO PAULO  
AND WEST-SOUTHWEST MINAS GERAIS  
CITRUS BELT**

SNAPSHOT OF GROVES IN MARCH 2021

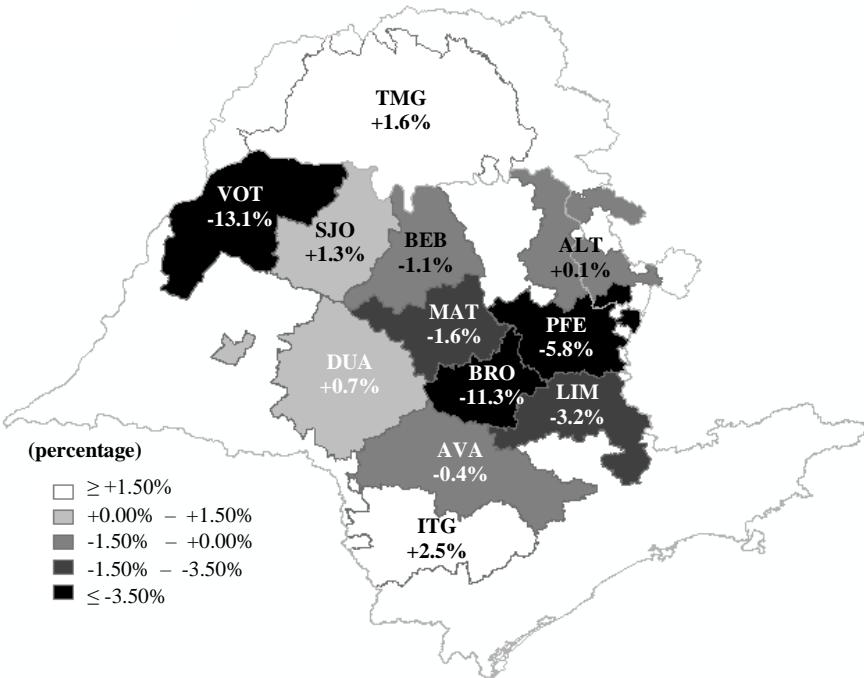


## TOTAL ORANGE TREES<sup>1</sup> BY REGION

Total: 194.21 million trees



## VARIATION IN TOTAL ORANGE TREES<sup>1</sup> BETWEEN THE 2020 AND 2021 INVENTORIES



Abbreviation	Region	Total orange trees <sup>1</sup>			Abbreviation	Region	Total orange trees <sup>1</sup>		
		(millions)	(millions)	(%)			(millions)	(millions)	(%)
DUA	Duartina.....	27.61	27.80	0.69%	TMG	Triâng. Mineiro..	12.86	13.07	1.63%
AVA	Avaré.....	27.68	27.58	-0.36%	ITG	Itapetininga.....	12.5	12.81	2.52%
BEB	Bebedouro.....	25.61	25.33	-1.07%	SJO	S. J. do Rio Preto	12.34	12.51	1.35%
PFE	Porto Ferreira....	20.27	19.10	-5.78%	BRO	Brotas.....	8.57	7.60	-11.31%
MAT	Matão.....	19.10	18.80	-1.58%	VOT	Votuporanga.....	7.53	6.54	-13.12%
LIM	Limeira.....	17.87	17.30	-3.17%	ALT	Altinópolis.....	5.76	5.76	0.07%

<sup>1</sup> Varieties: Hamlin, Westin, Rubi, Valencia Americana, Seleta, Pineapple, Pera Rio, Valencia, Valencia Folha Murcha and Natal.

Snapshot of groves in March. Calculations made used whole numbers and all decimal points.

---

# **TREE INVENTORY OF THE SÃO PAULO AND WEST-SOUTHWEST MINAS GERAIS CITRUS BELT – SNAPSHOT OF GROVES IN MARCH 2021**

---

**Published on June 18, 2021<sup>1</sup>**

---

## **Publication Schedule**

### **2021-2022 Crop Year**

Executive summary of the 2021-2022 orange crop forecast: May 27, 2021

March 2021 tree inventory: June 18, 2021

Crop forecast: June 18, 2021

1<sup>st</sup> Crop forecast update: September 10, 2021

2<sup>nd</sup> Crop forecast update: December 10, 2021

3<sup>rd</sup> Crop forecast update: February 10, 2022

Final crop forecast: April 11, 2022

---

This is a live document in that it serves to know and explore the citrus belt in rich detail and provide support to agents in this sector. In that sense and with the aim of meeting the demands both from the citrus segment and the press, we reserve the right to enlarge, review and deepen the information already published. It is therefore recommended that the most recent publication available at [www.fundecitrus.com.br](http://www.fundecitrus.com.br) be used.

<sup>1</sup> Year 7 – Nº 1 – June 18, 2021 (Portuguese only).

Year 7 – Nº 2 – July 15, 2021 (Portuguese and English versions).

Year 7 – Nº 3 – July 30, 2021 (Portuguese and English versions).

---

## **Data update carried out by the CDA-SP and presented in this version published on July 30, 2021.**

In July 2021, the **CDA-SP (farming and livestock protection office)** of the São Paulo state department of agriculture and supply revised the data on the number of nursery citrus plants marketed under the permit to transit plants in 2020. Based on the new data made available by the CDA-SP, plantings in 2020 were estimated at 13.36 million orange trees in the São Paulo and West-Southwest Minas Gerais citrus belt, instead of the 8.72 million trees announced by Fundecitrus on May 27, 2021, when the 2021-2022 orange crop forecast and its respective tree inventory were published. Upon this revision, previously announced data was replaced by the revised data presented in this publication.

Since groves are newly planted and still non-bearing, **this revision does not change whatsoever the 2021-2022 orange crop forecast. The actual data on groves planted in 2020 will be collected in the field as of August 2021 and announced in May next year.** Although data is preliminary and will be replaced by final data collected in the field, Fundecitrus decided to update this inventory as a means to guarantee its professional conduct and best statistical practices, which are fundamental for information and institutions to be trusted.

---



**Performed by FUNDECITRUS in cooperation with MARKESTRAT,  
FEA-RP/USP and the department of Engineering, Math and Science of FCAV/Unesp**

**TREE INVENTORY OF THE SÃO PAULO  
AND WEST-SOUTHWEST MINAS GERAIS CITRUS BELT  
SNAPSHOT OF GROVES IN MARCH 2021**

Fundecitrus  
Araraquara, São Paulo  
2021

Catalog card in Fundecitrus Library

338.1 Tree inventory of the São Paulo and West-  
I624 Southwest Minas Gerais citrus belt: snapshot  
of groves in March 2021/ Fundo de Defesa da  
Citricultura... [et al.]. - Araraquara, SP :  
Fundecitrus, 2021.  
107 p.

ISSN: 2446-7723 (printed)

ISSN: 2446-7731 (online)

1. Agricultural census 2. Agribusiness 3.  
Citrus fruits 4. Orange I. Fundecitrus II.  
Markestrat III. FEA-RP/USP IV. FCAV/Unesp.

The use of any data from this publication should be rightfully credited to publishers by citing their names and complying with norms for usage. Such credits shall be stated in any publication or public communication that mentions any of this data. Copying, publishing, distributing or reprinting in full or of a substantial part of this document for commercial reasons is not allowed, except otherwise authorized by legal representatives of publishers.

**Lourival Carmo Monaco**  
Fundecitrus President

**Antonio Juliano Ayres**  
Fundecitrus General Manager

**Marcos Fava Neves**

PES Political-Institutional and Methodological Coordinator, part-time Full Professor at  
FEA-RP/USP and EAESP/FGV

**Vinícius Gustavo Trombin**  
PES Executive Coordinator linked to Markestrat

**José Carlos Barbosa**

Methodology Analyst and (Voluntary) Full Professor at the department of engineering,  
math and science of FCAV/Unesp

**Fernando Alvarinho Delgado**  
PES Supervisor/Fundecitrus

**Roseli Reina**  
PES Specialist/Fundecitrus

**Technical Committee**

Bruno Gustavo Zacarin, Statistician at Citrosuco  
Ezequiel Castilho, Agricultural/industrial director at Agroterenas  
Franklin Behlau, Researcher at Fundecitrus  
Ivan Brandimarte, Agricultural Manager at Cambuhy  
Jackeline da Silva Carvalho, Juice Research Manager at the Louis Dreyfus Company  
Luiz Fernando Baenninger Catapani, Citrus Grower  
Marcell da Costa Ferreira Gameiro, Product Manager at Citrosuco

**PES Survey Agents**

<b>Fundecitrus</b>	<b>WCA</b>	<b>WCA</b>
Alexandre Antônio Lino	Adilson do Nascimento	Jorge Virgílio
Cléber Angelo Albino	Altair Guerra	José da Silva
Fábio Xavier Bonfim	Alexandre Morellato	José Mantovani
Joferson Vermelho	Anderson Ricciardi	Luiz Celso Iglessias
Wladimir Pereira	André de Campos	Márcio de Godoy
	Edilson Cunha	Marcos Barbosa
	Edmundo Barreto	Marcos Carvalho
	Guilherme Barbosa	Marcos Silva
	João Gabriel Gomes	Rafael Prette
	Joel Carolino	Rafael Sintoni
		Ricardo de Souza

**Fernando Engelberg de Moraes**  
Legal Adviser

## **FOREWORDS**

### **Dr. Lourival Carmo Monaco**

Fundecitrus President and citrus grower

The execution of the seventh Crop Forecast Survey (PES) once again highlights our mature and modern citrus growers, who are committed to sustainability. In order for an economy to be healthy and socially fair it is fundamental that production chain details are known. PES aims to obtain an image of the groves so that farmers can work in a reliable environment. Data should be assessed by sector according to strategies and objectives. This analysis will be fundamental to a healthy economic policy with as predictable a risk as possible.

The expected 2021-2022 crop, largely discussed as a consequence of atypical climatic conditions, is 294.17 million boxes, which is an increase of 9.51% in relation to the 2020-2021 crop, although still 10.53% below the average for the last ten years.

The more intense second and third blooms are a relevant aspect in planning. The 2021-2022 PES emphasizes the need for a sequential analysis of years of accumulating data and information, along scenarios of possible global warming and water limitation.

Differences among regions were marked: the first bloom occurred in Itapetininga, Avaré and Duartina, in contrast with rainfed groves in the other regions, although a heat wave led to fruitlet abortion.

The consequences in harvest for both processing and the market can be better assessed. The number of trees was reduced in groves due to plant mortality that increased as a result of drought and eradication following disease, especially greening, or also due to the profitability of crops such as corn, soybean and sugar cane; on the other hand, new plantings were fewer: this is a scenario to be considered from the strategic and economic point of view.

Fundecitrus will continue working toward enhancing the production process and its connections to sustainability, seeking to read possible scenarios for this important source of work and economic development, advancing operational technologies from the strategic point of view

### **Antonio Juliano Ayres**

Fundecitrus General Manager

For the second year, the Crop Forecast Survey (PES) was carried out in the midst of the pandemic. Despite difficulties and limitations, work was finished and successfully presented, and we also effectively prevented Covid-19. These are difficult years for citriculture as well, owing to the intense drought and adverse climatic conditions, but the data brought up by PES contributes to offset this scenario and to a better planning by citrus growers, based on economic, social and environmental sustainability in citriculture in São Paulo and West-Southwest Minas Gerais, the largest in the world. Broadcast only through the internet, the crop forecast announcement has consolidated as the worldwide reference for its transparency, reliability and wealth of information. The live online event was watched in 29 countries and viewed more than 3,700 times.

**Marcos Fava Neves**

PES Political-Institutional and Methodological Coordinator, part-time Full Professor at FEA-RP/USP and EAESP/FGV

The Crop Forecast Survey (PES) disclosure is extremely important to national agribusiness and all the more to citriculture. It has been an honor and a pleasure for me to contribute to this survey for seven years. The work carried out by Fundecitrus, in partnership with Markestrat, FEA-RP/USP and FCAV/UNESP is transparent and closely watched by many countries. At the time of the 2021-2022 orange crop forecast announcement on last May 27, for instance, 29 countries simultaneously viewed the data presented. It is worth mentioning that the forecast uses a complex methodology that is enhanced with the years, bringing reliability to the process. The survey is important not only to provide numbers but also to convey knowledge and information on citrus production to all. Furthermore, groves contribute to biodiversity, and the production chain plays a considerable role in creating economic, social, environmental and cultural wealth. The connection with the data era, enabled by the survey, brought confidence to growers, industry and market, setting a favorable environment to productive and commercial relations. That shows that the study is not only a portrait of the citrus belt but also a tool for sector planning and for its economic and social competitiveness to be maintained. As a specialist in production chains in worldwide agribusiness, I highlight the example citriculture sets to Brazil and the world, through its scientific and transparent process. Many countries wish to copy what this sector does in Brazil, and many production chains in this country cannot reach the stage our citriculture is at. Owing to all that, I am very proud to participate in this study and I let me also say that citriculture is probably one of the most transparent chains in Brazilian agribusiness. Congratulations to all involved and let us go on ahead towards the continuous development of our national citriculture.

**Vinícius Gustavo Trombin**

Executive Coordinator of PES linked to Markestrat

The Crop Forecast Survey (PES) is an accomplishment of the citrus sector that transfers scientific knowledge for free, as a public asset, with open access to results to all, with no distinction. Led by Fundecitrus, its execution involves three independent institutions, Markestrat, FEA-RP/USP and FCAV/UNESP, in addition to a hundred technicians specialized in data collection and tabulation, who make their best efforts and keep an endless commitment to quality, rigorously following the methodology and respecting ethics and confidentiality of individual data. The survey aims to reduce uncertainties about the crop as much as possible and accurately depict the current status of groves. Therefore, PES performs the institutional role of guaranteeing access to information in a homogeneous and complete manner, in addition to facilitating the interaction among agents and improving decision making. Our wish is for all to explore the data presented in this seventh edition of PES and to be able to transform information into opportunities.

**José Carlos Barbosa**

Methodological Analyst at PES and (Voluntary) Full Professor at FCAV/Unesp

The Crop Forecast Survey (PES) carried out for the seventh year by Fundecitrus faced new challenges owing to the long drought in 2020 and to problems resulting from the pandemic. Tree stripping had to be delayed this year because of the late bloom caused by the long dry period in the previous year. Additionally, sample size had to be reduced due to restrictions imposed by the pandemic so that information gathering was made possible without, however, significantly reducing sampling precision. New studies are under way to improve the fruit drop estimate.

Results show that, even with all restrictions, Fundecitrus managed to carry out the PES with safety to the professionals involved and with the reliability necessary for the results obtained. Once again Fundecitrus delivers the most rigorous and reliable tree inventory update and crop forecast survey to citrus growers and the industry.

## **ACKNOWLEDGEMENTS**

We thank the citrus growers who year after year open their farms to our PES agents. This work is only possible because of their support, and they have our sincere appreciation.

We thank the orange juice companies Citrosuco, Cutrale and Louis Dreyfus for once again having allowed their groves to be part of sampling and for supplying data on the average size of fruit received throughout the crop season for industrial processing.

We thank the São Paulo state department of agriculture and supply for providing information, through the CDA-SP — the farming and livestock protection office — on the number of nursery citrus plants marketed under the permit to transit plants in the state of São Paulo in 2020.

We also thank the Fundecitrus management board, technical committee members, survey agents and assistants and all those in the tree stripping laboratory for their dedication and commitment that allowed deadlines to be met and the survey high quality and reliability standard to be maintained especially this year, with the restrictions imposed by the pandemic.

Lastly, we thank the thousands of people in 29 countries for watching our live broadcast of the orange crop forecast announcement.

## **SUMMARY**

<b>1 – INTRODUCTION.....</b>	<b>19</b>
1.1 – BUDGET.....	19
1.2 – GENERAL FIGURES.....	19
1.3 – DEFINITION OF TECHNICAL TERMS .....	20
<b>2 – METHODOLOGICAL PROCEDURES.....</b>	<b>21</b>
2.1 – OBJECTIVE METHOD FOR MAPPING CITRUS GROVES.....	21
2.2 – OBJECTIVE METHOD FOR TAKING THE ORANGE TREE INVENTORY .....	21
2.3 – CITRUS BELT STRATIFICATION .....	22
<b>3 – RESULTS .....</b>	<b>25</b>
3.1 – MAIN CONCLUSIONS ON THE TREE INVENTORY .....	25
3.2 – TABLES OF DATA.....	33
3.3 – ABANDONED CITRUS GROVES .....	106



## LIST OF CHARTS

<b>Chart</b>	<b>Page</b>
1 – Division of cities with citrus farms in sectors and regions .....	23
2 – Division of citrus species per variety group.....	24
3 – Classification by tree planting years and grove age groups.....	24

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1 – All citrus: Area of groves by sector .....	33
2 – All citrus: Farms with citrus groves, stratified by sector .....	33
3 – Oranges: Farms with orange groves, stratified by size of area with oranges .....	34
4 – Oranges: Farms with orange groves, stratified by number of orange trees.....	34
5 – Oranges: Orange plots stratified by plot area size .....	34
6 – Oranges and others: Area of groves by sector .....	35
7 – Other oranges: Area of groves by variety .....	35
8 – Acid limes and lemons: Area of groves by variety .....	35
9 – Tangerines: Area of groves by variety .....	35
10 – Oranges: Area of groves by sector.....	36
11 – Oranges: Estimate of groves planted in expansion and renovation areas .....	36
12 – Oranges: Trees by sector.....	36
13 – Oranges: Area of groves by variety group .....	37
14 – Oranges: Trees by variety group.....	37
15 – Oranges: Stratification of total planting holes of groves .....	38
16 – Oranges: Trees by age group and age group of plot – Citrus belt.....	39
17 – Oranges: Trees by age group, age group of plot and sector .....	40
18 – Oranges: Trees by age group, age group of plot and variety .....	40
19 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – North Sector.....	41
20 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – Northwest Sector .....	42
21 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – Central Sector .....	42
22 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – South Sector.....	43
23 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – Southwest Sector .....	43
24 – Other early: Trees by age group and age group of plot – North Sector .....	44
25 – Other early: Trees by age group and age group of plot – Northwest Sector .....	45
26 – Other early: Trees by age group and age group of plot – Central Sector .....	45
27 – Other early <sup>1</sup> : Trees by age group and age group of plot – South Sector .....	46
28 – Other early: Trees by age group and age group of plot – Southwest Sector .....	46
29 – Pera Rio: Trees by age group and age group of plot – North Sector .....	47
30 – Pera Rio: Trees by age group and age group of plot – Northwest Sector .....	48
31 – Pera Rio: Trees by age group and age group of plot – Central Sector .....	48
32 – Pera Rio: Trees by age group and age group of plot – South Sector .....	49
33 – Pera Rio: Trees by age group and age group of plot – Southwest Sector .....	49
34 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – North Sector .....	50
35 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – Northwest Sector .....	51
36 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – Central Sector .....	51
37 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – South Sector .....	52
38 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – Southwest Sector .....	52
39 – Natal: Trees by age group and age group of plot – North Sector .....	53
40 – Natal: Trees by age group and age group of plot – Northwest Sector .....	54
41 – Natal: Trees by age group and age group of plot – Central Sector .....	54
42 – Natal: Trees by age group and age group of plot – South Sector .....	55
43 – Natal: Trees by age group and age group of plot – Southwest Sector .....	55
44 – Oranges: Area of young and mature groves by sector and region .....	56
45 – Oranges: Non-bearing and bearing trees by sector and region .....	57
46 – Oranges: Area of groves by age group of plots, sector and region .....	58
47 – Oranges: Trees by age group, age group of plot, sector and region .....	59
48 – Oranges: Area of groves of early varieties by sector and region .....	60
49 – Oranges: Trees of early varieties by sector and region .....	61
50 – Oranges: Area of groves of mid-season and late varieties by sector and region .....	62
51 – Oranges: Trees of mid-season and late varieties by sector and region .....	63

52 – Oranges: Area of groves by age group of plots, region and variety – North Sector .....	64
53 – Oranges: Trees by age group, age group of plot, region and variety – North Sector .....	65
54 – Oranges: Area of groves by age group of plots, region and variety – Northwest Sector .....	66
55 – Oranges: Trees by age group, region and variety – Northwest Sector .....	67
56 – Oranges: Area of groves by age group of plots, region and variety – Central Sector .....	68
57 – Oranges: Trees by age group, age group of plot, region and variety – Central Sector.....	69
58 – Oranges: Area of groves by age group, region and variety – South Sector.....	70
59 – Oranges: Trees of groves by age group of plots, region and variety – South Sector .....	71
60 – Oranges: Area of groves by age group of plots, region and variety – Southwest Sector .....	72
61 – Oranges: Trees by age group, age group of plot, region and variety – Southwest Sector .....	73
62 – Oranges: Area of groves by sector and variety .....	74
63 – Oranges: Trees by sector and variety .....	75
64 – Oranges: Area of groves by planting year .....	76
65 – Oranges: Trees by planting year .....	77
66 – Oranges: Area of groves by sector and planting year .....	78
67 – Oranges: Trees by sector and planting year .....	79
68 – Oranges: Area of groves of early varieties by planting year .....	80
69 – Oranges: Trees of early varieties by planting year .....	81
70 – Oranges: Area of groves of mid-season and late varieties by planting year .....	82
71 – Oranges: Trees of mid-season and late varieties by planting year .....	83
72 – Oranges: Density of young and mature groves by sector and region .....	84
73 – Oranges: Density of young and mature groves by variety .....	85
74 – Oranges: Density of young groves by variety and region .....	86
75 – Oranges: Density of mature groves by variety and region .....	87
76 – Oranges: Density of groves of up to 10 years old by variety and region .....	88
77 – Oranges: Density of groves over 10 years old by variety and region .....	89
78 – Oranges: Density of groves by planting year .....	90
79 – Oranges: Area of irrigated and non-irrigated groves and of groves with no information on irrigation.....	91
80 – Oranges: Area of irrigated and non-irrigated groves and of groves with no information on irrigation, by variety.....	92
81 – Oranges: Area of irrigated and non-irrigated groves and of groves with no information on irrigation, by age groups .....	92
82 – Oranges: Area of irrigated groves by irrigation method .....	92
83 – Oranges: Average age of mature groves by sector and region .....	93
84 – Oranges: Area of eradicated groves, eradication and renovation rates by sector and region .....	94
85 – Oranges: Area of eradicated groves, eradication and renovation rates by variety .....	94
86 – Oranges: Area of eradicated groves, eradication and renovation rates by age group .....	95
87 – Oranges: Area of eradicated groves and eradication rate stratified by farm size .....	95
88 – Oranges: Dead trees and mortality rate by sector and region .....	96
89 – Oranges: Dead trees and mortality rate by variety .....	96
90 – Oranges: Dead trees and mortality rate by age group .....	96
91 – Oranges: Vacancies by sector and region .....	97
92 – Oranges: Vacancies by variety .....	97
93 – Oranges: Vacancies by age group .....	97
94 – Other oranges: Area and number of trees by region, variety and age .....	98
95 – Acid limes and lemons: Area and planting holes estimated by region, variety and age of plot .....	100
96 – Tangerines: Area and planting holes estimated by region, variety and age of plot .....	101
97 – Oranges: Cities with groves by sector and region .....	102
98 – Other oranges: Cities with groves by sector and region .....	103
99 – Acid limes and lemons: Cities with groves by sector and region .....	104
100 – Tangerines: Cities with groves by sector and region .....	105
101 – Oranges: Area and percentage of abandoned groves in relation to the total area .....	106
102 – Other oranges: Area and percentage of abandoned groves in relation to the total area .....	107

## 1 – INTRODUCTION

This publication presents the results of the fifth survey on the tree inventory of São Paulo and West-Southwest Minas Gerais citrus belt carried out by Fundecitrus in cooperation with Markestrat, FEARP/USP and the department of math and science at FCAV/Unesp from February 2021 to May 2021.

Fundecitrus has carried out, starting from 2014 – year it took over the responsibility of performing a public and reliable forecast of the crop and the profile of groves – all activities involving field data collection, laboratory work and information processing. Since then, (Voluntary) Professor José Carlos Barbosa, from the department of engineering, math and science at FCAV/Unesp has been in charge of analyzing methodologies. Markestrat, represented by Vinícius Gustavo Trombin, is responsible for the survey governance, with professor Marcos Fava Neves of FEA-RP/USP and EAESP/FGV, also linked to Markestrat serving as the institutional and methodological coordinator.

One of the governance measures adopted at the time of survey implementation that is still in force is the follow-up on activities being performed, which is done by a technical committee comprising citrus growers, representatives of orange juice companies, academics, as well as Fundecitrus researchers and supervisors. The committee aims at monitoring the performance of field activities and proposing solutions toward operational improvements.

Results from this study were obtained all along the survey, then compiled and restricted until the crop announcement date to the following professionals: Antonio Juliano Ayres (Fundecitrus general manager); Fernando Alvarinho Delgado (PES supervisor) and Roseli Reina (PES specialist); Vinícius Gustavo Trombin (executive coordinator linked to Markestrat); Marcos Fava Neves (institutional and methodological coordinator linked to FEA-RP/USP and EAESP/FGV); and José Carlos Barbosa (methodology analyst, working as a volunteer linked to the department of engineering, math and science of FCAV/Unesp). All of them were subject to confidentiality obligations regarding PES information before its announcement is made public, according to agreements signed between each of them and Fundecitrus.

As for antitrust practices, all of them are complied with through the adoption of measures necessary to prevent any communication or sharing of individual information with competitive content among the orange juice companies that collaborate with Fundecitrus in this project or between them and citrus growers.

### 1.1 – BUDGET

On May 21, 2020, the Fundecitrus management board approved this survey with an allowed budget of R\$ 6.44 million, excluding funds earmarked for mapping and of which 54% refer to expenses with technical and administrative staff and labor-related charges; 27% to travel expenses, accommodations, meals and maintenance; 11% to expenses with licenses, software and information technology; and the remaining 8% to expenses with materials, indemnity for tree striping and others. This budget provides financial support to activities performed until May 31, 2021. After that date, the budget corresponding to the period from June 2021 to May 2022 will come into force.

### 1.2 – GENERAL FIGURES

- **103 professionals directly involved in the survey;**  
35 agents, 50 assistants, 15 laboratory personnel, 1 supervisor, 1 specialist, 1 coordinator.
- **More than 430,000 kilometers (267.190 miles) covered from February to May 2021;**  
189 thousand km for counting, 132 thousand km for tree stripping and 109 thousand km for transporting samples.
- **256 cities visited.**

### 1.3 – DEFINITION OF TECHNICAL TERMS

**Citrus belt:** region in Brazil with the largest concentration of commercial orange producing farms, encompassing cities in the state of São Paulo as well as some located in the West-Southwest state of Minas Gerais.

**Farm:** rural estate with continuous area of land (physical interruptions may be present such as roads and water streams) under the control of one owner, with more than 200 citrus trees, with the possibility of there being areas in the same estate that are allocated for different purposes such as growing other crops or raising livestock.

**Plot:** farm fraction or portion separated by lanes, roads, tracks or any other passageway that is usually wider than the spacing between planting rows.

**Non-bearing tree:** tree planted in 2019 or 2020 that has not yet entered into production.

**Bearing tree:** tree planted in 2018 or in previous years.

**Dead tree:** defoliated tree where at least 75% of branches are dry, with no evidence of recovery.

**Vacancy:** empty space on the ground within the planting row that should be occupied by a citrus tree, according to the tree spacing defined when the plot was planted.

**Planting hole:** central spot in the space occupied by each tree (plant-area) where the earth is dug out and a nursery plant is set; spot in the planting row where there is a potential tree.

**Young grove:** plot planted in 2019 or 2020. Plots planted in 2021 were not accounted for in this inventory since the field data survey included only the first quarter of said year.

**Mature grove:** plot planted in 2018 or in previous years.

**Eradicated grove:** area where citrus trees were removed, which can refer to the whole plot or to part of it.

**Box:** one orange box is equivalent to 40.8 kg or 90 lb.

**Hectare:** one hectare is equivalent to 2.4710439 US acres.

**Rural Environmental Registry:** national electronic public register required for all rural properties, aimed at consolidating environmental information on rural real estates and land possessions in a database for control and monitoring purposes, environmental and economic planning, and fighting deforestation. Established by Act 12.651/2012.

**Permanent Preservation Area:** land either covered with native vegetation or not, intended to conserve water resources, the landscape, the geological stability and biodiversity, and to facilitate the gene flow of fauna and flora, protect the soil and ensure the well-being of human populations.

**Legal Reserve Area:** area located within a rural property or land possession, delimited according to legislation in force, intended to ensure the sustainable economic use of rural real estate natural resources, assist in conserving and rehabilitating ecological processes, foster biodiversity conservation, provide shelter to and protect the wild fauna and native flora.

**Surplus native vegetation:** area of native vegetation in excess of the minimum legal reserve requirements.

## 2 – METHODOLOGICAL PROCEDURES

### 2.1 – OBJECTIVE METHOD FOR MAPPING CITRUS GROVES

The second mapping of groves performed by Fundecitrus used georeferenced and high definition orthorectified images that enable precise measurements to be made. Images were obtained by satellites SPOT 6&7 from the European operator Airbus Defence and Space from May to August 2017. The georeferenced mapping was performed by survey agents *in situ*, that is, in person, on each citrus farm located in the 347 cities included in the 151,000 km<sup>2</sup> of images, from September 08, 2017 to January 29, 2018. Data for each plot included variety, planting year, area occupied exclusively by trees, spacing, visual aspect of plants and irrigation system, if any. Only for a fraction of 1% of the mapped area, data was estimated by remote sensing and statistical inference. The data volume was encrypted and saved to the Fundecitrus Geographic Information System to form a new primary database (2018), to be stored until next mapping, expected to be performed in the second half of 2020 for the 2021 inventory to be taken.

### 2.2 – OBJECTIVE METHOD FOR TAKING THE ORANGE TREE INVENTORY

For the tree inventory, 5% of plots in the primary base (2018) are drawn to be visited and to have their planting holes classified and quantified. Each tree present in a plot was classified into up to four age categories: zero (up to two years old), one (from three to five years old), two (from six to ten years old) and three (over 10 years old). Dead trees and vacancies were also accounted for.

For the categorized counting, survey agents are informed by the citrus grower whether a grove has been reset and when. Next, they visit the block and define the visual pattern of the tree for each age category present in the plot, by combining the information provided by the citrus grower with visual evidence such as trunk circumference, height and shape of canopy.

If eradicated plots are found among the drawn plots, their areas are used to calculate the eradication rate of the sample. This proportion, called eradication rate, is applied to the primary base. The same calculation is done in case abandoned plots are found. After those two rates are applied to the primary base, the estimated area occupied by groves in the current crop is determined. This new area multiplied by the tree density of the primary base results in its updated number of planting holes. That number in turn is corrected by the index generated from the comparison between the number of planting holes found in the sample and its respective number in the primary base. Indexes resulting from counts are applied to that number of planting holes, i.e., percentages of trees in each age category, as well as percentages of dead trees and vacancies, aiming at the determination of the new tree inventory.

In years when farm mapping is not performed, as it is the case in this 2021 inventory, an estimate is made of plantings that occurred in the years following the most recent mapping. Hence, all farms in the sample are checked for the presence of groves planted after the survey agent's visit at the time the previous mapping was performed to form the primary base. An index for new plantings is generated from the rate between the additional area and the respective total area for each variety on the farm. Indexes per variety are extrapolated to the whole region to estimate plantings in the year.

Data used to estimate the number of trees planted is supplied by the São Paulo State animal and plant health protection agency (CDA-SP), of the São Paulo State department of agriculture and supply, on the number of citrus nursery plants marketed under the permit to transit plants (PTV) in the state of São Paulo.

In strata where stratified plantings per region and variety in the field survey show a higher number of trees than that supplied by the CDA-SP, the field survey data prevails. This difference results from the production of nursery plants by growers in nurseries within their farms and allocated to their own use,

without the need of a permit to transit plants. Therefore, the final number of nursery plants planted in a given year includes nursery plants produced with and without permits to transit plants. To estimate the area of newly planted groves, their stratified average density per variety and region is used. From the sum of the number of trees supplied by the CDA-SP and that found in the survey with growers, nursery plants used for resetting are subtracted so that the number of trees planted in groves is estimated for that year.

Plots are randomly drawn for counting through the proportional stratified sampling technique. Stratification variables are: 12 regions, five orange variety groups and four age groups, totaling 240 strata. Counting of groves was concentrated between February 01 and March 18, 2021. Each survey agent counted an average of 16,633 planting holes per day.

## 2.3 – CITRUS BELT STRATIFICATION

### Sectors and regions

The citrus belt is divided into five sectors that in turn are subdivided into 12 regions. Each region comprises several cities and has been named after one of them for reference. The division considered the soil and climate characteristics and historical aspects related to citriculture development that, in general, resulted in a technological pattern for similar farms in the region. Figure 1 presents sectors and regions of the citrus belt and following that, Chart 1 details the cities and abbreviations used to designate regions.

**Figure 1 – Division of the citrus belt into 12 regions and respective sectors**



**Chart 1 – Division of cities with citrus farms in sectors and regions**

Sector	Region	Cities
North 72 cities	Triângulo Mineiro (TMG) 16 cities	Campina Verde, Campo Florido, Canápolis, Comendador Gomes, Conceição das Alagoas, Frutal, Gurinhatã, Itapagipe, Ituiutaba, Iturama, Monte Alegre de Minas, Planura, Prata, São Francisco de Sales, Uberaba, Uberlândia.
	Bebedouro (BEB) 35 cities	Ariranha, Barretos, Bebedouro, Cajobi, Catanduva, Catiguá, Colina, Colômbia, Elisiário, Embaúba, Guaraci, Ibirá, Irapuã, Itajobi, Marapoama, Monte Azul Paulista, Novais, Olímpia, Palmares Paulista, Paraíso, Pindorama, Pirangi, Pitangueiras, Sales, Santa Adélia, Severínia, Tabapuã, Taiaçu, Taiúva, Taquaral, Terra Roxa, Uchoa, Urupês, Viradouro, Vista Alegre do Alto.
	Altinópolis (ALT) 21 cities	Altinópolis, Batatais, Brodowski, Cajuru, Cássia dos Coqueiros, Cristais Paulista, Fortaleza de Minas, Franca, Ibiraci, Igarapava, Itamogi, Jacuí, Jeriquara, Monte Santo de Minas, Nova Resende, Patrocínio Paulista, Pedregulho, Santo Antônio da Alegria, São Pedro da União, São Sebastião do Paraíso, São Tomás de Aquino.
Northwest 91 cities	Votuporanga (VOT) 54 cities	Álvares Florence, Américo de Campos, Andradina, Aparecida d'Oeste, Aspásia, Auriflama, Cardoso, Dirce Reis, Dolcinópolis, Estrela d'Oeste, Fernandópolis, General Salgado, Guaraçá, Guarani d'Oeste, Guzelândia, Indiaporã, Jales, Macedônia, Marinópolis, Meridiano, Mesópolis, Mira Estrela, Mirandópolis, Murutinga do South, Nova Canaã Paulista, Ouroeste, Palmeira d'Oeste, Paranápuã, Parisi, Pedranópolis, Pereira Barreto, Pontalinda, Pontes Gestal, Populina, Riolândia, Rubinéia, Santa Albertina, Santa Clara d'Oeste, Santa Fé do South, Santa Rita d'Oeste, Santa Salete, Santana da Ponte Pensa, Santo Antônio do Aracanguá, São Francisco, São João das Duas Pontes, São João de Iracema, Sud Mennucci, Suzanápolis, Três Fronteiras, Turmalina, Urânia, Valentim Gentil, Votorânia Brasil, Votuporanga.
	São José do Rio Preto (SJO) 37 cities	Adolfo, Altair, Bady Bassitt, Bálzano, Cedral, Cosmorama, Floreal, Guapiaçu, Icém, Ipiguá, Jaci, José Bonifácio, Macaubal, Magda, Mendonça, Mirassol, Mirassolândia, Monções, Monte Aprazível, Neves Paulista, Nhandeara, Nipoã, Nova Aliança, Nova Granada, Ónda Verde, Orindiúva, Palestina, Paulo de Faria, Planalto, Poloni, Potirendaba, São José do Rio Preto, Sebastianópolis do South, Tanabi, Ubarana, União Paulista, Zacarias.
Central 79 cities	Matão (MAT) 21 cities	Américo Brasiliense, Araraquara, Bariri, Boa Esperança do South, Borborema, Cândido Rodrigues, Fernando Prestes, Gavião Peixoto, Ibitinga, Itaju, Itápolis, Jaboticabal, Matão, Monte Alto, Motuca, Nova Europa, Novo Horizonte, Rincão, Santa Lúcia, Tabatinga, Taquaritinga.
	Duartina (DUA) 43 cities	Agudos, Álvaro de Carvalho, Alvinlândia, Arealva, Avaí, Balbinos, Bastos, Bauru, Boracéia, Cabrália Paulista, Cafelândia, Campos Novos Paulista, Duartina, Echaporã, Espírito Santo do Turvo, Fernão, Gália, Garça, Getulina, Guaiçara, Guaimbê, Guarantã, Iacanga, Júlio Mesquita, Lins, Lucianópolis, Lupércio, Marília, Ocauçu, Parapuã, Paulistânia, Pederneiras, Pirajuí, Piratinha, Pongaí, Presidente Alves, Promissão, Reginópolis, Sabino, Santa Cruz do Rio Pardo, São Pedro do Turvo, Ubirajara, Uru.
	Brotas (BRO) 15 cities	Analândia, Bocaina, Brotas, Corumbataí, Dois Córregos, Dourado, Ibaté, Itirapina, Mineiros do Tietê, Ribeirão Bonito, Santa Maria da Serra, São Carlos, São Pedro, Torrinha, Trabiju.
South 54 cities	Porto Ferreira (PFE) 20 cities	Aguaiá, Caconde, Casa Branca, Descalvado, Guaranésia, Guaxupé, Itobi, Luís Antônio, Mococa, Pirassununga, Porto Ferreira, Santa Cruz da Conceição, Santa Cruz das Palmeiras, Santa Rita do Passa Quatro, Santa Rosa de Viterbo, São João da Boa Vista, São José do Rio Pardo, São Simão, Tambaú, Vargem Grande do Sul.
	Limeira (LIM) 34 cities	Águas de Lindóia, Americana, Amparo, Araras, Artur Nogueira, Atibaia, Bragança Paulista, Charqueada, Conchal, Cordeirópolis, Cosmópolis, Engenheiro Coelho, Espírito Santo do Pinhal, Estiva Gerbi, Holambra, Ipeúna, Iracemápolis, Itapira, Itatiba, Jaguariúna, Jarinu, Leme, Limeira, Lindóia, Mogi Guaçu, Mogi Mirim, Monte Alegre do South, Paulínia, Pinhalzinho, Piracicaba, Rio Claro, Santo Antônio de Posse, Serra Negra, Socorro.
Southwest 51 cities	Avaré (AVA) 31 cities	Águas de Santa Bárbara, Angatuba, Anhembi, Araçoiaba da Serra, Arandu, Avaré, Bofete, Borebi, Botucatu, Cabreúva, Capela do Alto, Cerqueira César, Cesário Lange, Conchas, Guareí, Iaras, Iperó, Itatinga, Lençóis Paulista, Manduri, Óleo, Pardinho, Porangaba, Porto Feliz, Pratânia, Quadra, Salto de Pirapora, São Manuel, Sorocaba, Tatuí, Tietê.
	Itapetininga (ITG) 20 cities	Alambari, Buri, Campina do Monte Alegre, Capão Bonito, Coronel Maceido, Itaberá, Itaí, Itapetininga, Itapeva, Itaporanga, Itararé, Nova Campina, Paranapanema, Pilar do South, São Miguel Arcanjo, Sarapuí, Sarutaiá, Taquarituba, Taquarivaí, Tejupá.
5 sectors	12 regions	347 cities with citrus farms

## Variety groups

**Chart 2 – Division of citrus species per variety group**

Group of citrus species	Varieties
Oranges.....	Early: Hamlin, Westin and Rubi Other early: Valencia Americana <sup>1</sup> , Seleta and Pineapple Mid-season: Pera Rio Late: Valencia and Valencia Folha Murcha Late: Natal
Other oranges.....	Washington Navel and Baianinha Charmute de Brotas Acidless sweet oranges and sweet lime: Lima Verde, Lima Late, Piralima, Lima Sorocaba, Lima Roque, João Nunes and Palestine sweet lime Other varieties
Acid limes and lemons.....	Tahiti acid lime (Persian lime) and Galego acid lime (Mexican lime) Sicilian lemon Other varieties including non-identified ones
Tangerines.....	Ponkan Murcott Other tangerines

<sup>1</sup> Plots registered as Valencia Argentina in the 2015 mapping were updated to Valencia Americana.in this mapping

## Age groups

**Chart 3 – Classification by tree planting years and grove age groups**

Age group	Planting years
1 to 2 years.....	2020, 2019
3 to 5 years.....	2018, 2017, 2016
6 to 10 years.....	2015, 2014, 2013, 2012, 2011
Over 10 years.....	2010 and previous years

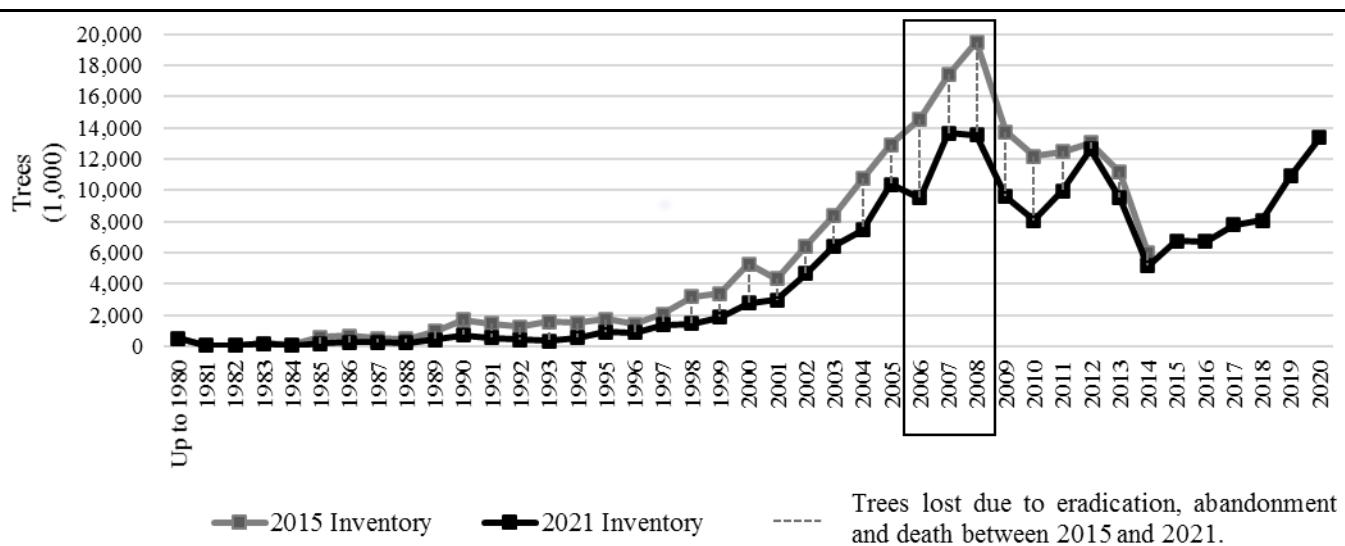
### 3 – RESULTS

#### 3.1 – MAIN CONCLUSIONS ON THE TREE INVENTORY

This seventh inventory portrays the estimated status of orange groves in the São Paulo and West-Southwest citrus belt updated in March 2021. The main point of attention in this inventory as compared to the previous one is the significant reduction in the orange planted area resulting from the increase in grove eradication from 3.70% in 2020 to 7.26% in 2021, which relates especially to the two consecutive years of intense drought.

Groves that suffered the most from the drought were those grown in more critical regions with no irrigation and with a high planting density of orange trees grafted onto citrumelo Swingle rootstock, which is more susceptible to water deficit. In the past crop season, when the climate was extremely adverse, the yield of those groves dropped drastically and in extreme cases there was a high plant mortality, which accelerated the eradication of trees and severely affected mature groves. Under those conditions, the mortality of orange trees increased in mature groves, caused by diseases such as citrus blight and citrus sudden death (CSD) mainly for orange trees grafted onto Rangpur lime rootstock, which is susceptible to both diseases. Citrus sudden death reappeared this last year in the regions of Bebedouro, São José do Rio Preto and southwest of Triângulo Mineiro, where climatic conditions were extremely unfavorable. On the other hand, greening effects associated with water deficit were more marked in the regions of Brotas, Porto Ferreira, Limeira, Matão and Duartina, where the incidence of that disease is higher. In those locations, the drop of oranges was more intense than in the last crop season, affecting yield and contributing to increased eradication. Another important and decisive factor for the greater eradication of groves is the cycle of high prices of other agricultural commodities such as corn, soybeans and sugar, therefore considered as alternative crops.

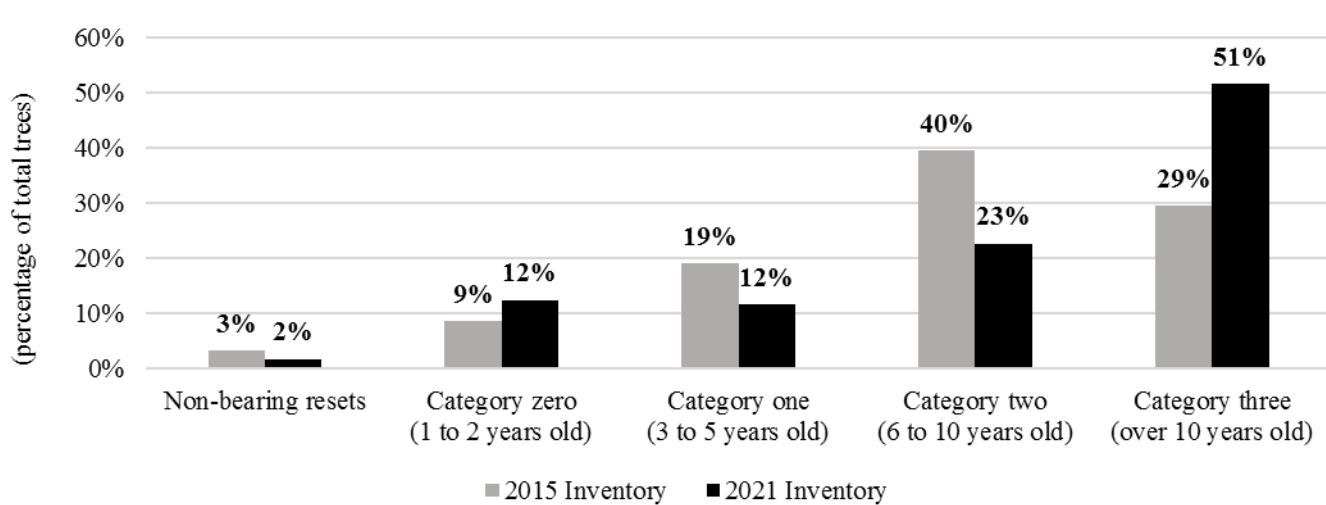
In addition to an increased eradication there was also a significant decrease in new plantings in the last decade, as shown in Graph 1 that presents the number of trees per planting year still remaining in groves in the 2015 inventory as well as in the current one in 2021. The difference between inventory data refers to trees that were eradicated, died or are in groves that were abandoned in the period. An analysis of this longer time horizon shows that the smaller number of trees planted in recent years has not been able to restore the volume lost due to the causes mentioned before, which has intensified with the progressing greening, reducing the lifetime of groves.



**Graph 1 – Oranges: Trees per planting year in the plot, with bearing resets added to trees from the original planting [2015 and 2021 inventories]**

The sharp increase in orange plantings in 2006, 2007 and 2008 highlighted in Graph 1 did not recur in the following years. In that three-year period, expansion in the São Paulo and West-Southwest Minas Gerais citrus belt was driven by hurricanes that hit Florida, U.S. in 2004, 2005 and 2006. Those events for three consecutive years reduced the supply of orange in that state, which became insufficient to meet the American demand for juice, then still close to one million metric ton per year. At that time, the orange production in Florida was not expected to easily recover due to the major havoc caused by hurricanes and the increased grove eradication as a result of citrus canker. Additionally, the appreciated real estate prices in citrus producing regions encouraged citrus growers to sell groves close to cities, where residential gated communities were then built. There were yet other factors unfavorable to production upturn such as labor restriction and cost increase, climatic and phytosanitary risks, citrus canker spread and onset of greening. In this scenario of shortage in American production and aiming to fill that space, many highly technological groves were planted in the São Paulo and West-Southwest Minas Gerais citrus belt. Since then, however, citriculture has experienced a new reality that is quite different from the time when decision making was influenced basically by orange production volumes in Florida and São Paulo. The increasing supply of beverages that compete with orange juice, the rise in pests and diseases, worldwide crises, consecutive large crops, restricted labor and extreme climatic events are only a few of the factors that increased complexity in decision making in the sector and that have resulted in a more modest increase in plantings.

The consequence of this dynamic is the aging of the citrus planted area in São Paulo and West-Southwest Minas Gerais, which can be noticed from the data presented in Graph 2. In the 2015 inventory, approximately 29% of total trees were in category 3, over 10 years old, but currently more than half the plants (51%) are in that category. Conversely, most of the categories of younger bearing trees lost share. For instance, 40% of trees were in the range from 6 to 10 years in 2015, whereas now that percentage is only 23%. Another fact that shows the aging of the citrus planted area is the decreased resetting in groves in which plants were eradicated. In the 2015 inventory there were 6.60 million non-bearing resets distributed within mature groves, which corresponded to approximately 3% of total trees, whereas now that number is short of 3.50 million resets, equivalent to about 2% of total trees. That is due to some factors among which are the higher planting density and the lower life expectancy of groves, more knowledge on the yield of resets and information on the economic viability of resets.



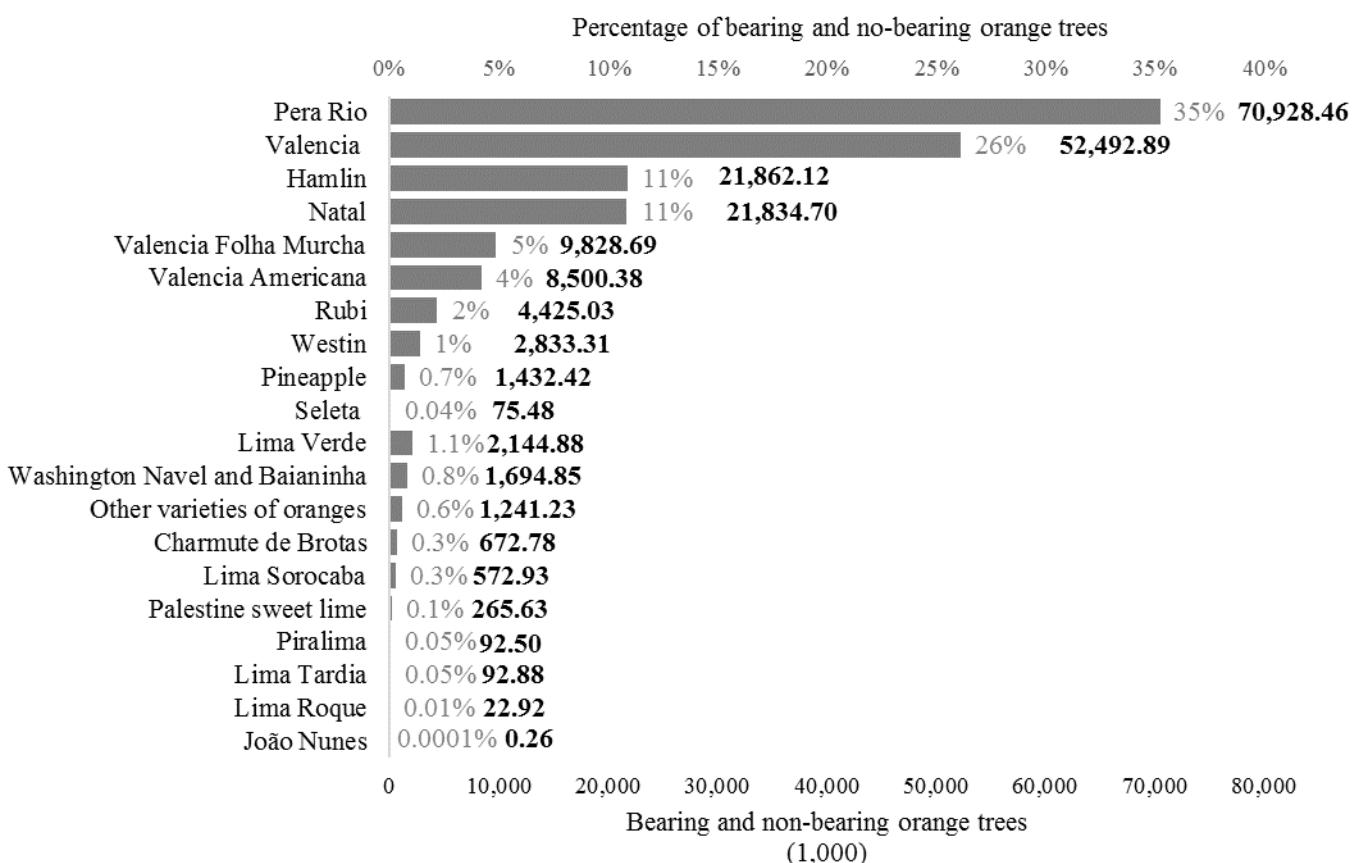
**Graph 2 – Oranges: Percentage of trees in relation to total per age category [2015 and 2021 inventories]**

Due to restrictions imposed by the Covid-19 pandemic, the new mapping previously scheduled to begin in August 2020 was postponed to August 2021. Therefore, information relative to groves planted in the year of 2018 that started bearing fruit in this crop season and were used to comprise this forecast was estimated from data supplied by CDA-SP (São Paulo state animal and plant health protection agency) of

the São Paulo state department of agriculture and supply, on the number of nursery plants marketed under the permit to transit plants (PTV) in the state of São Paulo, and from surveys carried out by Fundecitrus. That data may change until the end of the crop season if there is a significant variation in the estimated number of trees planted in 2018 and in counts from field surveys in the new scan of the citrus planted area from August 2021 to January 2022. Plantings in 2019 and 2020 are also estimated and non-bearing in this crop season. Mapping to be performed in the field will allow for information update on those plantings with their actual values that will be presented in the 2022 inventory, as well as on all citrus groves.

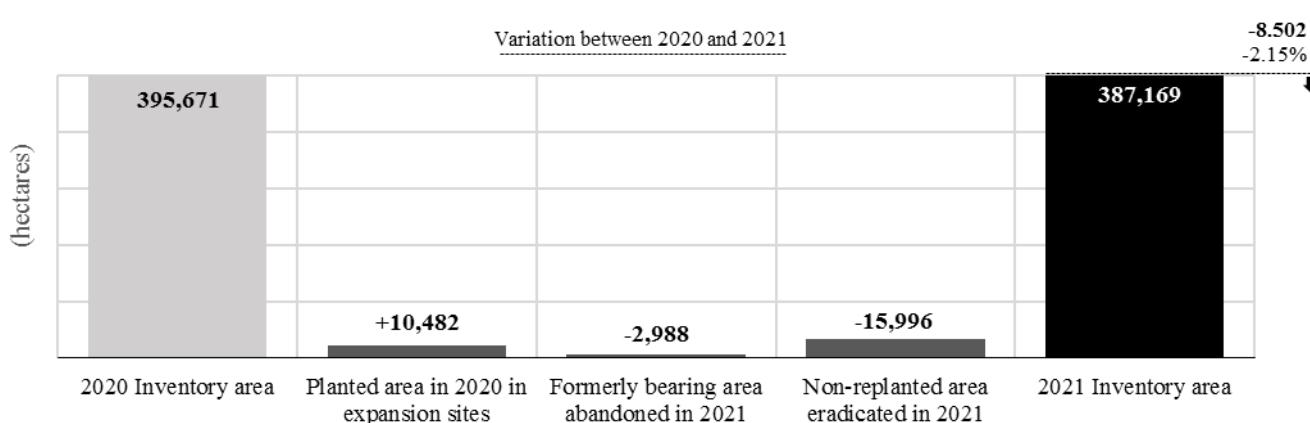
Data on groves of acid limes, lemons and tangerines, as well as the number of farms and the percentage of irrigated area, has been the same presented since the 2018 inventory because its update depends on a scan of the whole citrus planted area – meanwhile, data is from the last mapping carried out in 2018. The total of 5,882 orange farms remains unchanged until the new mapping is performed, although data on their groves has been updated in this 2021 inventory by means of a survey sampling 5% of plots in the citrus planted area, enabling a reassessment of the area and the percentage of trees in each age category and also dead and missing trees in those groves.

The sample survey this year showed that the area of orange groves, including all varieties, totals 400,316 hectares, which is 1.83% smaller as compared to the figure in the 2020 inventory. Of this total, 387,169 hectares, that is, 97% of the area, are planted with the varieties Hamlin, Westin, Rubi, Valencia Americana, Seleta, Pineapple, Pera Rio, Valencia, Valencia Folha Murcha and Natal. Those varieties comprise the group called “oranges” in the tables in this report. The remaining 3%, that is, 13,206 hectares, comprise the group called “other oranges” with the varieties Bahia, Baianinha, Charmute de Brotas, acidless sweet orange, sweet lime and others. Graph 3 shows the complete distribution of the volume of trees per variety and their shares in relation to total orange trees. From this point on in the text, statements are specific to the group called “oranges”, which is more representative of the citrus belt.



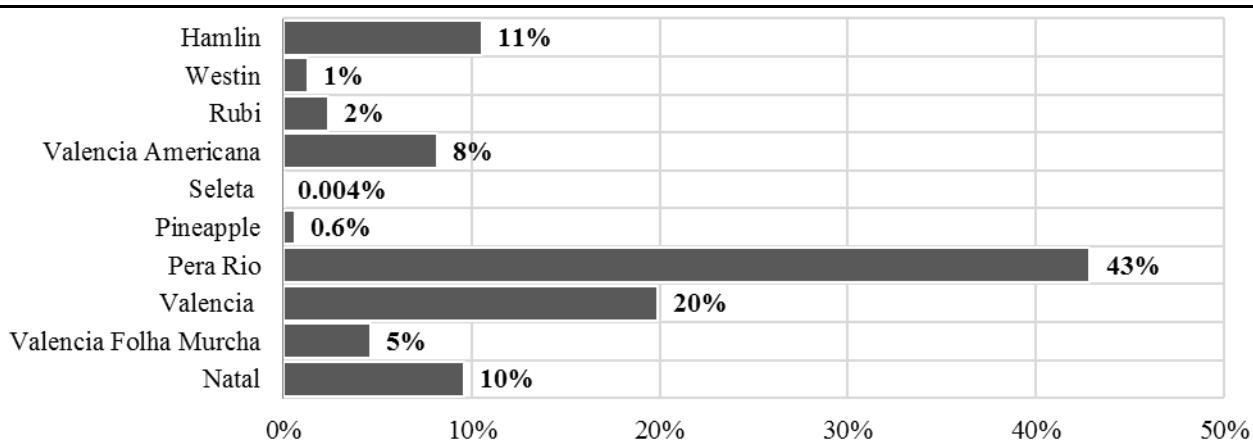
**Graph 3 – Oranges and other oranges: Distribution of bearing and non-bearing orange trees per variety**

The area with groves of the main varieties of oranges (387,169 hectares) presented in this inventory is 8,502 hectares smaller than that in 2020. This decrease corresponds to a net variation of -2.15%. As shown in Graph 4, this figure is determined from the area of groves in the 2020 inventory (395,671 hectares) to which the expansion area (10,482 hectares), relative to plantings in new areas in 2020 was added. From this total, the area accounted for as having bearing trees in the previous inventory but that is now abandoned (2,988 hectares) is deducted. The eradicated area that was not replanted with orange (15,996 hectares) in 2020 is also deducted.



#### Graph 4 – Oranges: Update on cultivated area [2020 and 2021 inventories]

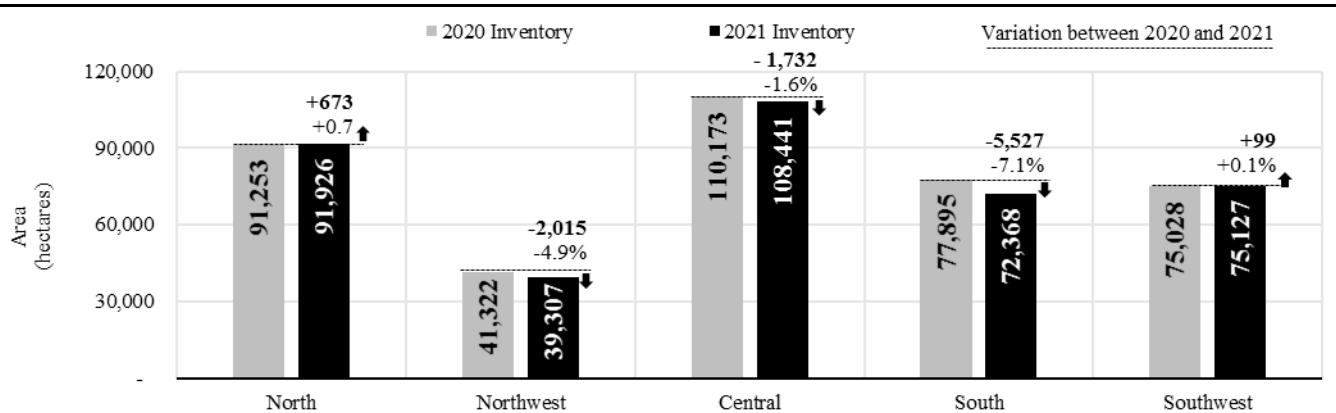
The area of groves planted in 2020 is 23,224 hectares and corresponds to approximately 6.00% of the total area (387,169 hectares). About 45% of new groves were planted in expansion areas and 55% in renovation areas. As for the varietal distribution, Graph 5 shows that Pera Rio accounts for 43% of these plantings; Valencia for 20%, Hamlin for 11%; Natal for 10%; Valencia Americana for 8%; Valencia Folha Murcha for 5%; and Westin, Rubi, Pineapple and Seleta altogether for approximately 4%. The average share of Pera Rio in new plantings for the last ten years is about 45%. This significant share is due to this variety being dual-purpose, having characteristics that meet the demand for both fresh fruit and fruit for industrial processing, especially to produce NFC orange juice.



#### Graph 5 – Oranges: Varietal share in plantings estimated for 2020 [2021 inventory]

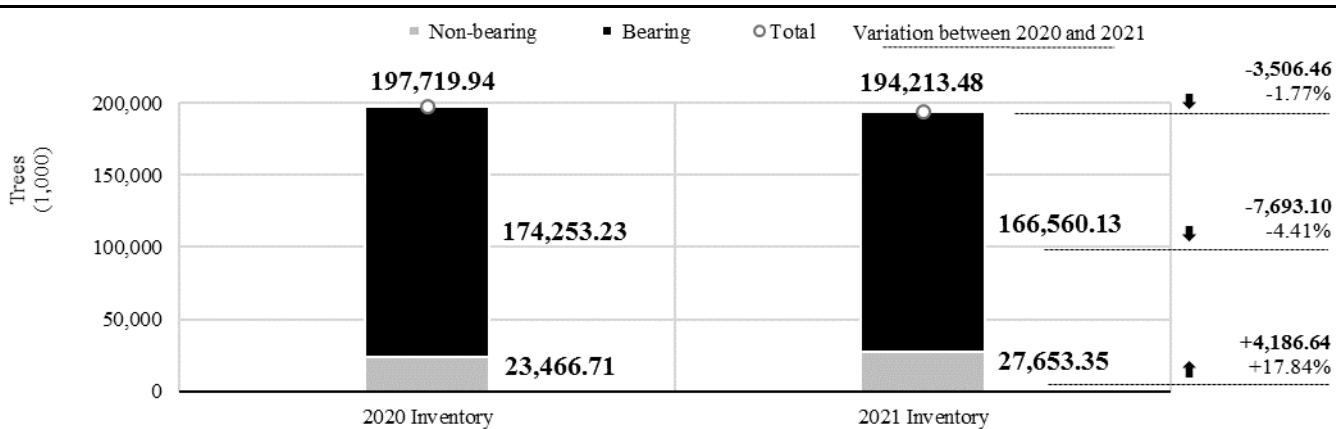
Most new groves (2020 plantings) are in the Central, which accounts for 31% of their total number, followed by 27% of them in the Southwest, 16% in the South, 15% in the North, and 11% in the Northwest. Data is estimated, actual figures will be known at the next scan of the citrus belt. The variation in the orange area in relation to the previous inventory is negative in three sectors, as presented in Graph 6. This balance shows that the loss of groves was more significant, in percentage terms, in the South and

Northwest sectors, which can be related to higher rates of greening and drought, respectively. According to the survey carried out by Fundecitrus in 2020, the South sector has 42.81% of its trees with symptoms whereas the Central sector has 29.76%. The percentage of greening is 12.06% in the Southwest sector, 7.23% in the North, and 2.20% in the Northwest. The negative balance in the Northwest is probably more influenced by the water deficit and higher temperatures that result in lower yield.



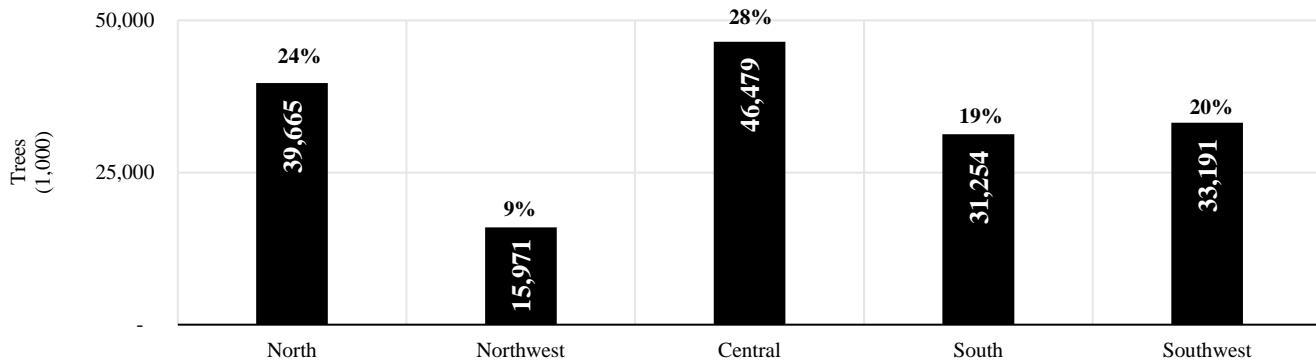
**Graph 6 – Oranges: Area of groves by sector [2020 and 2021 inventories]**

Bearing orange trees amount to 166.56 million and non-bearing trees to 27.65 million, totaling 194.21 million trees. As compared to the 2020 inventory, the total decrease in trees was approximately 3.51 million, which corresponds to 1.77%, as presented in Graph 7.



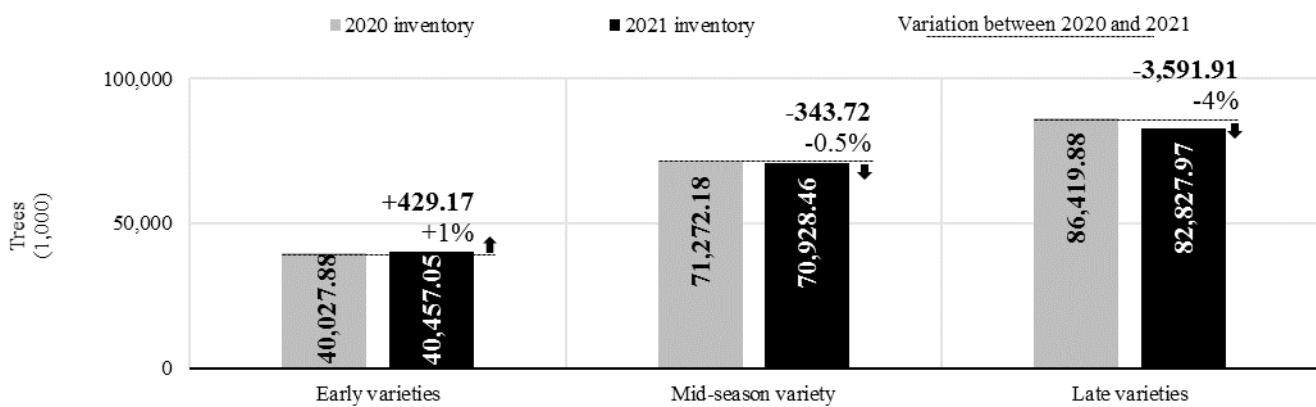
**Graph 7 – Oranges: Total trees, bearing and non-bearing trees [2020 and 2021 inventories]**

The Central sector has the highest concentration of bearing trees in the citrus belt, with 46.48 million bearing trees, corresponding to 28% of the total figure, followed by the North sector (39.67 million; 24%), Southwest (33.19 million; 20%), South (31.25 million; 19%) and Northwest (15.97 million; 10%), as shown in Graph 8. The production of oranges in each sector is related to the number of bearing trees, although it is greatly influenced by climatic conditions that can affect or realize the full production potential of orange trees.



**Graph 8 – Oranges: Bearing trees by sector and relative share [2021 inventory]**

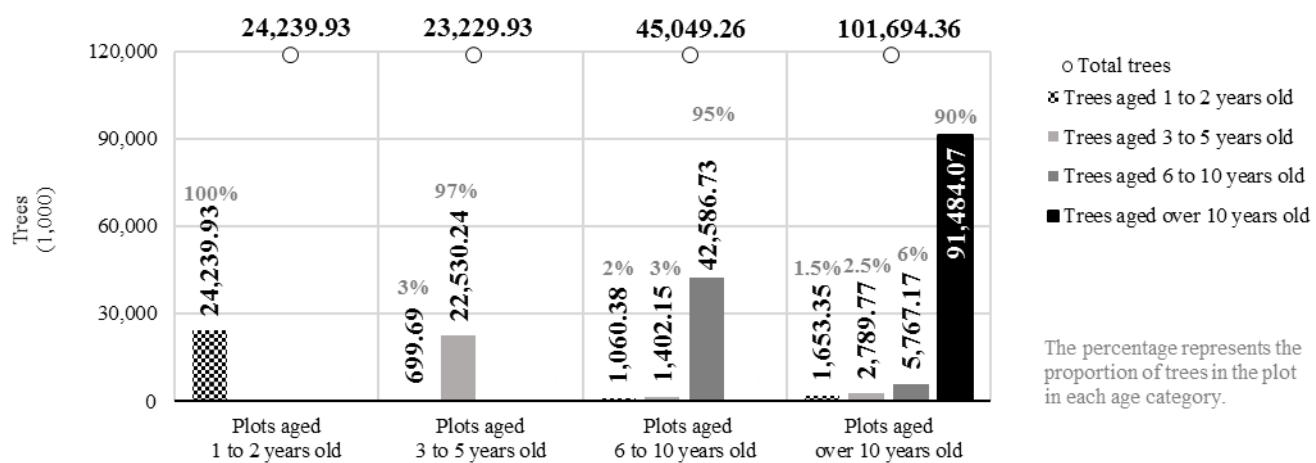
The distribution by fruit harvesting time shows that the share of trees of early varieties in relation to total trees increased approximately 1%, whereas the share of the mid-season variety decreased 0.5% and that of late varieties decreased 4% in comparison to the previous inventory. Currently, 40.46 million trees are of early varieties, usually harvested between May and August; 70.93 million trees are of the mid-season variety, usually harvested between July and October; and 82.83 million trees are of late varieties, usually harvested between October and January, as shown in Graph 9. Climatic conditions and the bloom profile, among other factors, may advance or extend harvesting time, from one year to the next. A generalized delay in starting harvest is expected for the second consecutive year.



**Graph 9 – Oranges: Total trees by maturation time of varieties [2020 and 2021 inventories]**

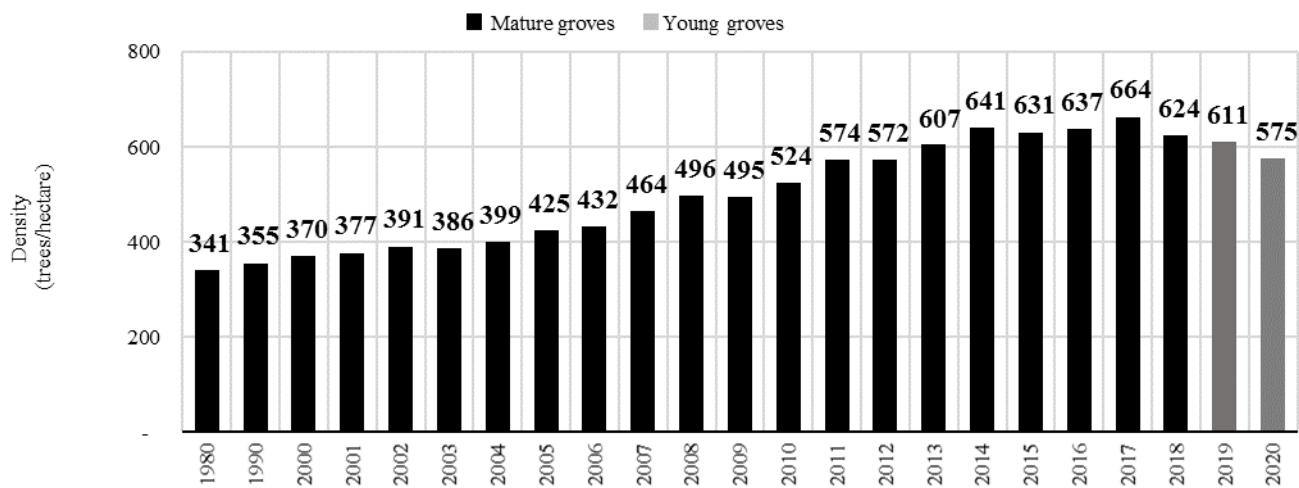
The average age of mature groves is 11.1 years. This systematic aging since the 2015 inventory results from more modest plantings observed in the last years.

Groves of up to two years old, that is, planted in 2019 and 2020, comprise 24.24 million non-bearing trees. Groves from three to five years old, planted from 2016 to 2018, comprise 23.23 million trees – approximately 97% of those trees are in the same age group of plots and 3% are resets of the age group of one to two years old. Groves from six to ten years old were planted from 2011 to 2015 and comprise approximately 45.05 million trees – 95% of trees remain in the category of six to ten years old (same age group of plots), 3% are in the age group of three to five years old and 2% are in the age group from one to two years old. In the group of groves over ten years old, that is, planted until 2010 and totaling 101.69 million trees, 90% of trees are over ten years old, 6% are between six and ten years old, 3% are between three and five years old and 1.5% are between one and two years old. Graph 10 shows the distribution of trees by age category in all age groups of groves.



**Graph 10 – Oranges: Trees by age groups and age groups of plots**

The average density of groves planted in 2020, as estimated by the sample survey, is 575 trees per hectare. Planting density was higher in 2019, of 611 trees per hectare, and even higher in 2018, of 624. This data indicates a downward trend in planting density as of 2018, as highlighted in Graph 11. The average density of young groves in this inventory is 591 trees per hectare whereas for mature groves that density is now 491 trees per hectare. Overall average density is 502 trees per hectare.



**Graph 11 – Oranges: Average grove density by planting year**

The average eradication rate in the citrus belt is 7.26%, as estimated for the period from April 2020 to March 2021, as mentioned before. The eradicated area is estimated to be 28,738 hectares. Of this total, 12,742 hectares have been renovated. Therefore, the net loss due to eradication is 15,996 hectares: 80% of this area is in the regions of Porto Ferreira (26%), Votuporanga (20%), Brotas (14%), Avaré (13%) and Limeira (12%). Abandoned groves including all orange varieties totaled 4,561 hectares in the 2020 inventory and dropped to 4,147 hectares in this one. There was a sharp increase in abandoned groves in the regions of Duartina and Avaré. With the aggressive eradication, the percentage of dead trees in the citrus belt decreased from 2.09% to 1.50% and gaps increased from 3.99% to 4.65% of existing planting holes.



### 3.2 – TABLES OF DATA

Calculations used whole numbers and all decimal points, the same way they are stored in the data bank. Occasional divergences between figures on tables result from rounding numbers. The word “oranges” in the title of tables indicates that their figures comprise the Hamlin, Westin, Rubi, Valencia Americana, Seleta, Pineapple, Pera Rio, Valencia, Natal and Valencia Folha Murcha varieties.

**Table 1 – All citrus: Area of groves by sector [2018, 2019, 2020, 2021 inventories and variation]**

Inventory, sector and variation	Oranges <sup>1</sup> (hectares)	Other oranges <sup>2</sup> (hectares)	Acid limes and lemons <sup>3,5</sup> (hectares)	Tangerines <sup>4,5</sup> (hectares)	Total (hectares)	Percentage of sectors (%)
<b>2018 inventory</b>						
Total.....	<b>401,470</b>	<b>12,883</b>	<b>39,078</b>	<b>12,204</b>	<b>465,635</b>	<b>100.00</b>
Citrus percentage.....	<b>86.22</b>	<b>2.77</b>	<b>8.39</b>	<b>2.62</b>	<b>100.00</b>	<b>(X)</b>
<b>2019 inventory</b>						
Total.....	<b>395,764</b>	<b>13,061</b>	<b>39,078</b>	<b>12,204</b>	<b>460,107</b>	<b>100.00</b>
Citrus percentage.....	<b>86.02</b>	<b>2.84</b>	<b>8.49</b>	<b>2.65</b>	<b>100.00</b>	<b>(X)</b>
<b>2020 inventory</b>						
Total.....	<b>395,671</b>	<b>12,105</b>	<b>39,078</b>	<b>12,204</b>	<b>459,058</b>	<b>100.00</b>
Citrus percentage.....	<b>86.19</b>	<b>2.64</b>	<b>8.51</b>	<b>2.66</b>	<b>100.00</b>	<b>(X)</b>
<b>2021 inventory</b>						
North.....	91,926	994	15,469	1,788	110,177	24.40
Northwest.....	39,307	576	4,768	1,534	46,185	10.23
Central.....	108,441	2,682	11,855	2,579	125,557	27.80
South.....	72,368	5,420	5,462	3,954	87,204	19.31
Southwest.....	75,127	3,475	1,524	2,349	82,475	18.26
<b>Total.....</b>	<b>387,169</b>	<b>13,147</b>	<b>39,078</b>	<b>12,204</b>	<b>451,598</b>	<b>100.00</b>
Citrus percentage.....	<b>85.73</b>	<b>2.91</b>	<b>8.65</b>	<b>2.70</b>	<b>100.00</b>	<b>(X)</b>
<b>Variation 2021 x 2020</b>						
Hectares.....	<b>-8,502</b>	<b>1,042</b>	-	-	<b>-7,460</b>	<b>(X)</b>
Percentage.....	<b>-2.15</b>	<b>8.61</b>	-	-	<b>-1.63</b>	<b>(X)</b>

(X) Not applicable.

<sup>1</sup> Oranges: Hamlin, Westin, Rubi, Valencia Americana, Seleta, Pineapple, Pera Rio, Valencia, Valencia Folha Murcha and Natal.

<sup>2</sup> Other oranges: Washington Navel, Baianinha, Charmute de Brotas, Lima Verde, Lima Tardia, Piralima, Lima Sorocaba, Lima Roque, João Nunes, Palestine sweet lime and other varieties.

<sup>3</sup> Acid limes and lemons: Tahiti acid lime (Persian lime), Galego acid lime (Mexican lime), Sicilian lemon and other varieties including non-identified ones.

<sup>4</sup> Tangerines: Ponkan, Murcott and other varieties.

<sup>5</sup> Data will be updated in the next mapping.

**Table 2 – All citrus: Farms<sup>1</sup> with citrus groves, stratified by sector [2018 inventory]**

Sector	2018 inventory	
	(number)	(%)
North.....	2,526	25.66
Northwest.....	2,128	21.62
Central.....	1,873	19.02
South.....	2,919	29.65
Southwest.....	399	4.05
<b>Total.....</b>	<b>9,845</b>	<b>100.00</b>

<sup>1</sup> Data will be updated in the next mapping.

**Table 3 – Oranges: Farms<sup>1</sup> with orange groves, stratified by size of area with oranges [2020 and 2021 inventories]**

Range of the farm size considering the total orange area	2020 inventory				2021 inventory			
	Farms with orange groves		Orange area		Farms with orange groves <sup>1</sup>		Orange area	
			Total	Irrigate area			Total	Irrigate area
(hectares)	(number)	(%)	(hectares)	(%)	(number)	(%)	(hectares)	(%)
0.1 – 10.....	2,723	46.29	13,338	10.39	2,943	50.03	15,042	9.80
10.1 – 50.....	2,003	34.05	47,933	12.38	1,887	32.08	48,764	11.76
50.1 – 100.....	505	8.59	37,428	17.14	465	7.91	37,029	14.46
100.1 – 500.....	507	8.62	108,407	21.38	455	7.74	104,651	21.00
500.1 – 1,000.....	84	1.43	62,418	29.14	77	1.31	59,656	27.28
Above 1,000.....	60	1.02	126,147	50.86	55	0.94	122,027	53.98
<b>Total.....</b>	<b>5,882</b>	<b>100.00</b>	<b>395,671</b>	<b>30.14</b>	<b>5,882</b>	<b>100.00</b>	<b>387,169</b>	<b>30.14</b>
<b>Average per farm.....</b>			<b>67.27</b>				<b>65.82</b>	

<sup>1</sup> Data will be updated in the next mapping.**Table 4 – Oranges: Farms<sup>1</sup> with orange groves, stratified by number of orange trees [2020 and 2021 inventories]**

Range of the number of orange trees in the farm	2020 inventory				2021 inventory			
	Farms with orange groves <sup>1</sup>		Non-bearing and bearing trees		Farms with orange groves <sup>1</sup>		Non-bearing and bearing trees	
(trees)	(number)	(%)	(1,000 trees)	(%)	(number)	(%)	(1,000 trees)	(%)
Below 10 thousand.....	3,902	66.34	14,558.92	7.36	4,063	69.08	15,660.04	8.06
10.1 – 19 thousand.....	703	11.95	10,688.80	5.41	644	10.95	10,910.45	5.62
20 – 29 thousand.....	298	5.07	7,891.68	3.99	288	4.90	8,529.16	4.39
30 – 49 thousand.....	338	5.75	13,834.41	7.00	299	5.08	13,207.95	6.80
50 – 99 thousand.....	301	5.12	22,424.68	11.34	284	4.83	22,679.90	11.68
100 – 199 thousand.....	155	2.64	23,108.93	11.69	136	2.31	21,769.75	11.21
Above 200 thousand .....	185	3.15	105,212.52	53.21	168	2.86	101,456.23	52.24
<b>Total.....</b>	<b>5,882</b>	<b>100.00</b>	<b>197,719.94</b>	<b>100.00</b>	<b>5,882</b>	<b>100.00</b>	<b>194,213.48</b>	<b>100.00</b>
<b>Average per farm.....</b>			<b>33.61</b>				<b>33.02</b>	

<sup>1</sup> Data will be updated in the next mapping.**Table 5 – Oranges: Orange plots stratified by plot area size [2020 and 2021 inventories]**

Plot area	2020 inventory				2021 inventory			
	Oranges		All oranges		Oranges		All oranges	
(hectares)	(plots)	(%)	(plots)	(%)	(plots)	(%)	(plots)	(%)
Below 1.....	3,205	7.12	3,524	7.50	2,319	5.08	2,739	5.70
1.1 – 4.....	13,070	29.05	13,960	29.71	12,337	27.01	13,463	28.00
4.1 – 10.....	16,138	35.87	16,714	35.57	17,886	39.16	18,532	38.55
10.1 – 20.....	8,684	19.30	8,860	18.85	9,130	19.99	9,300	19.34
Above 20.....	3,891	8.65	3,936	8.37	3,998	8.75	4,045	8.41
<b>Total.....</b>	<b>44,988</b>	<b>100.00</b>	<b>46,994</b>	<b>100.00</b>	<b>45,670</b>	<b>100.00</b>	<b>48,079</b>	<b>100.00</b>
<b>Average per plot.....</b>	<b>(hectares)</b>	<b>8.80</b>	<b>(hectares)</b>	<b>8.68</b>	<b>(hectares)</b>	<b>8.48</b>	<b>(hectares)</b>	<b>8.33</b>

**Table 6 – Oranges and others<sup>1</sup>: Area of groves by sector [2018, 2019, 2020, 2021 inventories and variation]**

Inventory and sector	Total <sup>1</sup>	Changes			Variation	
		Estimate of groves planted in expansion areas in 2020	Estimate of bearing groves abandoned in 2021	Estimate of eradicated groves from April 2020 to March 2021, which were not renovated		
<b>2018 Inventory</b>	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(%)
<b>Total.....</b>	<b>414,353</b>	-	-	-	-	-
<b>2019 Inventory</b>						
<b>Total.....</b>	<b>408,825</b>	-	-	-	-	-
<b>2020 Inventory</b>						
<b>Total.....</b>	<b>407,776</b>	-	-	-	-	-
<b>2021 Inventory</b>						
North.....	92,920	1,279	-147	-254	878	0.95
Northwest.....	39,883	1,679	-399	-3,294	-2,014	-4.81
Central.....	111,123	2,774	-1,083	-3,341	-1,650	-1.46
South.....	77,788	1,024	-256	-5,461	-4,693	-5.69
Southwest.....	78,602	3,882	-1,153	-2,710	19	0.02
<b>Total.....</b>	<b>400,316</b>	<b>10,638</b>	<b>-3,038</b>	<b>-15,060</b>	<b>-7,460</b>	<b>-1.83</b>

<sup>1</sup> Oranges: Hamlin, Westin, Rubi, Valencia Americana, Seleta, Pineapple, Pera Rio, Valencia, Valencia Folha Murcha and Natal.  
Other oranges: Washington Navel, Baianinha, Charmute de Brotas, Lima Verde, Lima Tardia, Piralima, Lima Sorocaba, Lima Roque, João Nunes, Palestine sweet lime and other varieties.

**Table 7 – Other oranges: Area of groves by variety [2021 inventory]**

Variety	Area (hectares)	Percentage	
			(%)
Washington Navel and Baianinha.....	2,541		19.33
Charmute de Brotas.....	1,622		12.34
Acidless sweet oranges and sweet lime.....	6,570		49.97
Other varieties .....	2,414		18.36
<b>Total.....</b>	<b>13,147</b>		<b>100.00</b>

**Table 8 – Acid limes and lemons: Area of groves by variety [2018 inventory]<sup>1</sup>**

Variety	Area (hectares)	Percentage	
			(%)
Tahiti acid lime (Persian lime) .....	35,076		89.76
Sicilian lemon.....	3,577		9.15
Other varieties including non-identified ones.....	425		1.09
<b>Total.....</b>	<b>39,078</b>		<b>100.00</b>

<sup>1</sup> Data will be updated in the next mapping.

**Table 9 – Tangerines: Area of groves by variety [2018 inventory]<sup>1</sup>**

Variety	Area (hectares)	Percentage	
			(%)
Ponkan.....	5,286		43.31
Murcott.....	5,607		45.94
Other varieties .....	1,311		10.74
<b>Total.....</b>	<b>12,204</b>		<b>100.00</b>

<sup>1</sup> Data will be updated in the next mapping.

**Table 10 – Oranges: Area of groves by sector [2018, 2019, 2020, 2021 inventories and variation]**

Inventory and sector	Total <sup>1</sup>	Changes			Variation	
		Estimate of groves planted in expansion areas in 2020	Estimate of bearing groves abandoned in 2021	Estimate of eradicated groves from April 2020 to March 2021, which were not renovated		
<b>2018 Inventory</b>	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(%)
<b>Total.....</b>	<b>401,470</b>	-	-	-	-	-
<b>2019 Inventory</b>						
<b>Total.....</b>	<b>395,764</b>	-	-	-	-	-
<b>2020 Inventory</b>						
<b>Total.....</b>	<b>395,671</b>	-	-	-	-	-
<b>2021 Inventory</b>						
North.....	91,926	1,257	-147	-437	673	0.74
Northwest.....	39,307	1,677	-399	-3,293	-2,015	-4.88
Central.....	108,441	2,759	-1,083	-3,408	-1,732	-1.57
South.....	72,368	915	-256	-6,186	-5,527	-7.10
Southwest.....	75,127	3,874	-1,103	-2,672	99	0.13
<b>Total.....</b>	<b>387,169</b>	<b>10,482</b>	<b>-2,988</b>	<b>-15,996</b>	<b>-8,502</b>	<b>-2.15</b>

**Table 11 – Oranges: Estimate of groves planted in 2020 in expansion and renovation areas [2021 inventory]**

Sector	Estimate of groves planted in 2020				
	Total	In expansion areas	In renovation areas	(hectares)	(%)
North.....	4,444	1,257	28.29	3,187	71.71
Northwest.....	2,708	1,677	61.93	1,031	38.07
Central.....	6,848	2,759	40.29	4,089	59.71
South.....	3,552	915	25.76	2,637	74.24
Southwest.....	5,672	3,874	68.30	1,798	31.70
<b>Total.....</b>	<b>23,224</b>	<b>10,482</b>	<b>45.13</b>	<b>12,742</b>	<b>54.87</b>

**Table 12 – Oranges: Trees by sector [2018, 2019, 2020, 2021 inventories and variation]**

Inventory and sector	Total	Variation		Non-bearing trees			Bearing trees		
				Total	Variation	Total	Variation	Total	Variation
<b>2018 inventory</b>	(1,000 trees)	(1,000 trees)	(%)	(1,000 trees)	(1,000 trees)	(%)	(1,000 trees)	(1,000 trees)	(%)
<b>Total.....</b>	<b>194,405.26</b>	-	-	<b>19,135.82</b>	-	-	<b>175,269.44</b>	-	-
<b>2019 inventory</b>									
<b>Total.....</b>	<b>195,267.39</b>	<b>862.13</b>	<b>0.44</b>	<b>21,294.06</b>	<b>2,158.24</b>	<b>11.28</b>	<b>173,973.33</b>	<b>-1,296.11</b>	<b>-0.74</b>
<b>2020 inventory</b>									
<b>Total.....</b>	<b>197,719.94</b>	<b>2,452.55</b>	<b>1.26</b>	<b>23,466.71</b>	<b>2,172.65</b>	<b>10.20</b>	<b>174,253.23</b>	<b>279.90</b>	<b>0.16</b>
<b>2021 inventory</b>									
North.....	44,169.17	-66.53	-0.15	4,504.52	57.75	1.30	39,664.65	-124.28	-0.31
Northwest.....	19,048.33	-824.27	-4.15	3,076.86	-7.78	-0.25	15,971.47	-816.49	-4.86
Central.....	54,199.79	-1,080.10	-1.95	7,720.47	1,999.83	34.96	46,479.32	-3,079.93	-6.21
South.....	36,402.00	-1,740.34	-4.56	5,147.59	270.73	5.55	31,254.41	-2,011.07	-6.05
Southwest.....	40,394.19	204.78	0.51	7,203.91	1,866.11	34.96	33,190.28	-1,661.33	-4.77
<b>Total.....</b>	<b>194,213.48</b>	<b>-3,506.46</b>	<b>-1.77</b>	<b>27,653.35</b>	<b>4,186.64</b>	<b>17.84</b>	<b>166,560.13</b>	<b>-7,693.10</b>	<b>-4.41</b>

**Table 13 – Oranges: Area of groves by variety group [2018, 2019, 2020, 2021 inventories and variation]**

Inventory and variety group	Total	Changes			Variation	
		Estimate of groves planted in expansion areas in 2020	Estimate of bearing groves abandoned in 2021	Estimate of eradicated groves from April 2020 to March 2021, which were not renovated		
<b>2018 inventory</b>	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(%)
<b>Total.....</b>	<b>401,470</b>	-	-	-	-	-
<b>2019 inventory</b>						
<b>Total.....</b>	<b>395,764</b>	-	-	-	-	-
<b>2020 inventory</b>						
<b>Total.....</b>	<b>395,671</b>					
<b>2021 inventory</b>						
Hamlin, Westin and Rubi.....	63,010	1,385	-271	-999	115	0.18
Other early <sup>1</sup> .....	21,894	1,503	-6	961	2,458	12.65
Pera Rio.....	132,630	3,681	-905	-4,901	-2,125	-1.58
Valencia and V.Folha Murcha <sup>2</sup> .	125,243	2,764	-1,524	-8,328	-7,088	-5.36
Natal.....	44,392	1,149	-282	-2,729	-1,862	-4.03
<b>Total.....</b>	<b>387,169</b>	<b>10,482</b>	<b>-2,988</b>	<b>-15,996</b>	<b>-8,502</b>	<b>-2.15</b>

<sup>1</sup> Valencia Americana, Seleta and Pineapple.

<sup>2</sup> Valencia Folha Murcha.

**Table 14 – Oranges: Trees by variety group [2018, 2019, 2020, 2021 inventories and variation]**

Inventory and variety group	Total	Variation		Non-bearing trees			Bearing trees		
				Total	Variation	Total	Variation	Total	Variation
	(1,000 trees)	(1,000 trees)	(%)	(1,000 trees)	(1,000 trees)	(%)	(1,000 trees)	(1,000 trees)	(%)
<b>2018 inventory</b>									
<b>Total.....</b>	<b>194,405.26</b>	-	-	<b>19,135.82</b>	-	-	<b>175,269.44</b>	-	-
<b>2019 inventory</b>									
<b>Total.....</b>	<b>195,267.39</b>	<b>862.13</b>	<b>0.44</b>	<b>21,294.06</b>	<b>2,158.24</b>	<b>11.28</b>	<b>173,973.33</b>	<b>-1,296.11</b>	<b>-0.74</b>
<b>2020 inventory</b>									
<b>Total.....</b>	<b>197,719.94</b>	<b>2,452.55</b>	<b>1.26</b>	<b>23,466.71</b>	<b>2,172.65</b>	<b>10.20</b>	<b>174,253.23</b>	<b>279.90</b>	<b>0.16</b>
<b>2021 inventory</b>									
Hamlin, Westin and Rubi.....	29,120.46	-706.39	-2.37	3,710.13	772.73	26.31	25,410.33	-1,479.12	-5.50
Other early <sup>1</sup> .....	11,336.59	1,135.56	11.13	2,333.54	24.73	1.07	9,003.05	1,110.83	14.08
Pera Rio.....	70,928.46	-343.72	-0.48	11,781.03	2,028.47	20.80	59,147.43	-2,372.19	-3.86
Valencia and V.Folha Murcha <sup>2</sup>	60,993.27	-2,803.59	-4.39	6,872.37	1,241.59	22.05	54,120.90	-4,045.18	-6.95
Natal.....	21,834.70	-788.32	-3.48	2,956.28	119.12	4.20	18,878.42	-907.44	-4.59
<b>Total.....</b>	<b>194,213.48</b>	<b>-3,506.46</b>	<b>-1.77</b>	<b>27,653.35</b>	<b>4,186.64</b>	<b>17.84</b>	<b>166,560.13</b>	<b>-7,693.10</b>	<b>-4.41</b>

<sup>1</sup> Valencia Americana, Seleta and Pineapple.

<sup>2</sup> Valencia Folha Murcha.

**Table 15 – Oranges: Stratification of total planting holes of groves [2021 inventory and variation] (continues next page)**

Region and variety group	Non-bearing trees	Bearing trees	Dead trees	Vacancies	Total
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 holes)	(1,000 trees and holes)
<b>Triângulo Mineiro</b>					
Hamlin, Westin and Rubi.....	40.88	2,099.55	20.86	81.01	2,242.30
Other early <sup>1</sup> .....	108.03	146.11	2.48	4.41	261.03
Pera Rio.....	607.94	4,202.08	26.52	57.14	4,893.68
Valencia and V.Folha Murcha <sup>2</sup> .....	130.11	4,079.51	32.49	54.71	4,296.82
Natal.....	83.68	1,572.22	9.52	26.76	1,692.18
<b>Subtotal.....</b>	<b>970.64</b>	<b>12,099.47</b>	<b>91.87</b>	<b>224.03</b>	<b>13,386.01</b>
<b>Bebedouro</b>					
Hamlin, Westin and Rubi.....	365.34	3,728.59	23.00	185.82	4,302.75
Other early <sup>1</sup> .....	514.94	1,830.05	26.39	90.96	2,462.34
Pera Rio.....	1,132.68	7,005.29	57.01	222.40	8,417.38
Valencia and V.Folha Murcha <sup>2</sup> .....	747.48	7,389.95	38.85	173.85	8,350.13
Natal.....	198.85	2,421.58	10.98	67.97	2,699.38
<b>Subtotal.....</b>	<b>2,959.29</b>	<b>22,375.46</b>	<b>156.23</b>	<b>741.00</b>	<b>26,231.98</b>
<b>Altinópolis</b>					
Hamlin, Westin and Rubi.....	67.64	791.50	43.84	94.13	997.11
Other early <sup>1</sup> .....	17.68	111.93	1.79	7.08	138.48
Pera Rio.....	320.90	1,799.56	57.21	84.31	2,261.98
Valencia and V.Folha Murcha <sup>2</sup> .....	109.39	2,167.30	42.05	97.11	2,415.85
Natal.....	58.98	319.43	3.53	21.00	402.94
<b>Subtotal.....</b>	<b>574.59</b>	<b>5,189.72</b>	<b>148.42</b>	<b>303.63</b>	<b>6,216.36</b>
<b>Votuporanga</b>					
Hamlin, Westin and Rubi.....	75.81	232.78	15.29	21.45	345.33
Other early <sup>1</sup> .....	70.86	103.94	3.23	6.50	184.53
Pera Rio.....	1,113.26	4,021.25	113.75	175.14	5,423.40
Valencia and V.Folha Murcha <sup>2</sup> .....	137.39	515.91	20.56	17.15	691.01
Natal.....	112.14	158.69	5.34	21.47	297.64
<b>Subtotal.....</b>	<b>1,509.46</b>	<b>5,032.57</b>	<b>158.17</b>	<b>241.71</b>	<b>6,941.91</b>
<b>São José do Rio Preto</b>					
Hamlin, Westin and Rubi.....	192.65	2,012.30	62.44	126.96	2,394.35
Other early <sup>1</sup> .....	462.93	1,557.21	45.52	89.25	2,154.91
Pera Rio.....	570.70	2,675.98	62.72	107.45	3,416.85
Valencia and V.Folha Murcha <sup>2</sup> .....	197.86	3,081.56	64.68	118.29	3,462.39
Natal.....	143.26	1,611.85	22.52	80.82	1,858.45
<b>Subtotal.....</b>	<b>1,567.40</b>	<b>10,938.90</b>	<b>257.88</b>	<b>522.77</b>	<b>13,286.95</b>
<b>Matão</b>					
Hamlin, Westin and Rubi.....	281.02	2,781.58	39.25	232.92	3,334.77
Other early <sup>1</sup> .....	208.39	1,664.09	20.63	220.01	2,113.12
Pera Rio.....	710.35	6,781.97	138.29	425.16	8,055.77
Valencia and V.Folha Murcha <sup>2</sup> .....	376.86	4,294.93	51.23	360.58	5,083.60
Natal.....	315.21	1,384.75	35.34	189.40	1,924.70
<b>Subtotal.....</b>	<b>1,891.83</b>	<b>16,907.32</b>	<b>284.74</b>	<b>1,428.07</b>	<b>20,511.96</b>
<b>Duartina</b>					
Hamlin, Westin and Rubi.....	559.57	3,232.30	86.62	318.01	4,196.50
Other early <sup>1</sup> .....	442.08	1,244.88	27.26	124.74	1,838.96
Pera Rio.....	1,808.31	8,763.57	305.30	556.00	11,433.18
Valencia and V.Folha Murcha <sup>2</sup> .....	1,721.87	7,063.36	208.14	371.17	9,364.54
Natal.....	339.72	2,624.28	54.99	307.06	3,326.05
<b>Subtotal.....</b>	<b>4,871.55</b>	<b>22,928.39</b>	<b>682.31</b>	<b>1,676.98</b>	<b>30,159.23</b>
<b>Brotas</b>					
Hamlin, Westin and Rubi.....	96.24	1,047.84	30.25	80.42	1,254.75
Other early <sup>1</sup> .....	8.83	260.25	1.17	20.09	290.34
Pera	324.98	2,101.84	56.56	155.80	2,639.18
Valencia and V.Folha Murcha <sup>2</sup> .....	395.84	2,608.60	60.86	187.17	3,252.47
Natal.....	131.20	625.08	13.98	54.51	824.77
<b>Subtotal.....</b>	<b>957.09</b>	<b>6,643.61</b>	<b>162.82</b>	<b>497.99</b>	<b>8,261.51</b>

**Table 15 – Oranges: Stratification of total planting holes of groves [2021 inventory and variation] (continued)**

Region and variety group	Non-bearing trees	Bearing trees	Dead trees	Vacancies	Total
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 holes)	(1,000 trees and holes)
<b>Porto Ferreira</b>					
Hamlin, Westin and Rubi.....	557.78	2,153.67	42.41	140.37	2,894.23
Other early <sup>1</sup> .....	83.15	308.95	7.52	26.84	426.46
Pera Rio.....	1,317.82	6,520.81	118.84	468.69	8,426.16
Valencia and V.Folha Murcha <sup>2</sup> ....	647.45	5,634.27	108.47	302.03	6,692.22
Natal.....	381.33	1,493.45	24.03	108.00	2,006.81
<b>Subtotal.....</b>	<b>2,987.53</b>	<b>16,111.15</b>	<b>301.27</b>	<b>1,045.93</b>	<b>20,445.88</b>
<b>Limeira</b>					
Hamlin, Westin and Rubi.....	300.00	2,436.13	43.80	206.89	2,986.82
Other early <sup>1</sup> .....	6.54	184.57	14.78	19.37	225.26
Pera Rio.....	1,081.02	5,788.82	129.61	345.24	7,344.69
Valencia and V.Folha Murcha <sup>2</sup> ....	606.53	5,489.12	65.76	276.17	6,437.58
Natal.....	165.97	1,244.62	9.84	13.87	1,434.30
<b>Subtotal.....</b>	<b>2,160.06</b>	<b>15,143.26</b>	<b>263.79</b>	<b>861.54</b>	<b>18,428.65</b>
<b>Avaré</b>					
Hamlin, Westin and Rubi.....	804.58	3,792.49	131.97	478.24	5,207.28
Other early <sup>1</sup> .....	135.11	678.07	7.77	37.38	858.33
Pera Rio.....	1,565.15	6,500.13	192.31	405.30	8,662.89
Valencia and V.Folha Murcha <sup>2</sup> ....	1,320.61	8,667.27	127.83	550.75	10,666.46
Natal.....	501.58	3,614.52	68.05	273.38	4,457.53
<b>Subtotal.....</b>	<b>4,327.03</b>	<b>23,252.48</b>	<b>527.93</b>	<b>1,745.05</b>	<b>29,852.49</b>
<b>Itapetininga</b>					
Hamlin, Westin and Rubi.....	368.62	1,101.60	6.57	32.93	1,509.72
Other early <sup>1</sup> .....	275.00	913.00	7.34	49.31	1,244.65
Pera Rio.....	1,227.92	2,986.13	41.29	125.27	4,380.61
Valencia and V.Folha Murcha <sup>2</sup> ....	480.98	3,129.12	10.39	82.86	3,703.35
Natal.....	524.36	1,807.95	6.46	51.20	2,389.97
<b>Subtotal.....</b>	<b>2,876.88</b>	<b>9,937.80</b>	<b>72.05</b>	<b>341.57</b>	<b>13,228.30</b>
<b>Total.....</b>	<b>27,653.35</b>	<b>166,560.13</b>	<b>3,107.48</b>	<b>9,630.27</b>	<b>206,951.23</b>
<b>Percentage.....</b>	<b>13.36</b>	<b>80.48</b>	<b>1.50</b>	<b>4.65</b>	<b>100.00</b>
<b>Variation (2020 x 2021)</b>					
<b>Trees/holes.....</b>	<b>4,186.64</b>	<b>-7,693.10</b>	<b>-1,287.56</b>	<b>1,238.18</b>	<b>-3,555.84</b>
<b>Percentage.....</b>	<b>17.84</b>	<b>-4.41</b>	<b>-29.30</b>	<b>14.75</b>	<b>-1.69</b>

<sup>1</sup> Valencia Americana, Seleta and Pineapple.

<sup>2</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 16 – Oranges: Trees by age group and age group of plot – Citrus belt [2021 inventory]**

Plot age <sup>1</sup>	Tree age <sup>2</sup>				Total	Percentage
	1 – 2 years	3 – 5 years	6 – 10 years	Over 10 years		
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(%)
1 – 2 years.....	24,239.93	-	-	-	24,239.93	12.48
3 – 5 years.....	699.69	22,530.24	-	-	23,229.93	11.96
6 – 10 years.....	1,060.38	1,402.15	42,586.73	-	45,049.26	23.20
Over 10 years.....	1,653.35	2,789.77	5,767.17	91,484.07	101,694.36	52.36
<b>Total.....</b>	<b>27,653.35</b>	<b>26,722.16</b>	<b>48,353.90</b>	<b>91,484.07</b>	<b>194,213.48</b>	<b>100.00</b>
<b>Percentage.....</b>	<b>14.24</b>	<b>13.76</b>	<b>24.90</b>	<b>47.10</b>	<b>100.00</b>	<b>(X)</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 17 – Oranges: Trees by age group, age group of plot and sector [2021 inventory]**

Plot age and sector	Tree age				Total	Percentage
	1 – 2 years	3 – 5 years	6 – 10 years	Over 10 years		
<b>North</b>	(1,000 trees)	(%)				
1 – 2 years .....	3,977.16	-	-	-	3,977.16	9.00
3 – 5 years .....	56.65	3,947.26	-	-	4,003.91	9.06
6 – 10 years .....	205.08	273.44	11,081.51	-	11,560.03	26.17
Over 10 years.....	265.63	509.69	1,240.71	22,612.04	24,628.07	55.76
<b>Subtotal.....</b>	<b>4,504.52</b>	<b>4,730.39</b>	<b>12,322.22</b>	<b>22,612.04</b>	<b>44,169.17</b>	<b>22.74</b>
<b>Northwest</b>						
1 – 2 years .....	2,839.08	-	-	-	2,839.08	14.90
3 – 5 years .....	57.47	3,026.40	-	-	3,083.87	16.19
6 – 10 years .....	76.35	103.75	5,446.25	-	5,626.35	29.54
Over 10 years.....	103.96	167.36	186.60	7,041.11	7,499.03	39.37
<b>Subtotal.....</b>	<b>3,076.86</b>	<b>3,297.51</b>	<b>5,632.85</b>	<b>7,041.11</b>	<b>19,048.33</b>	<b>9.81</b>
<b>Central</b>						
1 – 2 years .....	6,899.29	-	-	-	6,899.29	12.73
3 – 5 years .....	208.38	7,274.79	-	-	7,483.17	13.81
6 – 10 years .....	297.86	428.25	13,373.71	-	14,099.82	26.01
Over 10 years.....	314.94	655.20	1,911.81	22,835.56	25,717.51	47.45
<b>Subtotal.....</b>	<b>7,720.47</b>	<b>8,358.24</b>	<b>15,285.52</b>	<b>22,835.56</b>	<b>54,199.79</b>	<b>27.91</b>
<b>South</b>						
1 – 2 years .....	4,058.73	-	-	-	4,058.73	11.15
3 – 5 years .....	286.52	4,171.18	-	-	4,457.70	12.25
6 – 10 years .....	255.26	350.78	7,706.22	-	8,312.26	22.83
Over 10 years.....	547.08	807.22	1,449.61	16,769.40	19,573.31	53.77
<b>Subtotal.....</b>	<b>5,147.59</b>	<b>5,329.18</b>	<b>9,155.83</b>	<b>16,769.40</b>	<b>36,402.00</b>	<b>18.74</b>
<b>Southwest</b>						
1 – 2 years .....	6,465.67	-	-	-	6,465.67	16.01
3 – 5 years .....	90.67	4,110.61	-	-	4,201.28	10.40
6 – 10 years .....	225.83	245.93	4,979.04	-	5,450.80	13.49
Over 10 years.....	421.74	650.30	978.44	22,225.96	24,276.44	60.10
<b>Subtotal.....</b>	<b>7,203.91</b>	<b>5,006.84</b>	<b>5,957.48</b>	<b>22,225.96</b>	<b>40,394.19</b>	<b>20.80</b>
<b>Total.....</b>	<b>27,653.35</b>	<b>26,722.16</b>	<b>48,353.90</b>	<b>91,484.07</b>	<b>194,213.48</b>	<b>100.00</b>

**Table 18 – Oranges: Trees by age group, age group of plot and variety [2021 inventory]**

Plot age and variety	Tree age				Total	Percentage
	1 – 2 years	3 – 5 years	6 – 10 years	Over 10 years		
	(1,000 trees)	(%)				
<b>Hamlin, Westin, Rubi</b>						
1 – 2 years .....	3,185.98	-	-	-	3,185.98	10.94
3 – 5 years .....	55.87	3,023.30	-	-	3,079.17	10.57
6 – 10 years .....	160.70	212.10	4,164.82	-	4,537.62	15.58
Over 10 years.....	307.58	731.80	1,249.91	16,028.40	18,317.69	62.90
<b>Subtotal.....</b>	<b>3,710.13</b>	<b>3,967.20</b>	<b>5,414.73</b>	<b>16,028.40</b>	<b>29,120.46</b>	<b>14.99</b>
<b>Other early</b>						
1 – 2 years .....	2,108.16	-	-	-	2,108.16	18.60
3 – 5 years .....	67.46	1,951.33	-	-	2,018.79	17.81
6 – 10 years .....	54.62	98.46	2,265.79	-	2,418.87	21.34
Over 10 years.....	103.30	129.66	211.16	4,346.65	4,790.77	42.26
<b>Subtotal.....</b>	<b>2,333.54</b>	<b>2,179.45</b>	<b>2,476.95</b>	<b>4,346.65</b>	<b>11,336.59</b>	<b>5.84</b>
<b>Pera Rio</b>						
1 – 2 years .....	10,350.72	-	-	-	10,350.72	14.59
3 – 5 years .....	403.15	9,967.49	-	-	10,370.64	14.62
6 – 10 years .....	479.80	514.69	19,493.06	-	20,487.55	28.88
Over 10 years.....	547.36	845.34	1,552.54	26,774.31	29,719.55	41.90
<b>Subtotal.....</b>	<b>11,781.03</b>	<b>11,327.52</b>	<b>21,045.60</b>	<b>26,774.31</b>	<b>70,928.46</b>	<b>36.52</b>
<b>Valencia, V.F. Murcha</b>						
1 – 2 years .....	5,987.36	-	-	-	5,987.36	9.82
3 – 5 years .....	129.78	4,866.83	-	-	4,996.61	8.19
6 – 10 years .....	227.78	381.08	12,544.73	-	13,153.59	21.57
Over 10 years.....	527.45	848.53	2,176.51	33,303.22	36,855.71	60.43
<b>Subtotal.....</b>	<b>6,872.37</b>	<b>6,096.44</b>	<b>14,721.24</b>	<b>33,303.22</b>	<b>60,993.27</b>	<b>31.41</b>
<b>Natal</b>						
1 – 2 years .....	2,607.71	-	-	-	2,607.71	11.94
3 – 5 years .....	43.43	2,721.29	-	-	2,764.72	12.66
6 – 10 years .....	137.48	195.82	4,118.33	-	4,451.63	20.39
Over 10 years.....	167.66	234.44	577.05	11,031.49	12,010.64	55.01
<b>Subtotal.....</b>	<b>2,956.28</b>	<b>3,151.55</b>	<b>4,695.38</b>	<b>11,031.49</b>	<b>21,834.70</b>	<b>11.24</b>
<b>Total.....</b>	<b>27,653.35</b>	<b>26,722.16</b>	<b>48,353.90</b>	<b>91,484.07</b>	<b>194,213.48</b>	<b>100.00</b>

**Table 19 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – North Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of North Sector	Age trees <sup>2</sup>				Total
	1 – 2 years	3 – 5 years	6 – 10 years	Over 10 years	
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)
<b>Triângulo Mineiro</b>					
1 – 2 years.....	35.83	-	-	-	35.83
3 – 5 years.....	0.82	36.75	-	-	37.57
6 – 10 years.....	4.12	3.11	390.78	-	398.01
Over 10 years.....	0.11	13.08	48.45	1,607.38	1,669.02
<b>Subtotal.....</b>	<b>40.88</b>	<b>52.94</b>	<b>439.23</b>	<b>1,607.38</b>	<b>2,140.43</b>
<b>Bebedouro</b>					
1 – 2 years.....	281.67	-	-	-	281.67
3 – 5 years.....	3.44	292.71	-	-	296.15
6 – 10 years.....	58.00	34.93	523.75	-	616.68
Over 10 years.....	22.23	88.19	155.54	2,633.47	2,899.43
<b>Subtotal.....</b>	<b>365.34</b>	<b>415.83</b>	<b>679.29</b>	<b>2,633.47</b>	<b>4,093.93</b>
<b>Altinópolis</b>					
1 – 2 years.....	50.11	-	-	-	50.11
3 – 5 years.....	2.05	62.61	-	-	64.66
6 – 10 years.....	0.82	14.74	53.04	-	68.60
Over 10 years.....	14.66	37.82	63.26	560.03	675.77
<b>Subtotal.....</b>	<b>67.64</b>	<b>115.17</b>	<b>116.30</b>	<b>560.03</b>	<b>859.14</b>
<b>North</b>					
1 – 2 years.....	367.61	-	-	-	367.61
3 – 5 years.....	6.31	392.07	-	-	398.38
6 – 10 years.....	62.94	52.78	967.57	-	1,083.29
Over 10 years.....	37.00	139.09	267.25	4,800.88	5,244.22
<b>Total.....</b>	<b>473.86</b>	<b>583.94</b>	<b>1,234.82</b>	<b>4,800.88</b>	<b>7,093.50</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 20 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – Northwest Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Northwest Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Votuporanga</b>					
1 – 2 years.....	75.50	-	-	-	75.50
3 – 5 years.....	0.22	18.60	-	-	18.82
6 – 10 years.....	0.07	2.19	129.78	-	132.04
Over 10 years.....	0.02	0.16	3.99	78.06	82.23
<b>Subtotal.....</b>	<b>75.81</b>	<b>20.95</b>	<b>133.77</b>	<b>78.06</b>	<b>308.59</b>
<b>São José do Rio Preto</b>					
1 – 2 years.....	159.57	-	-	-	159.57
3 – 5 years.....	2.22	202.09	-	-	204.31
6 – 10 years.....	4.12	14.48	659.59	-	678.19
Over 10 years.....	26.74	35.16	23.23	1,077.75	1,162.88
<b>Subtotal.....</b>	<b>192.65</b>	<b>251.73</b>	<b>682.82</b>	<b>1,077.75</b>	<b>2,204.95</b>
<b>Northwest</b>					
1 – 2 years.....	235.07	-	-	-	235.07
3 – 5 years.....	2.44	220.69	-	-	223.13
6 – 10 years.....	4.19	16.67	789.37	-	810.23
Over 10 years.....	26.76	35.32	27.22	1,155.81	1,245.11
<b>Total.....</b>	<b>268.46</b>	<b>272.68</b>	<b>816.59</b>	<b>1,155.81</b>	<b>2,513.54</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.**Table 21 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – Central Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Central Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Matão</b>					
1 – 2 years.....	226.68	-	-	-	226.68
3 – 5 years.....	6.53	597.22	-	-	603.75
6 – 10 years.....	13.05	36.83	474.04	-	523.92
Over 10 years.....	34.76	32.04	71.32	1,570.13	1,708.25
<b>Subtotal.....</b>	<b>281.02</b>	<b>666.09</b>	<b>545.36</b>	<b>1,570.13</b>	<b>3,062.60</b>
<b>Duartina</b>					
1 – 2 years.....	502.69	-	-	-	502.69
3 – 5 years.....	8.31	617.36	-	-	625.67
6 – 10 years.....	21.71	23.32	527.33	-	572.36
Over 10 years.....	26.86	124.99	219.07	1,720.23	2,091.15
<b>Subtotal.....</b>	<b>559.57</b>	<b>765.67</b>	<b>746.40</b>	<b>1,720.23</b>	<b>3,791.87</b>
<b>Brotas</b>					
1 – 2 years.....	92.87	-	-	-	92.87
3 – 5 years.....	0.73	33.86	-	-	34.59
6 – 10 years.....	2.17	18.42	152.33	-	172.92
Over 10 years.....	0.47	9.55	110.34	723.34	843.70
<b>Subtotal.....</b>	<b>96.24</b>	<b>61.83</b>	<b>262.67</b>	<b>723.34</b>	<b>1,144.08</b>
<b>Central</b>					
1 – 2 years.....	822.24	-	-	-	822.24
3 – 5 years.....	15.57	1,248.44	-	-	1,264.01
6 – 10 years.....	36.93	78.57	1,153.70	-	1,269.20
Over 10 years.....	62.09	166.58	400.73	4,013.70	4,643.10
<b>Total.....</b>	<b>936.83</b>	<b>1,493.59</b>	<b>1,554.43</b>	<b>4,013.70</b>	<b>7,998.55</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 22 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – South Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of South Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Porto Ferreira</b>					
1 – 2 years.....	468.06	-	-	-	468.06
3 – 5 years.....	14.38	264.74	-	-	279.12
6 – 10 years.....	7.98	30.66	428.46	-	467.10
Over 10 years.....	67.36	48.51	227.96	1,153.34	1,497.17
<b>Subtotal.....</b>	<b>557.78</b>	<b>343.91</b>	<b>656.42</b>	<b>1,153.34</b>	<b>2,711.45</b>
<b>Limeira</b>					
1 – 2 years.....	227.35	-	-	-	227.35
3 – 5 years.....	7.60	210.93	-	-	218.53
6 – 10 years.....	16.35	12.91	300.69	-	329.95
Over 10 years.....	48.70	150.20	100.11	1,661.29	1,960.30
<b>Subtotal.....</b>	<b>300.00</b>	<b>374.04</b>	<b>400.80</b>	<b>1,661.29</b>	<b>2,736.13</b>
<b>South</b>					
1 – 2 years.....	695.41	-	-	-	695.41
3 – 5 years.....	21.98	475.67	-	-	497.65
6 – 10 years.....	24.33	43.57	729.15	-	797.05
Over 10 years.....	116.06	198.71	328.07	2,814.63	3,457.47
<b>Total.....</b>	<b>857.78</b>	<b>717.95</b>	<b>1,057.22</b>	<b>2,814.63</b>	<b>5,447.58</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 23 – Hamlin, Westin and Rubi: Trees by age group and age group of plot – Southwest Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Southwest Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Avaré</b>					
1 – 2 years.....	701.13	-	-	-	701.13
3 – 5 years.....	6.65	226.45	-	-	233.10
6 – 10 years.....	31.13	20.10	295.02	-	346.25
Over 10 years.....	65.67	191.95	225.98	2,832.99	3,316.59
<b>Subtotal.....</b>	<b>804.58</b>	<b>438.50</b>	<b>521.00</b>	<b>2,832.99</b>	<b>4,597.07</b>
<b>Itapetininga</b>					
1 – 2 years.....	364.52	-	-	-	364.52
3 – 5 years.....	2.92	459.98	-	-	462.90
6 – 10 years.....	1.18	0.41	230.01	-	231.60
Over 10 years.....	-	0.15	0.66	410.39	411.20
<b>Subtotal.....</b>	<b>368.62</b>	<b>460.54</b>	<b>230.67</b>	<b>410.39</b>	<b>1,470.22</b>
<b>Southwest</b>					
1 – 2 years.....	1,065.65	-	-	-	1,065.65
3 – 5 years.....	9.57	686.43	-	-	696.00
6 – 10 years.....	32.31	20.51	525.03	-	577.85
Over 10 years.....	65.67	192.10	226.64	3,243.38	3,727.79
<b>Total.....</b>	<b>1,173.20</b>	<b>899.04</b>	<b>751.67</b>	<b>3,243.38</b>	<b>6,067.29</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 24 – Other early<sup>1</sup>: Trees by age group and age group of plot – North Sector [2021 inventory]**

Plot age <sup>2</sup> and regions of North Sector	Age trees <sup>3</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Triângulo Mineiro</b>					
1 – 2 years.....	108.01	-	-	-	108.01
3 – 5 years.....	0.02	7.98	-	-	8.00
6 – 10 years.....	-	0.17	27.66	-	27.83
Over 10 years.....	-	0.16	0.40	109.74	110.30
<b>Subtotal.....</b>	<b>108.03</b>	<b>8.31</b>	<b>28.06</b>	<b>109.74</b>	<b>254.14</b>
<b>Bebedouro</b>					
1 – 2 years.....	443.66	-	-	-	443.66
3 – 5 years.....	2.17	161.60	-	-	163.77
6 – 10 years.....	20.15	21.17	365.12	-	406.44
Over 10 years.....	48.96	44.40	85.37	1,152.39	1,331.12
<b>Subtotal.....</b>	<b>514.94</b>	<b>227.17</b>	<b>450.49</b>	<b>1,152.39</b>	<b>2,344.99</b>
<b>Altinópolis</b>					
1 – 2 years.....	16.63	-	-	-	16.63
3 – 5 years.....	0.02	2.85	28.99	-	31.86
6 – 10 years.....	1.03	2.00	9.00	69.09	81.12
<b>Subtotal.....</b>	<b>17.68</b>	<b>4.85</b>	<b>37.99</b>	<b>69.09</b>	<b>129.61</b>
<b>North</b>					
1 – 2 years.....	568.30	-	-	-	568.30
3 – 5 years.....	2.19	169.58	-	-	171.77
6 – 10 years.....	20.17	24.19	421.77	-	466.13
Over 10 years.....	49.99	46.56	94.77	1,331.22	1,522.54
<b>Total.....</b>	<b>640.65</b>	<b>240.33</b>	<b>516.54</b>	<b>1,331.22</b>	<b>2,728.74</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Valencia Americana, Seleta and Pineapple.

<sup>2</sup> Calculation based on the year the original plot was planted.

<sup>3</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 25 – Other early<sup>1</sup>: Trees by age group and age group of plot – Northwest Sector [2021 inventory]**

Plot age <sup>2</sup> and regions of Northwest Sector	Age trees <sup>3</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Votuporanga</b>					
1 – 2 years.....	68.93	-	-	-	68.93
3 – 5 years.....	-	-	-	-	-
6 – 10 years.....	1.81	6.15	39.38	-	47.34
Over 10 years.....	0.12	1.17	1.11	56.13	58.53
<b>Subtotal.....</b>	<b>70.86</b>	<b>7.32</b>	<b>40.49</b>	<b>56.13</b>	<b>174.80</b>
<b>São José do Rio Preto</b>					
1 – 2 years.....	393.94	-	-	-	393.94
3 – 5 years.....	13.40	538.73	-	-	552.13
6 – 10 years.....	25.31	11.22	459.56	-	496.09
Over 10 years.....	30.28	17.74	7.92	522.04	577.98
<b>Subtotal.....</b>	<b>462.93</b>	<b>567.69</b>	<b>467.48</b>	<b>522.04</b>	<b>2,020.14</b>
<b>Northwest</b>					
1 – 2 years.....	462.87	-	-	-	462.87
3 – 5 years.....	13.40	538.73	-	-	552.13
6 – 10 years.....	27.12	17.37	498.94	-	543.43
Over 10 years.....	30.40	18.91	9.03	578.17	636.51
<b>Total.....</b>	<b>533.79</b>	<b>575.01</b>	<b>507.97</b>	<b>578.17</b>	<b>2,194.94</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Valencia Americana, Seleta and Pineapple.

<sup>2</sup> Calculation based on the year the original plot was planted.

<sup>3</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 26 – Other early<sup>1</sup>: Trees by age group and age group of plot – Central Sector [2021 inventory]**

Plot age <sup>2</sup> and regions of Central Sector	Age trees <sup>3</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Matão</b>					
1 – 2 years.....	206.22	-	-	-	206.22
3 – 5 years.....	0.46	344.48	-	-	344.94
6 – 10 years.....	1.71	13.50	402.82	-	418.03
Over 10 years.....	-	4.88	43.52	854.89	903.29
<b>Subtotal.....</b>	<b>208.39</b>	<b>362.86</b>	<b>446.34</b>	<b>854.89</b>	<b>1,872.48</b>
<b>Duartina</b>					
1 – 2 years.....	405.62	-	-	-	405.62
3 – 5 years.....	31.93	249.20	-	-	281.13
6 – 10 years.....	2.27	29.02	342.33	-	373.62
Over 10 years.....	2.26	23.17	17.26	583.90	626.59
<b>Subtotal.....</b>	<b>442.08</b>	<b>301.39</b>	<b>359.59</b>	<b>583.90</b>	<b>1,686.96</b>
<b>Brotas</b>					
1 – 2 years.....	5.50	-	-	-	5.50
3 – 5 years.....	2.39	15.31	-	-	17.70
6 – 10 years.....	0.93	5.66	114.50	-	121.09
Over 10 years.....	0.01	0.47	9.19	115.12	124.79
<b>Subtotal.....</b>	<b>8.83</b>	<b>21.44</b>	<b>123.69</b>	<b>115.12</b>	<b>269.08</b>
<b>Central</b>					
1 – 2 years.....	617.34	-	-	-	617.34
3 – 5 years.....	34.78	608.99	-	-	643.77
6 – 10 years.....	4.91	48.18	859.65	-	912.74
Over 10 years.....	2.27	28.52	69.97	1,553.91	1,654.67
<b>Total.....</b>	<b>659.30</b>	<b>685.69</b>	<b>929.62</b>	<b>1,553.91</b>	<b>3,828.52</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Valencia Americana, Seleta and Pineapple.

<sup>2</sup> Calculation based on the year the original plot was planted.

<sup>3</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 27 – Other early<sup>1</sup>: Trees by age group and age group of plot – South Sector [2021 inventory]**

Plot age <sup>2</sup> and regions of South Sector	Age trees <sup>3</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Porto Ferreira</b>					
1 – 2 years.....	81.09	-	-	-	81.09
3 – 5 years.....	0.10	6.22	-	-	6.32
6 – 10 years.....	0.77	0.99	28.42	-	30.18
Over 10 years.....	1.19	2.98	11.08	259.26	274.51
<b>Subtotal.....</b>	<b>83.15</b>	<b>10.19</b>	<b>39.50</b>	<b>259.26</b>	<b>392.10</b>
<b>Limeira</b>					
1 – 2 years.....	4.64	-	-	-	4.64
3 – 5 years.....	-	4.18	-	-	4.18
6 – 10 years.....	-	0.24	22.84	-	23.08
Over 10 years.....	1.90	3.82	7.24	146.25	159.21
<b>Subtotal.....</b>	<b>6.54</b>	<b>8.24</b>	<b>30.08</b>	<b>146.25</b>	<b>191.11</b>
<b>South</b>					
1 – 2 years.....	85.73	-	-	-	85.73
3 – 5 years.....	0.10	10.40	-	-	10.50
6 – 10 years.....	0.77	1.23	51.26	-	53.26
Over 10 years.....	3.09	6.80	18.32	405.51	433.72
<b>Total.....</b>	<b>89.69</b>	<b>18.43</b>	<b>69.58</b>	<b>405.51</b>	<b>583.21</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Valencia Americana, Seleta and Pineapple.<sup>2</sup> Calculation based on the year the original plot was planted.<sup>3</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.**Table 28 – Other early<sup>1</sup>: Trees by age group and age group of plot – Southwest Sector [2021 inventory]**

Plot age <sup>2</sup> and regions of Southwest Sector	Age trees <sup>3</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Avaré</b>					
1 – 2 years.....	112.74	-	-	-	112.74
3 – 5 years.....	4.50	123.14	-	-	127.64
6 – 10 years.....	1.32	4.74	85.68	-	91.74
Over 10 years.....	16.55	23.74	17.74	423.03	481.06
<b>Subtotal.....</b>	<b>135.11</b>	<b>151.62</b>	<b>103.42</b>	<b>423.03</b>	<b>813.18</b>
<b>Itapetininga</b>					
1 – 2 years.....	261.18	-	-	-	261.18
3 – 5 years.....	12.49	500.49	-	-	512.98
6 – 10 years.....	0.33	2.75	348.49	-	351.57
Over 10 years.....	1.00	5.13	1.33	54.81	62.27
<b>Subtotal.....</b>	<b>275.00</b>	<b>508.37</b>	<b>349.82</b>	<b>54.81</b>	<b>1,188.00</b>
<b>Southwest</b>					
1 – 2 years.....	373.92	-	-	-	373.92
3 – 5 years.....	16.99	623.63	-	-	640.62
6 – 10 years.....	1.65	7.49	434.17	-	443.31
Over 10 years.....	17.55	28.87	19.07	477.84	543.33
<b>Total.....</b>	<b>410.11</b>	<b>659.99</b>	<b>453.24</b>	<b>477.84</b>	<b>2,001.18</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Valencia Americana, Seleta and Pineapple.<sup>2</sup> Calculation based on the year the original plot was planted.<sup>3</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 29 – Pera Rio: Trees by age group and age group of plot – North Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of North Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Triângulo Mineiro</b>					
1 – 2 years.....	600.87	-	-	-	600.87
3 – 5 years.....	4.27	681.28	-	-	685.55
6 – 10 years.....	2.22	15.49	2,175.92	-	2,193.63
Over 10 years.....	0.58	6.94	28.31	1,294.14	1,329.97
<b>Subtotal.....</b>	<b>607.94</b>	<b>703.71</b>	<b>2,204.23</b>	<b>1,294.14</b>	<b>4,810.02</b>
<b>Bebedouro</b>					
1 – 2 years.....	978.00	-	-	-	978.00
3 – 5 years.....	15.60	1,055.90	-	-	1,071.50
6 – 10 years.....	77.71	56.02	2,872.47	-	3,006.20
Over 10 years.....	61.37	79.15	118.43	2,823.32	3,082.27
<b>Subtotal.....</b>	<b>1,132.68</b>	<b>1,191.07</b>	<b>2,990.90</b>	<b>2,823.32</b>	<b>8,137.97</b>
<b>Altinópolis</b>					
1 – 2 years.....	277.75	-	-	-	277.75
3 – 5 years.....	5.55	339.60	-	-	345.15
6 – 10 years.....	4.12	11.49	174.93	-	190.54
Over 10 years.....	33.48	52.25	97.35	1,123.94	1,307.02
<b>Subtotal.....</b>	<b>320.90</b>	<b>403.34</b>	<b>272.28</b>	<b>1,123.94</b>	<b>2,120.46</b>
<b>North</b>					
1 – 2 years.....	1,856.62	-	-	-	1,856.62
3 – 5 years.....	25.42	2,076.78	-	-	2,102.20
6 – 10 years.....	84.05	83.00	5,223.32	-	5,390.37
Over 10 years.....	95.43	138.34	244.09	5,241.40	5,719.26
<b>Total.....</b>	<b>2,061.52</b>	<b>2,298.12</b>	<b>5,467.41</b>	<b>5,241.40</b>	<b>15,068.45</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 30 – Pera Rio: Trees by age group and age group of plot – Northwest Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Northwest Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Votuporanga</b>					
1 – 2 years.....	1,061.12	-	-	-	1,061.12
3 – 5 years.....	12.61	632.75	-	-	645.36
6 – 10 years.....	21.55	23.84	1,316.68	-	1,362.07
Over 10 years.....	17.98	10.25	57.57	1,980.16	2,065.96
<b>Subtotal.....</b>	<b>1,113.26</b>	<b>666.84</b>	<b>1,374.25</b>	<b>1,980.16</b>	<b>5,134.51</b>
<b>São José do Rio Preto</b>					
1 – 2 years.....	527.04	-	-	-	527.04
3 – 5 years.....	13.74	551.62	-	-	565.36
6 – 10 years.....	3.68	15.15	862.93	-	881.76
Over 10 years.....	26.24	91.72	69.19	1,085.37	1,272.52
<b>Subtotal.....</b>	<b>570.70</b>	<b>658.49</b>	<b>932.12</b>	<b>1,085.37</b>	<b>3,246.68</b>
<b>Northwest</b>					
1 – 2 years.....	1,588.16	-	-	-	1,588.16
3 – 5 years.....	26.35	1,184.37	-	-	1,210.72
6 – 10 years.....	25.23	38.99	2,179.61	-	2,243.83
Over 10 years.....	44.22	101.97	126.76	3,065.53	3,338.48
<b>Total.....</b>	<b>1,683.96</b>	<b>1,325.33</b>	<b>2,306.37</b>	<b>3,065.53</b>	<b>8,381.19</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.**Table 31 – Pera Rio: Trees by age group and age group of plot – Central Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Central Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Matão</b>					
1 – 2 years.....	624.20	-	-	-	624.20
3 – 5 years.....	15.92	1,361.44	-	-	1,377.36
6 – 10 years.....	36.32	55.75	3,233.82	-	3,325.89
Over 10 years.....	33.91	41.80	174.53	1,914.63	2,164.87
<b>Subtotal.....</b>	<b>710.35</b>	<b>1,458.99</b>	<b>3,408.35</b>	<b>1,914.63</b>	<b>7,492.32</b>
<b>Duartina</b>					
1 – 2 years.....	1,592.34	-	-	-	1,592.34
3 – 5 years.....	61.73	1,441.36	-	-	1,503.09
6 – 10 years.....	94.01	78.45	2,393.87	-	2,566.33
Over 10 years.....	60.23	162.04	265.73	4,422.12	4,910.12
<b>Subtotal.....</b>	<b>1,808.31</b>	<b>1,681.85</b>	<b>2,659.60</b>	<b>4,422.12</b>	<b>10,571.88</b>
<b>Brotas</b>					
1 – 2 years.....	252.86	-	-	-	252.86
3 – 5 years.....	31.02	252.56	-	-	283.58
6 – 10 years.....	39.04	39.73	822.03	-	900.80
Over 10 years.....	2.06	33.07	91.29	863.16	989.58
<b>Subtotal.....</b>	<b>324.98</b>	<b>325.36</b>	<b>913.32</b>	<b>863.16</b>	<b>2,426.82</b>
<b>Central</b>					
1 – 2 years.....	2,469.40	-	-	-	2,469.40
3 – 5 years.....	108.67	3,055.36	-	-	3,164.03
6 – 10 years.....	169.37	173.93	6,449.72	-	6,793.02
Over 10 years.....	96.20	236.91	531.55	7,199.91	8,064.57
<b>Total.....</b>	<b>2,843.64</b>	<b>3,466.20</b>	<b>6,981.27</b>	<b>7,199.91</b>	<b>20,491.02</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 32 – Pera Rio: Trees by age group and age group of plot – South Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of South Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Porto Ferreira</b>					
1 – 2 years.....	1,045.40	-	-	-	1,045.40
3 – 5 years.....	85.09	1,400.86	-	-	1,485.95
6 – 10 years.....	68.02	64.51	2,106.54	-	2,239.07
Over 10 years.....	119.31	106.07	185.70	2,657.13	3,068.21
<b>Subtotal.....</b>	<b>1,317.82</b>	<b>1,571.44</b>	<b>2,292.24</b>	<b>2,657.13</b>	<b>7,838.63</b>
<b>Limeira</b>					
1 – 2 years.....	825.93	-	-	-	825.93
3 – 5 years.....	107.68	806.80	-	-	914.48
6 – 10 years.....	70.97	97.08	1,650.28	-	1,818.33
Over 10 years.....	76.44	122.43	255.83	2,856.40	3,311.10
<b>Subtotal.....</b>	<b>1,081.02</b>	<b>1,026.31</b>	<b>1,906.11</b>	<b>2,856.40</b>	<b>6,869.84</b>
<b>South</b>					
1 – 2 years.....	1,871.33	-	-	-	1,871.33
3 – 5 years.....	192.77	2,207.66	-	-	2,400.43
6 – 10 years.....	138.99	161.59	3,756.82	-	4,057.40
Over 10 years.....	195.75	228.50	441.53	5,513.53	6,379.31
<b>Total.....</b>	<b>2,398.84</b>	<b>2,597.75</b>	<b>4,198.35</b>	<b>5,513.53</b>	<b>14,708.47</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 33 – Pera Rio: Trees by age group and age group of plot – Southwest Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Southwest Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Avaré</b>					
1 – 2 years.....	1,403.40	-	-	-	1,403.40
3 – 5 years.....	27.48	336.10	-	-	363.58
6 – 10 years.....	46.33	51.66	1,003.74	-	1,101.73
Over 10 years.....	87.94	137.41	200.90	4,770.32	5,196.57
<b>Subtotal.....</b>	<b>1,565.15</b>	<b>525.17</b>	<b>1,204.64</b>	<b>4,770.32</b>	<b>8,065.28</b>
<b>Itapetininga</b>					
1 – 2 years.....	1,161.81	-	-	-	1,161.81
3 – 5 years.....	22.46	1,107.22	-	-	1,129.68
6 – 10 years.....	15.83	5.52	879.85	-	901.20
Over 10 years.....	27.82	2.21	7.71	983.62	1,021.36
<b>Subtotal.....</b>	<b>1,227.92</b>	<b>1,114.95</b>	<b>887.56</b>	<b>983.62</b>	<b>4,214.05</b>
<b>Southwest</b>					
1 – 2 years.....	2,565.21	-	-	-	2,565.21
3 – 5 years.....	49.94	1,443.32	-	-	1,493.26
6 – 10 years.....	62.16	57.18	1,883.59	-	2,002.93
Over 10 years.....	115.76	139.62	208.61	5,753.94	6,217.93
<b>Total.....</b>	<b>2,793.07</b>	<b>1,640.12</b>	<b>2,092.20</b>	<b>5,753.94</b>	<b>12,279.33</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 34 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – North Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Norte Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Triângulo Mineiro</b>					
1 – 2 years.....	123.37	-	-	-	123.37
3 – 5 years.....	2.18	78.35	-	-	80.53
6 – 10 years.....	3.53	9.35	1,897.51	-	1,910.39
Over 10 years.....	1.03	9.45	36.31	2,048.54	2,095.33
<b>Subtotal.....</b>	<b>130.11</b>	<b>97.15</b>	<b>1,933.82</b>	<b>2,048.54</b>	<b>4,209.62</b>
<b>Bebedouro</b>					
1 – 2 years.....	670.96	-	-	-	670.96
3 – 5 years.....	12.24	586.26	-	-	598.50
6 – 10 years.....	28.47	81.63	1,637.31	-	1,747.41
Over 10 years.....	35.81	86.40	341.64	4,656.71	5,120.56
<b>Subtotal.....</b>	<b>747.48</b>	<b>754.29</b>	<b>1,978.95</b>	<b>4,656.71</b>	<b>8,137.43</b>
<b>Altinópolis</b>					
1 – 2 years.....	72.34	-	-	-	72.34
3 – 5 years.....	2.51	62.83	-	-	65.34
6 – 10 years.....	0.89	7.53	44.52	-	52.94
Over 10 years.....	33.65	53.01	125.98	1,873.43	2,086.07
<b>Subtotal.....</b>	<b>109.39</b>	<b>123.37</b>	<b>170.50</b>	<b>1,873.43</b>	<b>2,276.69</b>
<b>North</b>					
1 – 2 years.....	866.67	-	-	-	866.67
3 – 5 years.....	16.93	727.44	-	-	744.37
6 – 10 years.....	32.89	98.51	3,579.34	-	3,710.74
Over 10 years.....	70.49	148.86	503.93	8,578.68	9,301.96
<b>Total.....</b>	<b>986.98</b>	<b>974.81</b>	<b>4,083.27</b>	<b>8,578.68</b>	<b>14,623.74</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 35 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – Northwest Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Northwest Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Votuporanga</b>					
1 – 2 years.....	136.78	-	-	-	136.78
3 – 5 years.....	0.21	4.27	-	-	4.48
6 – 10 years.....	0.19	1.15	76.90	-	78.24
Over 10 years.....	0.21	0.63	2.72	430.24	433.80
<b>Subtotal.....</b>	<b>137.39</b>	<b>6.05</b>	<b>79.62</b>	<b>430.24</b>	<b>653.30</b>
<b>São José do Rio Preto</b>					
1 – 2 years.....	175.09	-	-	-	175.09
3 – 5 years.....	13.59	497.91	-	-	511.50
6 – 10 years.....	8.60	20.18	1,330.92	-	1,359.70
Over 10 years.....	0.58	5.51	11.87	1,215.17	1,233.13
<b>Subtotal.....</b>	<b>197.86</b>	<b>523.60</b>	<b>1,342.79</b>	<b>1,215.17</b>	<b>3,279.42</b>
<b>Northwest</b>					
1 – 2 years.....	311.87	-	-	-	311.87
3 – 5 years.....	13.80	502.18	-	-	515.98
6 – 10 years.....	8.79	21.33	1,407.82	-	1,437.94
Over 10 years.....	0.79	6.14	14.59	1,645.41	1,666.93
<b>Total.....</b>	<b>335.25</b>	<b>529.65</b>	<b>1,422.41</b>	<b>1,645.41</b>	<b>3,932.72</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 36 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – Central Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Central Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Matão</b>					
1 – 2 years.....	290.33	-	-	-	290.33
3 – 5 years.....	9.14	432.56	-	-	441.70
6 – 10 years.....	9.53	24.90	1,918.81	-	1,953.24
Over 10 years.....	67.86	57.77	176.14	1,684.75	1,986.52
<b>Subtotal.....</b>	<b>376.86</b>	<b>515.23</b>	<b>2,094.95</b>	<b>1,684.75</b>	<b>4,671.79</b>
<b>Duartina</b>					
1 – 2 years.....	1,609.63	-	-	-	1,609.63
3 – 5 years.....	23.33	938.02	-	-	961.35
6 – 10 years.....	49.34	61.43	1,698.42	-	1,809.19
Over 10 years.....	39.57	96.40	334.62	3,934.47	4,405.06
<b>Subtotal.....</b>	<b>1,721.87</b>	<b>1,095.85</b>	<b>2,033.04</b>	<b>3,934.47</b>	<b>8,785.23</b>
<b>Brotas</b>					
1 – 2 years.....	369.52	-	-	-	369.52
3 – 5 years.....	4.98	169.00	-	-	173.98
6 – 10 years.....	17.59	13.80	325.34	-	356.73
Over 10 years.....	3.75	23.89	195.02	1,881.55	2,104.21
<b>Subtotal.....</b>	<b>395.84</b>	<b>206.69</b>	<b>520.36</b>	<b>1,881.55</b>	<b>3,004.44</b>
<b>Central</b>					
1 – 2 years.....	2,269.48	-	-	-	2,269.48
3 – 5 years.....	37.45	1,539.58	-	-	1,577.03
6 – 10 years.....	76.46	100.13	3,942.57	-	4,119.16
Over 10 years.....	111.18	178.06	705.78	7,500.77	8,495.79
<b>Total.....</b>	<b>2,494.57</b>	<b>1,817.77</b>	<b>4,648.35</b>	<b>7,500.77</b>	<b>16,461.46</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 37 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – South Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of South Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Porto Ferreira</b>					
1 – 2 years.....	519.08	-	-	-	519.08
3 – 5 years.....	43.29	590.42	-	-	633.71
6 – 10 years.....	37.38	33.18	1,374.00	-	1,444.56
Over 10 years.....	47.70	127.61	298.73	3,210.33	3,684.37
<b>Subtotal.....</b>	<b>647.45</b>	<b>751.21</b>	<b>1,672.73</b>	<b>3,210.33</b>	<b>6,281.72</b>
<b>Limeira</b>					
1 – 2 years.....	437.33	-	-	-	437.33
3 – 5 years.....	9.50	459.58	-	-	469.08
6 – 10 years.....	15.98	66.77	786.13	-	868.88
Over 10 years.....	143.72	216.31	259.97	3,700.36	4,320.36
<b>Subtotal.....</b>	<b>606.53</b>	<b>742.66</b>	<b>1,046.10</b>	<b>3,700.36</b>	<b>6,095.65</b>
<b>South</b>					
1 – 2 years.....	956.41	-	-	-	956.41
3 – 5 years.....	52.79	1,050.00	-	-	1,102.79
6 – 10 years.....	53.36	99.95	2,160.13	-	2,313.44
Over 10 years.....	191.42	343.92	558.70	6,910.69	8,004.73
<b>Total.....</b>	<b>1,253.98</b>	<b>1,493.87</b>	<b>2,718.83</b>	<b>6,910.69</b>	<b>12,377.37</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.**Table 38 – Valencia and Valencia Folha Murcha: Trees by age group and age group of plot – Southwest Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Southwest Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Avaré</b>					
1 – 2 years.....	1,108.09	-	-	-	1,108.09
3 – 5 years.....	7.97	436.46	-	-	444.43
6 – 10 years.....	54.25	59.03	890.31	-	1,003.59
Over 10 years.....	150.30	167.07	385.36	6,729.04	7,431.77
<b>Subtotal.....</b>	<b>1,320.61</b>	<b>662.56</b>	<b>1,275.67</b>	<b>6,729.04</b>	<b>9,987.88</b>
<b>Itapetininga</b>					
1 – 2 years.....	474.84	-	-	-	474.84
3 – 5 years.....	0.84	611.17	-	-	612.01
6 – 10 years.....	2.03	2.13	564.56	-	568.72
Over 10 years.....	3.27	4.48	8.15	1,938.63	1,954.53
<b>Subtotal.....</b>	<b>480.98</b>	<b>617.78</b>	<b>572.71</b>	<b>1,938.63</b>	<b>3,610.10</b>
<b>Southwest</b>					
1 – 2 years.....	1,582.93	-	-	-	1,582.93
3 – 5 years.....	8.81	1,047.63	-	-	1,056.44
6 – 10 years.....	56.28	61.16	1,454.87	-	1,572.31
Over 10 years.....	153.57	171.55	393.51	8,667.67	9,386.30
<b>Total.....</b>	<b>1,801.59</b>	<b>1,280.34</b>	<b>1,848.38</b>	<b>8,667.67</b>	<b>13,597.98</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 39 – Natal: Trees by age group and age group of plot – North Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Norte Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Triângulo Mineiro</b>					
1 – 2 years.....	83.00	-	-	-	83.00
3 – 5 years.....	0.17	48.09	-	-	48.26
6 – 10 years.....	0.17	0.83	243.71	-	244.71
Over 10 years.....	0.34	6.33	20.93	1,252.33	1,279.93
<b>Subtotal.....</b>	<b>83.68</b>	<b>55.25</b>	<b>264.64</b>	<b>1,252.33</b>	<b>1,655.90</b>
<b>Bebedouro</b>					
1 – 2 years.....	182.89	-	-	-	182.89
3 – 5 years.....	3.96	450.16	-	-	454.12
6 – 10 years.....	4.45	11.01	617.92	-	633.38
Over 10 years.....	7.55	26.17	86.58	1,229.74	1,350.04
<b>Subtotal.....</b>	<b>198.85</b>	<b>487.34</b>	<b>704.50</b>	<b>1,229.74</b>	<b>2,620.43</b>
<b>Altinópolis</b>					
1 – 2 years.....	52.07	-	-	-	52.07
3 – 5 years.....	1.67	83.14	-	-	84.81
6 – 10 years.....	0.41	3.12	27.88	-	31.41
Over 10 years.....	4.83	4.34	23.16	177.79	210.12
<b>Subtotal.....</b>	<b>58.98</b>	<b>90.60</b>	<b>51.04</b>	<b>177.79</b>	<b>378.41</b>
<b>North</b>					
1 – 2 years.....	317.96	-	-	-	317.96
3 – 5 years.....	5.80	581.39	-	-	587.19
6 – 10 years.....	5.03	14.96	889.51	-	909.50
Over 10 years.....	12.72	36.84	130.67	2,659.86	2,840.09
<b>Total.....</b>	<b>341.51</b>	<b>633.19</b>	<b>1,020.18</b>	<b>2,659.86</b>	<b>4,654.74</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 40 – Natal: Trees by age group and age group of plot – Northwest Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Northwest Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Votuporanga</b>					
1 – 2 years.....	111.49	-	-	-	111.49
3 – 5 years.....	0.65	26.15	-	-	26.80
6 – 10 years.....	-	-	18.93	-	18.93
Over 10 years.....	-	2.36	3.28	107.97	113.61
<b>Subtotal.....</b>	<b>112.14</b>	<b>28.51</b>	<b>22.21</b>	<b>107.97</b>	<b>270.83</b>
<b>São José do Rio Preto</b>					
1 – 2 years.....	129.62	-	-	-	129.62
3 – 5 years.....	0.83	554.28	-	-	555.11
6 – 10 years.....	11.02	9.39	551.58	-	571.99
Over 10 years.....	1.79	2.66	5.72	488.22	498.39
<b>Subtotal.....</b>	<b>143.26</b>	<b>566.33</b>	<b>557.30</b>	<b>488.22</b>	<b>1,755.11</b>
<b>Northwest</b>					
1 – 2 years.....	241.11	-	-	-	241.11
3 – 5 years.....	1.48	580.43	-	-	581.91
6 – 10 years.....	11.02	9.39	570.51	-	590.92
Over 10 years.....	1.79	5.02	9.00	596.19	612.00
<b>Total.....</b>	<b>255.40</b>	<b>594.84</b>	<b>579.51</b>	<b>596.19</b>	<b>2,025.94</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 41 – Natal: Trees by age group and age group of plot – Central Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Central Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Matão</b>					
1 – 2 years.....	307.86	-	-	-	307.86
3 – 5 years.....	4.79	424.57	-	-	429.36
6 – 10 years.....	2.56	5.05	286.19	-	293.80
Over 10 years.....	-	8.71	50.87	609.36	668.94
<b>Subtotal.....</b>	<b>315.21</b>	<b>438.33</b>	<b>337.06</b>	<b>609.36</b>	<b>1,699.96</b>
<b>Duartina</b>					
1 – 2 years.....	324.37	-	-	-	324.37
3 – 5 years.....	3.86	305.36	-	-	309.22
6 – 10 years.....	7.61	21.05	604.71	-	633.37
Over 10 years.....	3.88	27.23	126.79	1,539.14	1,697.04
<b>Subtotal.....</b>	<b>339.72</b>	<b>353.64</b>	<b>731.50</b>	<b>1,539.14</b>	<b>2,964.00</b>
<b>Brotas</b>					
1 – 2 years.....	88.60	-	-	-	88.60
3 – 5 years.....	3.26	92.49	-	-	95.75
6 – 10 years.....	0.02	1.34	77.17	-	78.53
Over 10 years.....	39.32	9.19	26.12	418.77	493.40
<b>Subtotal.....</b>	<b>131.20</b>	<b>103.02</b>	<b>103.29</b>	<b>418.77</b>	<b>756.28</b>
<b>Central</b>					
1 – 2 years.....	720.83	-	-	-	720.83
3 – 5 years.....	11.91	822.42	-	-	834.33
6 – 10 years.....	10.19	27.44	968.07	-	1,005.70
Over 10 years.....	43.20	45.13	203.78	2,567.27	2,859.38
<b>Total.....</b>	<b>786.13</b>	<b>894.99</b>	<b>1,171.85</b>	<b>2,567.27</b>	<b>5,420.24</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 42 – Natal: Trees by age group and age group of plot – South Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of South	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Porto Ferreira</b>					
1 – 2 years.....	329.49	-	-	-	329.49
3 – 5 years.....	3.94	249.93	-	-	253.87
6 – 10 years.....	31.77	23.73	562.78	-	618.28
Over 10 years.....	16.13	9.03	38.33	609.65	673.14
<b>Subtotal.....</b>	<b>381.33</b>	<b>282.69</b>	<b>601.11</b>	<b>609.65</b>	<b>1,874.78</b>
<b>Limeira</b>					
1 – 2 years.....	120.36	-	-	-	120.36
3 – 5 years.....	14.94	177.52	-	-	192.46
6 – 10 years.....	6.04	20.71	446.08	-	472.83
Over 10 years.....	24.63	20.26	64.66	515.39	624.94
<b>Subtotal.....</b>	<b>165.97</b>	<b>218.49</b>	<b>510.74</b>	<b>515.39</b>	<b>1,410.59</b>
<b>South</b>					
1 – 2 years.....	449.85	-	-	-	449.85
3 – 5 years.....	18.88	427.45	-	-	446.33
6 – 10 years.....	37.81	44.44	1,008.86	-	1,091.11
Over 10 years.....	40.76	29.29	102.99	1,125.04	1,298.08
<b>Total.....</b>	<b>547.30</b>	<b>501.18</b>	<b>1,111.85</b>	<b>1,125.04</b>	<b>3,285.37</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 43 – Natal: Trees by age group and age group of plot – Southwest Sector [2021 inventory]**

Plot age <sup>1</sup> and regions of Southwest Sector	Age trees <sup>2</sup>				Total (1,000 trees)
	1 – 2 years (1,000 trees)	3 – 5 years (1,000 trees)	6 – 10 years (1,000 trees)	Over 10 years (1,000 trees)	
<b>Avaré</b>					
1 – 2 years.....	367.05	-	-	-	367.05
3 – 5 years.....	3.03	88.70	-	-	91.73
6 – 10 years.....	71.53	95.70	436.76	-	603.99
Over 10 years.....	59.97	115.54	129.01	2,748.81	3,053.33
<b>Subtotal.....</b>	<b>501.58</b>	<b>299.94</b>	<b>565.77</b>	<b>2,748.81</b>	<b>4,116.10</b>
<b>Itapetininga</b>					
1 – 2 years.....	510.91	-	-	-	510.91
3 – 5 years.....	2.33	220.90	-	-	223.23
6 – 10 years.....	1.90	3.89	244.62	-	250.41
Over 10 years.....	9.22	2.62	1.60	1,334.32	1,347.76
<b>Subtotal.....</b>	<b>524.36</b>	<b>227.41</b>	<b>246.22</b>	<b>1,334.32</b>	<b>2,332.31</b>
<b>Southwest</b>					
1 – 2 years.....	877.96	-	-	-	877.96
3 – 5 years.....	5.36	309.60	-	-	314.96
6 – 10 years.....	73.43	99.59	681.38	-	854.40
Over 10 years.....	69.19	118.16	130.61	4,083.13	4,401.09
<b>Total.....</b>	<b>1,025.94</b>	<b>527.35</b>	<b>811.99</b>	<b>4,083.13</b>	<b>6,448.41</b>

Ages and planting years: 1 – 2 years (2019 and 2020), 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and earlier).

<sup>1</sup> Calculation based on the year the original plot was planted.

<sup>2</sup> Estimated both from information supplied by growers on years resettings occurred in the plot and from visual aspects of the plant, such as trunk circumference, height and shape of canopy, among other factors.

**Table 44 – Oranges: Area of young and mature groves by sector and region [2021 inventory and variation]**

Sector and region	2021 inventory			Variation ( $\Delta$ ) since 2020 inventory		
	Area of young groves <sup>1</sup>	Area of mature groves <sup>2</sup>	Total			
	(A)	(B)	(C)	( $\Delta$ A)	( $\Delta$ B)	( $\Delta$ C)
	(hectares)	(hectares)	(hectares)	(%)	(%)	(%)
<b>North</b>						
Triângulo Mineiro.....	2,005	25,676	27,681	26.10	0.25	1.76
Bebedouro.....	4,988	47,354	52,342	7.85	-1.72	-0.88
Altinópolis.....	950	10,953	11,903	97.10	1.79	5.88
<b>Subtotal .....</b>	<b>7,943</b>	<b>83,983</b>	<b>91,926</b>	<b>18.61</b>	<b>-0.68</b>	<b>0.74</b>
<b>Northwest</b>						
Votuporanga.....	3,119	11,680	14,799	60.61	-22.36	-12.88
São José do Rio Preto.....	2,185	22,323	24,508	-28.50	4.90	0.71
<b>Subtotal.....</b>	<b>5,304</b>	<b>34,003</b>	<b>39,307</b>	<b>6.12</b>	<b>-6.39</b>	<b>-4.88</b>
<b>Central</b>						
Matão.....	2,563	33,934	36,497	24.18	-4.26	-2.69
Duartina.....	7,375	48,064	55,439	54.48	-2.70	2.34
Brotas.....	1,404	15,101	16,505	64.98	-14.41	-10.76
<b>Subtotal.....</b>	<b>11,342</b>	<b>97,099</b>	<b>108,441</b>	<b>47.51</b>	<b>-5.25</b>	<b>-1.57</b>
<b>South</b>						
Porto Ferreira.....	4,018	32,956	36,974	19.98	-12.29	-9.65
Limeira.....	2,753	32,641	35,394	18.87	-5.81	-4.27
<b>Subtotal.....</b>	<b>6,771</b>	<b>65,597</b>	<b>72,368</b>	<b>19.52</b>	<b>-9.18</b>	<b>-7.10</b>
<b>Southwest</b>						
Avaré.....	5,848	48,778	54,626	93.26	-5.31	0.16
Itapetininga.....	3,838	16,663	20,501	21.76	-3.90	0.05
<b>Subtotal .....</b>	<b>9,686</b>	<b>65,441</b>	<b>75,127</b>	<b>56.78</b>	<b>-4.95</b>	<b>0.13</b>
<b>Total.....</b>	<b>41,046</b>	<b>346,123</b>	<b>387,169</b>	<b>31.44</b>	<b>-5.03</b>	<b>-2.15</b>
<b>Percentage.....</b>	<b>10.60</b>	<b>89.40</b>	<b>100.00</b>	(X)	(X)	(X)

(X) Not applicable.

<sup>1</sup> Groves planted in 2019 and 2020.<sup>2</sup> Groves planted in 2018 and in previous years.

**Table 45 – Oranges: Non-bearing and bearing trees by sector and region [2021 inventory and variation]**

Sector and region	2021 inventory					Variation ( $\Delta$ ) since 2020 inventory									
	Non-bearing trees <sup>1</sup>			Bearing trees <sup>4</sup>	Total										
	In young groves <sup>2</sup>	In mature groves <sup>3</sup> (resets)	Total		(A)	(B)	(C)	(D)	(E)	( $\Delta A$ )	( $\Delta B$ )	( $\Delta C$ )	( $\Delta D$ )	( $\Delta E$ )	
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)										
<b>North</b>															
Triângulo Mineiro.....	951.08	19.56	970.64	12,099.47	13,070.11	20.04	26.68	20.17	0.37	1.61					
Bebedouro.....	2,557.18	402.11	2,959.29	22,375.46	25,334.75	-7.88	9.53	-5.85	-0.40	-1.07					
Altinópolis.....	468.90	105.69	574.59	5,189.72	5,764.31	16.43	13.39	15.86	-1.49	0.01					
<b>Subtotal .....</b>	<b>3,977.16</b>	<b>527.36</b>	<b>4,504.52</b>	<b>39,664.65</b>	<b>44,169.17</b>	<b>0.15</b>	<b>10.85</b>	<b>1.30</b>	<b>-0.31</b>	<b>-0.15</b>					
<b>Northwest</b>															
Votuporanga.....	1453.82	55.64	1509.46	5,032.57	6,542.03	73.00	29.46	70.88	-24.30	-13.14					
S. J. do Rio Preto.....	1,385.26	182.14	1,567.40	10,938.90	12,506.30	-34.08	82.05	-28.80	7.88	1.34					
<b>Subtotal .....</b>	<b>2,839.08</b>	<b>237.78</b>	<b>3,076.86</b>	<b>15,971.47</b>	<b>19,048.33</b>	<b>-3.49</b>	<b>66.24</b>	<b>-0.25</b>	<b>-4.86</b>	<b>-4.15</b>					
<b>Central</b>															
Matão.....	1,655.29	236.54	1,891.83	16,907.32	18,799.15	21.98	-40.63	7.77	-2.55	-1.60					
Duartina.....	4,434.65	436.9	4,871.55	22,928.39	27,799.94	58.03	-20.20	45.26	-5.47	0.69					
Brotas.....	809.35	147.74	957.09	6,643.61	7,600.70	72.14	4.48	56.49	-16.47	-11.26					
<b>Subtotal .....</b>	<b>6,899.29</b>	<b>821.18</b>	<b>7,720.47</b>	<b>46,479.32</b>	<b>54,199.79</b>	<b>48.91</b>	<b>-24.47</b>	<b>34.96</b>	<b>-6.21</b>	<b>-1.95</b>					
<b>South</b>															
Porto Ferreira.....	2,443.12	544.41	2,987.53	16,111.15	19,098.68	16.20	-25.82	5.33	-7.59	-5.78					
Limeira.....	1,615.61	544.45	2,160.06	15,143.26	17,303.32	12.36	-9.66	5.86	-4.34	-3.18					
<b>Subtotal .....</b>	<b>4,058.73</b>	<b>1,088.86</b>	<b>5,147.59</b>	<b>31,254.41</b>	<b>36,402.00</b>	<b>14.64</b>	<b>-18.53</b>	<b>5.55</b>	<b>-6.05</b>	<b>-4.56</b>					
<b>Southwest</b>															
Avaré.....	3,692.41	634.62	4,327.03	23,252.48	27,579.51	81.61	-6.04	59.75	-6.90	-0.38					
Itapetininga.....	2,773.26	103.62	2,876.88	9,937.80	12,814.68	15.41	-54.20	9.42	0.63	2.48					
<b>Subtotal .....</b>	<b>6,465.67</b>	<b>738.24</b>	<b>7,203.91</b>	<b>33,190.28</b>	<b>40,394.19</b>	<b>45.75</b>	<b>-18.13</b>	<b>34.96</b>	<b>-4.77</b>	<b>0.51</b>					
<b>Total.....</b>	<b>24,239.93</b>	<b>3,413.42</b>	<b>27,653.35</b>	<b>166,560.13</b>	<b>194,213.48</b>	<b>24.16</b>	<b>-13.46</b>	<b>17.84</b>	<b>-4.41</b>	<b>-1.77</b>					
<b>Percentage.....</b>	<b>87.66</b>	<b>12.34</b>	<b>14.24</b>	<b>85.76</b>	<b>100.00</b>	(X)	(X)	(X)	(X)	(X)					

(X) Not applicable.

<sup>1</sup> Trees planted in 2019 and 2020.<sup>2</sup> Groves planted in 2019 and 2020.<sup>3</sup> Groves planted in 2018 and in previous years.<sup>4</sup> Trees planted in 2018 and in previous years.

**Table 46 – Oranges: Area of groves by age group of plots, sector and region [2021 inventory]**

Sector and region	Plot age				Total
	1 – 2 years <sup>1</sup>	3 – 5 years	6 – 10 years	Over 10 years	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
<b>North</b>					
Triâng.Mineiro.....	2,005	1,698	8,385	15,593	27,681
Bebedouro.....	4,988	4,454	10,730	32,170	52,342
Altinópolis.....	950	744	608	9,601	11,903
<b>Subtotal.....</b>	<b>7,943</b>	<b>6,896</b>	<b>19,723</b>	<b>57,364</b>	<b>91,926</b>
<b>Northwest</b>					
Votuporanga.....	3,119	1,475	3,382	6,823	14,799
S. J. Rio Preto.....	2,185	3,741	7,402	11,180	24,508
<b>Subtotal.....</b>	<b>5,304</b>	<b>5,216</b>	<b>10,784</b>	<b>18,003</b>	<b>39,307</b>
<b>Central</b>					
Matão.....	2,563	4,197	10,538	19,199	36,497
Duartina.....	7,375	6,154	10,217	31,693	55,439
Brotas.....	1,404	1,082	2,662	11,357	16,505
<b>Subtotal.....</b>	<b>11,342</b>	<b>11,433</b>	<b>23,417</b>	<b>62,249</b>	<b>108,441</b>
<b>South</b>					
Porto Ferreira.....	4,018	4,076	7,543	21,337	36,974
Limeira.....	2,753	2,948	5,715	23,978	35,394
<b>Subtotal.....</b>	<b>6,771</b>	<b>7,024</b>	<b>13,258</b>	<b>45,315</b>	<b>72,368</b>
<b>Southwest</b>					
Avaré.....	5,848	1,896	4,779	42,103	54,626
Itapetininga.....	3,838	3,760	3,606	9,297	20,501
<b>Subtotal.....</b>	<b>9,686</b>	<b>5,656</b>	<b>8,385</b>	<b>51,400</b>	<b>75,127</b>
<b>Total.....</b>	<b>41,046</b>	<b>36,225</b>	<b>75,567</b>	<b>234,331</b>	<b>387,169</b>
<b>Percentage.....</b>	<b>10.60</b>	<b>9.36</b>	<b>19.52</b>	<b>60.52</b>	<b>100.00</b>

<sup>1</sup> Area of young orange groves.

**Table 47 – Oranges: Trees by age group, age group of plot, sector and region [2021 inventory]**

Sector and region	Plot and tree ages											Total
	Plots 1 – 2 years		Plots 3 – 5 years		Plots 6 – 10 years		Plots over 10 years					
	Trees 1 – 2 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees over 10 years		
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	
<b>North</b>												
Triâng.Mineiro...	951.08	7.46	852.45	10.04	28.95	4,735.58	2.06	35.96	134.40	6,312.13	13,070.11	
Bebedouro.....	2,557.18	37.41	2,546.63	188.78	204.76	6,016.57	175.92	324.31	787.56	12,495.63	25,334.75	
Altinópolis.....	468.90	11.78	548.18	6.26	39.73	329.36	87.65	149.42	318.75	3,804.28	5,764.31	
<b>Subtotal.....</b>	<b>3,977.16</b>	<b>56.65</b>	<b>3,947.26</b>	<b>205.08</b>	<b>273.44</b>	<b>11,081.51</b>	<b>265.63</b>	<b>509.69</b>	<b>1,240.71</b>	<b>22,612.04</b>	<b>44,169.17</b>	
<b>Northwest</b>												
Votuporanga.....	1,453.82	13.69	681.77	23.62	33.33	1,581.67	18.33	14.57	68.67	2,652.56	6,542.03	
S J Rio Preto.....	1,385.26	43.78	2,344.63	52.73	70.42	3,864.58	85.63	152.79	117.93	4,388.55	12,506.30	
<b>Subtotal.....</b>	<b>2,839.08</b>	<b>57.47</b>	<b>3,026.40</b>	<b>76.35</b>	<b>103.75</b>	<b>5,446.25</b>	<b>103.96</b>	<b>167.36</b>	<b>186.60</b>	<b>7,041.11</b>	<b>19,048.33</b>	
<b>Central</b>												
Matão.....	1,655.29	36.84	3,160.27	63.17	136.03	6,315.68	136.53	145.20	516.38	6,633.76	18,799.15	
Duartina.....	4,434.65	129.16	3,551.30	174.94	213.27	5,566.66	132.80	433.83	963.47	12,199.86	27,799.94	
Brotas.....	809.35	42.38	563.22	59.75	78.95	1,491.37	45.61	76.17	431.96	4,001.94	7,600.70	
<b>Subtotal.....</b>	<b>6,899.29</b>	<b>208.38</b>	<b>7,274.79</b>	<b>297.86</b>	<b>428.25</b>	<b>13,373.71</b>	<b>314.94</b>	<b>655.20</b>	<b>1,911.81</b>	<b>22,835.56</b>	<b>54,199.79</b>	
<b>South</b>												
Porto Ferreira....	2,443.12	146.80	2,512.17	145.92	153.07	4,500.20	251.69	294.20	761.80	7,889.71	19,098.68	
Limeira.....	1,615.61	139.72	1,659.01	109.34	197.71	3,206.02	295.39	513.02	687.81	8,879.69	17,303.32	
<b>Subtotal.....</b>	<b>4,058.73</b>	<b>286.52</b>	<b>4,171.18</b>	<b>255.26</b>	<b>350.78</b>	<b>7,706.22</b>	<b>547.08</b>	<b>807.22</b>	<b>1,449.61</b>	<b>16,769.40</b>	<b>36,402.00</b>	
<b>Southwest</b>												
Avaré.....	3,692.41	49.63	1,210.85	204.56	231.23	2,711.51	380.43	635.71	958.99	17,504.19	27,579.51	
Itapetininga.....	2,773.26	41.04	2,899.76	21.27	14.70	2,267.53	41.31	14.59	19.45	4,721.77	12,814.68	
<b>Subtotal.....</b>	<b>6,465.67</b>	<b>90.67</b>	<b>4,110.61</b>	<b>225.83</b>	<b>245.93</b>	<b>4,979.04</b>	<b>421.74</b>	<b>650.30</b>	<b>978.44</b>	<b>22,225.96</b>	<b>40,394.19</b>	
<b>Total.....</b>	<b>24,239.93</b>	<b>699.69</b>	<b>22,530.24</b>	<b>1,060.38</b>	<b>1,402.15</b>	<b>42,586.73</b>	<b>1,653.35</b>	<b>2,789.77</b>	<b>5,767.17</b>	<b>91,484.07</b>	<b>194,213.48</b>	
<b>Percentage.....</b>	<b>12.48</b>	<b>0.36</b>	<b>11.60</b>	<b>0.55</b>	<b>0.72</b>	<b>21.93</b>	<b>0.85</b>	<b>1.44</b>	<b>2.97</b>	<b>47.10</b>	<b>100.00</b>	

**Table 48 – Oranges: Area of groves of early varieties by sector and region [2021 inventory]**

Sector and region	Early varieties						
	Hamlin	Westin	Rubi	Valencia Americana	Seleta	Pineapple	Total
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
<b>North</b>							
Triâng.Mineiro.....	4,593	200	259	472	-	5	5,529
Bebedouro.....	7,688	1,248	840	4,357	2	225	14,360
Altinópolis.....	1,592	90	283	209	-	18	2,192
<b>Subtotal.....</b>	<b>13,873</b>	<b>1,538</b>	<b>1,382</b>	<b>5,038</b>	<b>2</b>	<b>248</b>	<b>22,081</b>
<b>Northwest</b>							
Votuporanga.....	445	27	152	313	-	28	965
S. J. Rio Preto.....	3,780	130	773	3,508	-	239	8,430
<b>Subtotal.....</b>	<b>4,225</b>	<b>157</b>	<b>925</b>	<b>3,821</b>	<b>-</b>	<b>267</b>	<b>9,395</b>
<b>Central</b>							
Matão.....	5,514	107	642	3,516	-	533	10,312
Duartina.....	6,455	317	1,336	3,083	69	114	11,374
Brotas.....	2,054	191	402	385	-	159	3,191
<b>Subtotal.....</b>	<b>14,023</b>	<b>615</b>	<b>2,380</b>	<b>6,984</b>	<b>69</b>	<b>806</b>	<b>24,877</b>
<b>South</b>							
Porto Ferreira.....	3,244	1,145	1,049	810	23	11	6,282
Limeira.....	4,114	1,472	382	364	53	3	6,388
<b>Subtotal.....</b>	<b>7,358</b>	<b>2,617</b>	<b>1,431</b>	<b>1,174</b>	<b>76</b>	<b>14</b>	<b>12,670</b>
<b>Southwest</b>							
Avaré.....	7,352	1,033	1,685	1,663	17	62	11,812
Itapetininga.....	1,526	174	716	751	2	900	4,069
<b>Subtotal.....</b>	<b>8,878</b>	<b>1,207</b>	<b>2,401</b>	<b>2,414</b>	<b>19</b>	<b>962</b>	<b>15,881</b>
<b>Total.....</b>	<b>48,357</b>	<b>6,134</b>	<b>8,519</b>	<b>19,431</b>	<b>166</b>	<b>2,297</b>	<b>84,904</b>
<b>Percentage.....</b>	<b>56.95</b>	<b>7.22</b>	<b>10.03</b>	<b>22.89</b>	<b>0.20</b>	<b>2.71</b>	<b>100.00</b>

**Table 49 – Oranges: Trees of early varieties by sector and region [2021 inventory]**

Sector and region	Early varieties						
	Hamlin	Westin	Rubi	Valencia Americana	Seleta	Pineapple	Total
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)
<b>North</b>							
Triâng.Mineiro.....	1,901.37	93.77	145.29	251.80	-	2.34	2,394.57
Bebedouro.....	3,133.12	510.50	450.31	2,229.38	0.98	114.63	6,438.92
Altinópolis.....	667.87	39.50	151.77	114.96	-	14.65	988.75
<b>Subtotal.....</b>	<b>5,702.36</b>	<b>643.77</b>	<b>747.37</b>	<b>2,596.14</b>	<b>0.98</b>	<b>131.62</b>	<b>9,822.24</b>
<b>Northwest</b>							
Votuporanga.....	214.25	11.64	82.70	155.23	-	19.57	483.39
S. J. Rio Preto.....	1,822.27	49.70	332.98	1,880.59	-	139.55	4,225.09
<b>Subtotal.....</b>	<b>2,036.52</b>	<b>61.34</b>	<b>415.68</b>	<b>2,035.82</b>	-	<b>159.12</b>	<b>4,708.48</b>
<b>Central</b>							
Matão.....	2,691.91	40.97	329.72	1,564.34	-	308.14	4,935.08
Duartina.....	2,896.46	146.42	748.99	1,598.53	35.49	52.94	5,478.83
Brotas.....	858.76	77.80	207.52	163.03	-	106.05	1,413.16
<b>Subtotal.....</b>	<b>6,447.13</b>	<b>265.19</b>	<b>1,286.23</b>	<b>3,325.90</b>	<b>35.49</b>	<b>467.13</b>	<b>11,827.07</b>
<b>South</b>							
Porto Ferreira.....	1,530.58	605.46	575.41	375.86	10.90	5.34	3,103.55
Limeira.....	1,874.96	664.24	196.93	169.68	19.84	1.59	2,927.24
<b>Subtotal.....</b>	<b>3,405.54</b>	<b>1,269.70</b>	<b>772.34</b>	<b>545.54</b>	<b>30.74</b>	<b>6.93</b>	<b>6,030.79</b>
<b>Southwest</b>							
Avaré.....	3,330.66	499.48	766.93	775.24	7.41	30.53	5,410.25
Itapetininga.....	939.91	93.83	436.48	550.05	0.86	637.09	2,658.22
<b>Subtotal.....</b>	<b>4,270.57</b>	<b>593.31</b>	<b>1,203.41</b>	<b>1,325.29</b>	<b>8.27</b>	<b>667.62</b>	<b>8,068.47</b>
<b>Total.....</b>	<b>21,862.12</b>	<b>2,833.31</b>	<b>4,425.03</b>	<b>9,828.69</b>	<b>75.48</b>	<b>1,432.42</b>	<b>40,457.05</b>
<b>Percentage.....</b>	<b>54.04</b>	<b>7.00</b>	<b>10.94</b>	<b>24.29</b>	<b>0.19</b>	<b>3.54</b>	<b>100.00</b>

**Table 50 – Oranges: Area of groves of mid-season and late varieties by sector and region [2021 inventory]**

Sector and region	Mid-season and late varieties				
	Pera Rio	Valencia	Valencia Folha Murcha	Natal	Total
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
<b>North</b>					
Triâng.Mineiro.....	9,072	8,954	325	3,801	22,152
Bebedouro.....	14,706	15,685	2,036	5,555	37,982
Altinópolis.....	4,082	4,414	414	801	9,711
<b>Subtotal.....</b>	<b>27,860</b>	<b>29,053</b>	<b>2,775</b>	<b>10,157</b>	<b>69,845</b>
<b>Northwest</b>					
Votuporanga.....	11,942	1,062	270	560	13,834
S. J. Rio Preto.....	6,056	5,160	1,392	3,470	16,078
<b>Subtotal.....</b>	<b>17,998</b>	<b>6,222</b>	<b>1,662</b>	<b>4,030</b>	<b>29,912</b>
<b>Central</b>					
Matão.....	13,090	8,227	1,218	3,650	26,185
Duartina.....	20,105	15,142	2,670	6,148	44,065
Brotas.....	4,814	6,008	739	1,753	13,314
<b>Subtotal.....</b>	<b>38,009</b>	<b>29,377</b>	<b>4,627</b>	<b>11,551</b>	<b>83,564</b>
<b>South</b>					
Porto Ferreira.....	14,127	10,752	1,970	3,843	30,692
Limeira.....	13,175	10,832	2,454	2,545	29,006
<b>Subtotal.....</b>	<b>27,302</b>	<b>21,584</b>	<b>4,424</b>	<b>6,388</b>	<b>59,698</b>
<b>Southwest</b>					
Avaré.....	15,059	18,206	1,453	8,096	42,814
Itapetininga.....	6,402	5,059	801	4,170	16,432
<b>Subtotal.....</b>	<b>21,461</b>	<b>23,265</b>	<b>2,254</b>	<b>12,266</b>	<b>59,246</b>
<b>Total.....</b>	<b>132,630</b>	<b>109,501</b>	<b>15,742</b>	<b>44,392</b>	<b>302,265</b>
<b>Percentage.....</b>	<b>43.88</b>	<b>36.23</b>	<b>5.21</b>	<b>14.69</b>	<b>100.00</b>

**Table 51 – Oranges: Trees of mid-season and late varieties by sector and region [2021 inventory]**

Sector and region	Mid-season and late varieties				
	Pera Rio (1,000 trees)	Valencia (1,000 trees)	Valencia Folha Murcha (1,000 trees)	Natal (1,000 trees)	Total (1,000 trees)
<b>North</b>					
Triâng.Mineiro.....	4,810.02	4,046.81	162.81	1,655.90	10,675.54
Bebedouro.....	8,137.97	7,097.42	1,040.01	2,620.43	18,895.83
Altinópolis.....	2,120.46	2,057.11	219.58	378.41	4,775.56
<b>Subtotal.....</b>	<b>15,068.45</b>	<b>13,201.34</b>	<b>1,422.40</b>	<b>4,654.74</b>	<b>34,346.93</b>
<b>Northwest</b>					
Votuporanga.....	5,134.51	519.47	133.83	270.83	6,058.64
S. J. Rio Preto.....	3,246.68	2,576.05	703.37	1,755.11	8,281.21
<b>Subtotal.....</b>	<b>8,381.19</b>	<b>3,095.52</b>	<b>837.20</b>	<b>2,025.94</b>	<b>14,339.85</b>
<b>Central</b>					
Matão.....	7,492.32	3,978.28	693.51	1,699.96	13,864.07
Duartina.....	10,571.88	7,334.06	1,451.17	2,964.00	22,321.11
Brotas.....	2,426.82	2,622.93	381.51	756.28	6,187.54
<b>Subtotal.....</b>	<b>20,491.02</b>	<b>13,935.27</b>	<b>2,526.19</b>	<b>5,420.24</b>	<b>42,372.72</b>
<b>South</b>					
Porto Ferreira.....	7,838.63	5,172.38	1,109.34	1,874.78	15,995.13
Limeira.....	6,869.84	4,869.97	1,225.68	1,410.59	14,376.08
<b>Subtotal.....</b>	<b>14,708.47</b>	<b>10,042.35</b>	<b>2,335.02</b>	<b>3,285.37</b>	<b>30,371.21</b>
<b>Southwest</b>					
Avaré.....	8,065.28	9,115.62	872.26	4,116.10	22,169.26
Itapetininga.....	4,214.05	3,102.79	507.31	2,332.31	10,156.46
<b>Subtotal.....</b>	<b>12,279.33</b>	<b>12,218.41</b>	<b>1,379.57</b>	<b>6,448.41</b>	<b>32,325.72</b>
<b>Total.....</b>	<b>70,928.46</b>	<b>52,492.89</b>	<b>8,500.38</b>	<b>21,834.70</b>	<b>153,756.43</b>
<b>Percentage.....</b>	<b>46.13</b>	<b>34.14</b>	<b>5.53</b>	<b>14.20</b>	<b>100.00</b>

**Table 52 – Oranges: Area of groves by age group of plots, region and variety – North Sector [2021 inventory]**

Sector and variety	Plot age				Total
	1 – 2 years <sup>1</sup>	3 – 5 years	6 – 10 years	Over 10 years	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
<b>TMG<sup>2</sup></b>					
Hamlin.....	66	58	440	4,029	4,593
Westin.....	-	-	32	168	200
Rubi.....	3	14	191	51	259
V.Americana <sup>3</sup> .....	193	9	48	222	472
Seleta.....	-	-	-	-	-
Pineapple.....	2	-	3	-	5
Pera Rio .....	1,336	1,348	3,634	2,754	9,072
Valencia.....	205	163	3,432	5,154	8,954
V.Folha Murcha <sup>4</sup> .	17	8	123	177	325
Natal.....	183	98	482	3,038	3,801
<b>Subtotal.....</b>	<b>2,005</b>	<b>1,698</b>	<b>8,385</b>	<b>15,593</b>	<b>27,681</b>
<b>Percentage.....</b>	<b>7.24</b>	<b>6.13</b>	<b>30.29</b>	<b>56.33</b>	<b>30.11</b>
<b>BEB<sup>5</sup></b>					
Hamlin.....	451	243	533	6,461	7,688
Westin.....	34	373	45	796	1,248
Rubi.....	49	5	513	273	840
V.Americana <sup>3</sup> .....	829	214	604	2,710	4,357
Seleta.....	-	-	2	-	2
Pineapple.....	11	13	54	147	225
Pera Rio .....	2,015	1,833	4,801	6,057	14,706
Valencia.....	1,183	1,045	2,539	10,918	15,685
V.Folha Murcha <sup>4</sup> .	98	76	553	1,309	2,036
Natal.....	318	652	1,086	3,499	5,555
<b>Subtotal.....</b>	<b>4,988</b>	<b>4,454</b>	<b>10,730</b>	<b>32,170</b>	<b>52,342</b>
<b>Percentage.....</b>	<b>9.53</b>	<b>8.51</b>	<b>20.50</b>	<b>61.46</b>	<b>56.94</b>
<b>ALT<sup>7</sup></b>					
Hamlin.....	31	34	13	1,514	1,592
Westin.....	48	-	2	40	90
Rubi.....	19	94	87	83	283
V.Americana <sup>3</sup> .....	28	-	54	127	209
Seleta.....	-	-	-	-	-
Pineapple.....	-	-	-	18	18
Pera Rio .....	591	389	296	2,806	4,082
Valencia.....	112	81	43	4,178	4,414
V.Folha Murcha <sup>4</sup> .	19	19	50	326	414
Natal.....	102	127	63	509	801
<b>Subtotal.....</b>	<b>950</b>	<b>744</b>	<b>608</b>	<b>9,601</b>	<b>11,903</b>
<b>Percentage.....</b>	<b>7.98</b>	<b>6.25</b>	<b>5.11</b>	<b>80.66</b>	<b>12.95</b>
<b>Total.....</b>	<b>7,943</b>	<b>6,896</b>	<b>19,723</b>	<b>57,364</b>	<b>91,926</b>

<sup>1</sup> Area of young orange groves.<sup>2</sup> TMG – Triângulo Mineiro.<sup>3</sup> V.Americana – Valencia Americana.<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.<sup>5</sup> BEB – Bebedouro.<sup>6</sup> ALT – Altinópolis.

**Table 53 – Oranges: Trees by age group, age group of plot, region and variety – North Sector [2021 inventory]**

Sector and region	Plot and tree ages											Total	
	Plots 1 – 2 years		Plots 3 – 5 years		Plots 6 – 10 years		Plots over 10 years						
	Trees 1 – 2 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees over 10 years			
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)		
<b>TMG<sup>1</sup></b>													
Hamlin.....	34.30	0.67	30.40	0.87	1.82	261.80	0.11	11.76	44.85	1,514.79	1,901.37		
Westin.....	-	-	-	0.04	0.04	16.88	-	1.20	3.24	72.37	93.77		
Rubi.....	1.53	0.15	6.35	3.21	1.25	112.10	-	0.12	0.36	20.22	145.29		
V.Americana <sup>2</sup> .....	106.91	0.02	7.98	-	0.15	26.44	-	0.16	0.40	109.74	251.80		
Seleta.....	-	-	-	-	-	-	-	-	-	-	-		
Pineapple.....	1.10	-	-	-	0.02	1.22	-	-	-	-	2.34		
Pera Rio .....	600.87	4.27	681.28	2.22	15.49	2,175.92	0.58	6.94	28.31	1,294.14	4,810.02		
Valencia.....	113.77	2.03	74.30	2.90	8.73	1,825.12	1.01	9.28	33.84	1,975.83	4,046.81		
V.Folha Murcha <sup>3</sup> .....	9.60	0.15	4.05	0.63	0.62	72.39	0.02	0.17	2.47	72.71	162.81		
Natal.....	83.00	0.17	48.09	0.17	0.83	243.71	0.34	6.33	20.93	1,252.33	1,655.90		
<b>Subtotal.....</b>	<b>951.08</b>	<b>7.46</b>	<b>852.45</b>	<b>10.04</b>	<b>28.95</b>	<b>4,735.58</b>	<b>2.06</b>	<b>35.96</b>	<b>134.40</b>	<b>6,312.13</b>	<b>13,070.11</b>		
<b>Percentage.....</b>	<b>7.28</b>	<b>0.06</b>	<b>6.52</b>	<b>0.08</b>	<b>0.22</b>	<b>36.23</b>	<b>0.02</b>	<b>0.28</b>	<b>1.03</b>	<b>48.29</b>	<b>29.59</b>		
<b>BEB<sup>4</sup></b>													
Hamlin.....	238.72	2.74	112.62	25.88	16.05	245.97	18.18	72.86	139.76	2,260.34	3,133.12		
Westin.....	17.21	0.60	178.00	2.54	1.50	21.96	2.10	10.13	13.87	262.59	510.50		
Rubi.....	25.74	0.10	2.09	29.58	17.38	255.82	1.95	5.20	1.91	110.54	450.31		
V.Americana <sup>3</sup> .....	437.73	1.96	154.28	18.55	19.50	332.12	47.32	42.26	79.89	1,095.77	2,229.38		
Seleta.....	-	-	-	0.05	0.05	0.88	-	-	-	-	0.98		
Pineapple.....	5.93	0.21	7.32	1.55	1.62	32.12	1.64	2.14	5.48	56.62	114.63		
Pera Rio .....	978.00	15.60	1,055.90	77.71	56.02	2,872.47	61.37	79.15	118.43	2,823.32	8,137.97		
Valencia.....	616.91	11.16	547.52	24.12	72.24	1,324.00	31.55	76.00	306.45	4,087.47	7,097.42		
V.Folha Murcha <sup>4</sup> .....	54.05	1.08	38.74	4.35	9.39	313.31	4.26	10.40	35.19	569.24	1,040.01		
Natal.....	182.89	3.96	450.16	4.45	11.01	617.92	7.55	26.17	86.58	1,229.74	2,620.43		
<b>Subtotal.....</b>	<b>2,557.18</b>	<b>37.41</b>	<b>2,546.63</b>	<b>188.78</b>	<b>204.76</b>	<b>6,016.57</b>	<b>175.92</b>	<b>324.31</b>	<b>787.56</b>	<b>12,495.63</b>	<b>25,334.75</b>		
<b>Percentage.....</b>	<b>10.09</b>	<b>0.15</b>	<b>10.05</b>	<b>0.75</b>	<b>0.81</b>	<b>23.75</b>	<b>0.69</b>	<b>1.28</b>	<b>3.11</b>	<b>49.32</b>	<b>57.36</b>		
<b>ALT<sup>5</sup></b>													
Hamlin.....	15.81	0.45	15.70	0.74	3.72	5.96	14.56	36.78	61.86	512.29	667.87		
Westin.....	25.00	-	-	-	0.15	0.64	-	0.09	0.43	13.19	39.50		
Rubi.....	9.30	1.60	46.91	0.08	10.87	46.44	0.10	0.95	0.97	34.55	151.77		
V.Americana <sup>3</sup> .....	16.63	-	-	0.02	2.85	28.99	0.83	1.61	7.41	56.62	114.96		
Seleta.....	-	-	-	-	-	-	-	-	-	-	-		
Pineapple.....	-	-	-	-	-	-	0.20	0.39	1.59	12.47	14.65		
Pera Rio .....	277.75	5.55	339.60	4.12	11.49	174.93	33.48	52.25	97.35	1,123.94	2,120.46		
Valencia.....	62.34	2.03	50.84	0.43	3.41	19.90	30.92	49.72	120.32	1,717.20	2,057.11		
V.Folha Murcha <sup>4</sup> .....	10.00	0.48	11.99	0.46	4.12	24.62	2.73	3.29	5.66	156.23	219.58		
Natal.....	52.07	1.67	83.14	0.41	3.12	27.88	4.83	4.34	23.16	177.79	378.41		
<b>Subtotal.....</b>	<b>468.90</b>	<b>11.78</b>	<b>548.18</b>	<b>6.26</b>	<b>39.73</b>	<b>329.36</b>	<b>87.65</b>	<b>149.42</b>	<b>318.75</b>	<b>3,804.28</b>	<b>5,764.31</b>		
<b>Percentage.....</b>	<b>8.13</b>	<b>0.20</b>	<b>9.51</b>	<b>0.11</b>	<b>0.69</b>	<b>5.71</b>	<b>1.52</b>	<b>2.59</b>	<b>5.53</b>	<b>66.00</b>	<b>13.05</b>		
<b>Total.....</b>	<b>3,977.16</b>	<b>56.65</b>	<b>3,947.26</b>	<b>205.08</b>	<b>273.44</b>	<b>11,081.51</b>	<b>265.63</b>	<b>509.69</b>	<b>1,240.71</b>	<b>22,612.04</b>	<b>44,169.17</b>		

<sup>1</sup> TMG – Triângulo Mineiro.

<sup>2</sup> Valencia Americana.

<sup>3</sup> Valencia Folha Murcha.

<sup>4</sup> BEB – Bebedouro.

<sup>5</sup> ALT – Altinópolis.

**Table 54 – Oranges: Area of groves by age group of plots, region and variety –Northwest Sector [2021 inventory]**

Sector and variety	Plot age				Total
	1 – 2 years <sup>1</sup>	3 – 5 years	6 – 10 years	Over 10 years	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
<b>VOT<sup>2</sup></b>					
Hamlin.....	58	20	155	212	445
Westin.....	3	-	9	15	27
Rubi.....	61	12	57	22	152
V.Americana <sup>3</sup> .....	129	-	92	92	313
Seleta.....	-	-	-	-	-
Pineapple.....	-	-	2	26	28
Pera Rio .....	2,484	1,379	2,881	5,198	11,942
Valencia.....	211	8	125	718	1,062
V.Folha Murcha <sup>4</sup>	1	2	17	250	270
Natal.....	172	54	44	290	560
<b>Subtotal.....</b>	<b>3,119</b>	<b>1,475</b>	<b>3,382</b>	<b>6,823</b>	<b>14,799</b>
<b>Percentage.....</b>	<b>21.08</b>	<b>9.97</b>	<b>22.85</b>	<b>46.10</b>	<b>37.65</b>
<b>SJO<sup>5</sup></b>					
Hamlin.....	217	286	1,135	2,142	3,780
Westin.....	7	3	8	112	130
Rubi.....	20	20	185	548	773
V.Americana <sup>3</sup> .....	495	651	1,052	1,310	3,508
Seleta.....	-	-	-	-	-
Pineapple.....	51	52	22	114	239
Pera Rio .....	937	978	1,492	2,649	6,056
Valencia.....	283	679	2,223	1,975	5,160
V.Folha Murcha <sup>5</sup>	2	152	412	826	1,392
Natal.....	173	920	873	1,504	3,470
<b>Subtotal.....</b>	<b>2,185</b>	<b>3,741</b>	<b>7,402</b>	<b>11,180</b>	<b>24,508</b>
<b>Percentage.....</b>	<b>8.92</b>	<b>15.26</b>	<b>30.20</b>	<b>45.62</b>	<b>62.35</b>
<b>Total.....</b>	<b>5,304</b>	<b>5,216</b>	<b>10,784</b>	<b>18,003</b>	<b>39,307</b>

<sup>1</sup> Area of young orange groves.

<sup>2</sup> VOT – Votuporanga.

<sup>3</sup> V.Americana – Valencia Americana.

<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>5</sup> SJO – São José do Rio Preto.

**Table 55 – Oranges: Trees by age group, region and variety – Northwest Sector [2021 inventory]**

Sector and variety	Plot and tree ages										Total	
	Plots 1 – 2 years		Plots 3 – 5 years		Plots 6 – 10 years		Plots over 10 years					
	Trees 1 – 2 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees over 10 years		
(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	
<b>VOT<sup>1</sup></b>												
Hamlin.....	35.57	0.14	11.84	0.07	1.95	96.95	0.02	0.16	3.20	64.35	214.25	
Westin.....	2.00	-	-	-	0.04	5.24	-	-	0.24	4.12	11.64	
Rubi.....	37.93	0.08	6.76	-	0.20	27.59	-	-	0.55	9.59	82.70	
V.Americana <sup>2</sup> .....	68.93	-	-	1.80	6.15	38.29	0.12	1.06	1.07	37.81	155.23	
Seleta.....	-	-	-	-	-	-	-	-	-	-	-	
Pineapple.....	-	-	-	0.01	-	1.09	-	0.11	0.04	18.32	19.57	
Pera Rio .....	1,061.12	12.61	632.75	21.55	23.84	1,316.68	17.98	10.25	57.57	1,980.16	5,134.51	
Valencia.....	136.18	0.16	3.32	0.17	1.10	68.37	0.21	0.63	2.22	307.11	519.47	
V.Folha Murcha <sup>3</sup>	0.60	0.05	0.95	0.02	0.05	8.53	-	-	0.50	123.13	133.83	
Natal.....	111.49	0.65	26.15	-	-	18.93	-	2.36	3.28	107.97	270.83	
<b>Subtotal.....</b>	<b>1,453.82</b>	<b>13.69</b>	<b>681.77</b>	<b>23.62</b>	<b>33.33</b>	<b>1,581.67</b>	<b>18.33</b>	<b>14.57</b>	<b>68.67</b>	<b>2,652.56</b>	<b>6,542.03</b>	
<b>Percentage.....</b>	<b>22.22</b>	<b>0.21</b>	<b>10.42</b>	<b>0.36</b>	<b>0.51</b>	<b>24.18</b>	<b>0.28</b>	<b>0.22</b>	<b>1.05</b>	<b>40.55</b>	<b>34.34</b>	
<b>SJO<sup>4</sup></b>												
Hamlin.....	142.79	2.07	189.89	2.32	12.72	551.18	21.07	27.69	16.06	856.48	1,822.27	
Westin.....	4.48	0.02	1.61	0.05	0.05	3.43	1.13	1.50	0.87	36.56	49.70	
Rubi.....	12.30	0.13	10.59	1.75	1.71	104.98	4.54	5.97	6.30	184.71	332.98	
V.Americana <sup>2</sup> .....	355.77	13.40	498.86	24.36	11.02	451.77	26.94	15.78	7.05	475.64	1,880.59	
Seleta.....	-	-	-	-	-	-	-	-	-	-	-	
Pineapple.....	38.17	-	39.87	0.95	0.20	7.79	3.34	1.96	0.87	46.40	139.55	
Pera Rio .....	527.04	13.74	551.62	3.68	15.15	862.93	26.24	91.72	69.19	1,085.37	3,246.68	
Valencia.....	173.99	10.59	436.24	6.63	16.73	1,106.27	0.36	3.52	7.65	814.07	2,576.05	
V.Folha Murcha <sup>3</sup>	1.10	3.00	61.67	1.97	3.45	224.65	0.22	1.99	4.22	401.10	703.37	
Natal.....	129.62	0.83	554.28	11.02	9.39	551.58	1.79	2.66	5.72	488.22	1,755.11	
<b>Subtotal.....</b>	<b>1,385.26</b>	<b>43.78</b>	<b>2,344.63</b>	<b>52.73</b>	<b>70.42</b>	<b>3,864.58</b>	<b>85.63</b>	<b>152.79</b>	<b>117.93</b>	<b>4,388.55</b>	<b>12,506.30</b>	
<b>Percentage.....</b>	<b>11.08</b>	<b>0.35</b>	<b>18.75</b>	<b>0.42</b>	<b>0.56</b>	<b>30.90</b>	<b>0.68</b>	<b>1.22</b>	<b>0.94</b>	<b>35.09</b>	<b>65.66</b>	
<b>Total.....</b>	<b>2,839.08</b>	<b>57.47</b>	<b>3,026.40</b>	<b>76.35</b>	<b>103.75</b>	<b>5,446.25</b>	<b>103.96</b>	<b>167.36</b>	<b>186.60</b>	<b>7,041.11</b>	<b>19,048.33</b>	

<sup>1</sup> VOT – Votuporanga.

<sup>2</sup> V.Americana – Valencia Americana.

<sup>3</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>4</sup> SJO – São José do Rio Preto.

**Table 56 – Oranges: Area of groves by age group of plots, region and variety – Central Sector [2021 inventory]**

Sector and variety	Plot age				Total
	1 – 2 years <sup>1</sup>	3 – 5 years	6 – 10 years	Over 10 years	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
<b>MAT<sup>2</sup></b>					
Hamlin.....	365	736	718	3,695	5,514
Westin.....	-	5	28	74	107
Rubi.....	51	7	107	477	642
V.Americana <sup>3</sup> .....	300	339	267	2,610	3,516
Seleta.....	-	-	-	-	-
Pineapple.....	-	31	502	-	533
Pera Rio .....	941	1,841	5,181	5,127	13,090
Valencia.....	391	719	2,520	4,597	8,227
V.Folha Murcha <sup>4</sup> ..	90	25	718	385	1,218
Natal.....	425	494	497	2,234	3,650
<b>Subtotal.....</b>	<b>2,563</b>	<b>4,197</b>	<b>10,538</b>	<b>19,199</b>	<b>36,497</b>
<b>Percentage.....</b>	<b>7.02</b>	<b>11.50</b>	<b>28.87</b>	<b>52.60</b>	<b>33.66</b>
<b>DUA<sup>5</sup></b>					
Hamlin.....	563	700	664	4,528	6,455
Westin.....	111	36	18	152	317
Rubi.....	145	390	312	489	1,336
V.Americana <sup>3</sup> .....	617	437	625	1,404	3,083
Seleta.....	-	-	4	65	69
Pineapple.....	11	8	19	76	114
Pera Rio .....	2,704	2,483	4,398	10,520	20,105
Valencia.....	2,298	1,364	2,464	9,016	15,142
V.Folha Murcha <sup>4</sup> ..	481	204	594	1,391	2,670
Natal.....	445	532	1,119	4,052	6,148
<b>Subtotal.....</b>	<b>7,375</b>	<b>6,154</b>	<b>10,217</b>	<b>31,693</b>	<b>55,439</b>
<b>Percentage.....</b>	<b>13.30</b>	<b>11.10</b>	<b>18.43</b>	<b>57.17</b>	<b>51.12</b>
<b>BRO<sup>6</sup></b>					
Hamlin.....	83	51	78	1,842	2,054
Westin.....	4	10	26	151	191
Rubi.....	65	30	234	73	402
V.Americana <sup>3</sup> .....	9	31	38	307	385
Seleta.....	-	-	-	-	-
Pineapple.....	-	-	152	7	159
Pera Rio .....	429	528	1,443	2,414	4,814
Valencia.....	354	239	464	4,951	6,008
V.Folha Murcha <sup>4</sup> ..	304	57	72	306	739
Natal.....	156	136	155	1,306	1,753
<b>Subtotal.....</b>	<b>1,404</b>	<b>1,082</b>	<b>2,662</b>	<b>11,357</b>	<b>16,505</b>
<b>Percentage.....</b>	<b>8.51</b>	<b>6.56</b>	<b>16.13</b>	<b>68.81</b>	<b>15.22</b>
<b>Total.....</b>	<b>11,342</b>	<b>11,433</b>	<b>23,417</b>	<b>62,249</b>	<b>108,441</b>

<sup>1</sup> Area of young orange groves.

<sup>2</sup> MAT – Matão.

<sup>3</sup> V.Americana – Valencia Americana.

<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>5</sup> DUA – Duartina.

<sup>6</sup> BRO – Brotas.

**Table 57 – Oranges: Trees by age group, age group of plot, region and variety – Central Sector [2021 inventory]**

Sector and variety	Plot and tree ages										Total	
	Plots 1 – 2 years		Plots 3 – 5 years		Plots 6 – 10 years		Plots Over 10 years					
	Trees 1 – 2 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees over 10 years		
(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	
<b>MAT<sup>1</sup></b>												
Hamlin.....	195.79	5.95	590.57	11.10	31.30	402.87	31.74	26.90	66.46	1,329.23	2,691.91	
Westin.....	-	0.24	2.70	0.34	0.96	12.44	0.82	0.49	0.77	22.21	40.97	
Rubi.....	30.89	0.34	3.95	1.61	4.57	58.73	2.20	4.65	4.09	218.69	329.72	
V.Americana <sup>2</sup> ....	206.22	0.46	309.80	0.19	9.70	134.68	-	4.88	43.52	854.89	1,564.34	
Seleta.....	-	-	-	-	-	-	-	-	-	-	-	
Pineapple.....	-	-	34.68	1.52	3.80	268.14	-	-	-	-	308.14	
Pera Rio .....	624.20	15.92		36.32	55.75	3,233.82	33.91	41.80	174.53	1,914.63	7,492.32	
Valencia.....	239.28	8.75	420.37	7.97	19.11	1,478.07	64.51	52.33	157.73	1,530.16	3,978.28	
V.Folha Murcha <sup>3</sup> ...	51.05	0.39	12.19	1.56	5.79	440.74	3.35	5.44	18.41	154.59	693.51	
Natal.....	307.86	4.79	424.57	2.56	5.05	286.19	-	8.71	50.87	609.36	1,699.96	
<b>Subtotal.....</b>	<b>1,655.29</b>	<b>36.84</b>	<b>3,160.27</b>	<b>63.17</b>	<b>136.03</b>	<b>6,315.68</b>	<b>136.53</b>	<b>145.20</b>	<b>516.38</b>	<b>6,633.76</b>	<b>18,799.15</b>	
<b>Percentage.....</b>	<b>8.81</b>	<b>0.20</b>	<b>16.81</b>	<b>0.34</b>	<b>0.72</b>	<b>33.60</b>	<b>0.73</b>	<b>0.77</b>	<b>2.75</b>	<b>35.29</b>	<b>34.68</b>	
<b>DUA<sup>4</sup></b>												
Hamlin.....	345.44	4.52	370.33	13.46	15.52	343.91	23.85	110.95	197.08	1,471.40	2,896.46	
Westin.....	69.20	0.22	14.39	0.34	0.25	7.46	0.56	2.67	4.17	47.16	146.42	
Rubi.....	88.05	3.57	232.64	7.91	7.55	175.96	2.45	11.37	17.82	201.67	748.99	
V.Americana <sup>2</sup> ....	398.72	31.21	245.28	2.10	28.31	326.49	2.07	21.73	16.10	526.52	1,598.53	
Seleta.....	0.04	-	-	0.02	0.11	2.52	0.10	0.78	0.63	31.29	35.49	
Pineapple.....	6.86	0.72	3.92	0.15	0.60	13.32	0.09	0.66	0.53	26.09	52.94	
Pera Rio .....	1,592.34	61.73	1,441.36	94.01	78.45	2,393.87	60.23	162.04	265.73	4,422.12	10,571.88	
Valencia.....	1,330.90	20.27	821.24	38.25	52.95	1,344.04	34.14	85.99	301.81	3,304.47	7,334.06	
V.Folha Murcha <sup>4</sup> ....	278.73	3.06	116.78	11.09	8.48	354.38	5.43	10.41	32.81	630.00	1,451.17	
Natal.....	324.37	3.86	305.36	7.61	21.05	604.71	3.88	27.23	126.79	1,539.14	2,964.00	
<b>Subtotal.....</b>	<b>4,434.65</b>	<b>129.16</b>	<b>3,551.30</b>	<b>174.94</b>	<b>213.27</b>	<b>5,566.66</b>	<b>132.80</b>	<b>433.83</b>	<b>963.47</b>	<b>12,199.86</b>	<b>27,799.94</b>	
<b>Percentage.....</b>	<b>15.95</b>	<b>0.46</b>	<b>12.77</b>	<b>0.63</b>	<b>0.77</b>	<b>20.02</b>	<b>0.48</b>	<b>1.56</b>	<b>3.47</b>	<b>43.88</b>	<b>51.29</b>	
<b>BRO<sup>5</sup></b>												
Hamlin.....	50.27	0.41	19.16	0.35	0.80	30.91	0.32	8.76	99.15	648.63	858.76	
Westin.....	2.65	0.11	5.06	0.15	0.29	12.85	-	-	6.77	49.92	77.80	
Rubi.....	39.95	0.21	9.64	1.67	17.33	108.57	0.15	0.79	4.42	24.79	207.52	
V.Americana <sup>2</sup> ....	5.50	2.39	15.31	0.14	2.35	15.96	0.01	0.47	9.06	111.84	163.03	
Seleta.....	-	-	-	-	-	-	-	-	-	-	-	
Pineapple.....	-	-	-	0.79	3.31	98.54	-	-	0.13	3.28	106.05	
Pera Rio .....	252.86	31.02	252.56	39.04	39.73	822.03	2.06	33.07	91.29	863.16	2,426.82	
Valencia.....	198.90	4.04	136.95	12.32	12.87	280.30	3.57	22.95	184.11	1,766.92	2,622.93	
V.Folha Murcha <sup>4</sup> ....	170.62	0.94	32.05	5.27	0.93	45.04	0.18	0.94	10.91	114.63	381.51	
Natal.....	88.60	3.26	92.49	0.02	1.34	77.17	39.32	9.19	26.12	418.77	756.28	
<b>Subtotal.....</b>	<b>809.35</b>	<b>42.38</b>	<b>563.22</b>	<b>59.75</b>	<b>78.95</b>	<b>1,491.37</b>	<b>45.61</b>	<b>76.17</b>	<b>431.96</b>	<b>4,001.94</b>	<b>7,600.70</b>	
<b>Percentage.....</b>	<b>10.65</b>	<b>0.56</b>	<b>7.41</b>	<b>0.79</b>	<b>1.04</b>	<b>19.62</b>	<b>0.60</b>	<b>1.00</b>	<b>5.68</b>	<b>52.65</b>	<b>14.02</b>	
<b>Total.....</b>	<b>6,899.29</b>	<b>208.38</b>	<b>7,274.79</b>	<b>297.86</b>	<b>428.25</b>	<b>13,373.71</b>	<b>314.94</b>	<b>655.20</b>	<b>1,911.81</b>	<b>22,835.56</b>	<b>54,199.79</b>	

<sup>1</sup> MAT – Matão.

<sup>2</sup> Valencia Americana.

<sup>3</sup> Valencia Folha Murcha.

<sup>4</sup> DUA – Duartina.

<sup>5</sup> BRO – Brotas.

**Table 58 – Oranges: Area of groves by age group, region and variety – South Sector [2021 inventory]**

Sector and variety	Plot age				Total
	1 – 2 years <sup>1</sup>	3 – 5 years	6 – 10 years	Over 10 years	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
<b>PFE<sup>2</sup></b>					
Hamlin.....	497	125	320	2,302	3,244
Westin.....	171	54	175	745	1,145
Rubi.....	142	300	209	398	1,049
V.Americana <sup>3</sup> .....	142	9	46	613	810
Seleta.....	-	-	-	23	23
Pineapple.....	-	3	1	7	11
Pera Rio .....	1,721	2,153	3,578	6,675	14,127
Valencia.....	567	810	1,682	7,693	10,752
V.Folha Murcha <sup>4</sup> .....	192	221	587	970	1,970
Natal.....	586	401	945	1,911	3,843
<b>Subtotal.....</b>	<b>4,018</b>	<b>4,076</b>	<b>7,543</b>	<b>21,337</b>	<b>36,974</b>
<b>Percentage.....</b>	<b>10.87</b>	<b>11.02</b>	<b>20.40</b>	<b>57.71</b>	<b>51.09</b>
<b>LIM<sup>5</sup></b>					
Hamlin.....	313	220	228	3,353	4,114
Westin.....	60	90	204	1,118	1,472
Rubi.....	38	143	94	107	382
V.Americana <sup>3</sup> .....	8	6	55	295	364
Seleta.....	1	-	4	48	53
Pineapple.....	-	-	-	3	3
Pera Rio .....	1,357	1,426	2,844	7,548	13,175
Valencia.....	467	538	1,172	8,655	10,832
V.Folha Murcha <sup>4</sup> .....	292	252	438	1,472	2,454
Natal.....	217	273	676	1,379	2,545
<b>Subtotal.....</b>	<b>2,753</b>	<b>2,948</b>	<b>5,715</b>	<b>23,978</b>	<b>35,394</b>
<b>Percentage.....</b>	<b>7.78</b>	<b>8.33</b>	<b>16.15</b>	<b>67.75</b>	<b>48.91</b>
<b>Total.....</b>	<b>6,771</b>	<b>7,024</b>	<b>13,258</b>	<b>45,315</b>	<b>72,368</b>

<sup>1</sup> Area of young orange groves.

<sup>2</sup> PFE – Porto Ferreira.

<sup>3</sup> V.Americana – Valencia Americana.

<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>5</sup> LIM – Limeira.

**Table 59 – Oranges: Trees of groves by age group of plots, region and variety – South Sector [2021 inventory]**

Sector and variety	Plot and tree ages										Total
	Plots 1 – 2 years		Plots 3 – 5 years		Plots 6 – 10 years		Plots over 10 years				
	Trees 1 – 2 years	(1,000 trees)	Trees 1 – 2 years	(1,000 trees)	Trees 1 – 2 years	(1,000 trees)	Trees 3 – 5 years	(1,000 trees)	Trees 6 – 10 years	(1,000 trees)	Trees over 10 years
<b>PFE<sup>1</sup></b>											
Hamlin.....	276.49	4.17	70.97	3.50	13.47	188.18	45.07	31.05	145.96	751.72	1,530.58
Westin.....	109.23	1.87	31.76	2.03	7.78	108.66	17.92	9.79	42.14	274.28	605.46
Rubi.....	82.34	8.34	162.01	2.45	9.41	131.62	4.37	7.67	39.86	127.34	575.41
V.Americana <sup>2</sup> .....	81.09	0.08	4.93	0.67	0.84	27.93	1.19	2.52	10.78	245.83	375.86
Seleta.....	-	-	-	-	-	-	-	-	0.46	0.28	10.16
Pineapple.....	-	0.02	1.29	0.10	0.15	0.49	-	-	0.02	3.27	5.34
Pera Rio .....	1,045.40	85.09	1,400.86	68.02	64.51	2,106.54	119.31	106.07	185.70	2,657.13	7,838.63
Valencia.....	390.96	33.70	465.42	25.17	25.92	988.56	41.11	110.15	264.24	2,827.15	5,172.38
V.Folha Murcha <sup>3</sup> ....	128.12	9.59	125.00	12.21	7.26	385.44	6.59	17.46	34.49	383.18	1,109.34
Natal.....	329.49	3.94	249.93	31.77	23.73	562.78	16.13	9.03	38.33	609.65	1,874.78
<b>Subtotal.....</b>	<b>2,443.12</b>	<b>146.80</b>	<b>2,512.17</b>	<b>145.92</b>	<b>153.07</b>	<b>4,500.20</b>	<b>251.69</b>	<b>294.20</b>	<b>761.80</b>	<b>7,889.71</b>	<b>19,098.68</b>
<b>Percentage.....</b>	<b>12.79</b>	<b>0.77</b>	<b>13.15</b>	<b>0.76</b>	<b>0.80</b>	<b>23.56</b>	<b>1.32</b>	<b>1.54</b>	<b>3.99</b>	<b>41.31</b>	<b>52.47</b>
<b>LIM<sup>4</sup></b>											
Hamlin.....	171.73	3.06	100.72	6.90	5.44	128.25	37.35	111.65	84.39	1,225.47	1,874.96
Westin.....	34.49	2.45	48.72	6.14	4.86	112.15	10.31	35.08	13.80	396.24	664.24
Rubi.....	21.13	2.09	61.49	3.31	2.61	60.29	1.04	3.47	1.92	39.58	196.93
V.Americana <sup>2</sup> .....	4.00	-	4.18	-	0.22	21.19	1.70	3.54	5.41	129.44	169.68
Seleta.....	0.64	-	-	-	0.02	1.65	0.17	0.24	1.77	15.35	19.84
Pineapple.....	-	-	-	-	-	-	0.03	0.04	0.06	1.46	1.59
Pera Rio .....	825.93	107.68	806.80	70.97	97.08	1,650.28	76.44	122.43	255.83	2,856.40	6,869.84
Valencia.....	266.31	7.26	297.16	12.75	46.92	571.13	117.34	180.70	226.72	3,143.68	4,869.97
V.Folha Murcha <sup>3</sup> ....	171.02	2.24	162.42	3.23	19.85	215.00	26.38	35.61	33.25	556.68	1,225.68
Natal.....	120.36	14.94	177.52	6.04	20.71	446.08	24.63	20.26	64.66	515.39	1,410.59
<b>Subtotal.....</b>	<b>1,615.61</b>	<b>139.72</b>	<b>1,659.01</b>	<b>109.34</b>	<b>197.71</b>	<b>3,206.02</b>	<b>295.39</b>	<b>513.02</b>	<b>687.81</b>	<b>8,879.69</b>	<b>17,303.32</b>
<b>Percentage.....</b>	<b>9.34</b>	<b>0.81</b>	<b>9.59</b>	<b>0.63</b>	<b>1.14</b>	<b>18.53</b>	<b>1.71</b>	<b>2.96</b>	<b>3.98</b>	<b>51.32</b>	<b>47.53</b>
<b>Total.....</b>	<b>4,058.73</b>	<b>286.52</b>	<b>4,171.18</b>	<b>255.26</b>	<b>350.78</b>	<b>7,706.22</b>	<b>547.08</b>	<b>807.22</b>	<b>1,449.61</b>	<b>16,769.40</b>	<b>36,402.00</b>

<sup>1</sup> PFE – Porto Ferreira.

<sup>2</sup> V.Americana – Valencia Americana.

<sup>3</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>4</sup> LIM – Limeira.

**Table 60 – Oranges: Area of groves by age group of plots, region and variety – Southwest Sector [2021 inventory]**

Sector and variety	Plot age				Total
	1 – 2 years <sup>1</sup>	3 – 5 years	6 – 10 years	Over 10 years	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
<b>AVA<sup>2</sup></b>					
Hamlin.....	1,002	283	240	5,827	7,352
Westin.....	179	14	98	742	1,033
Rubi.....	59	124	238	1,264	1,685
V.Americana <sup>3</sup> .....	183	210	169	1,101	1,663
Seleta.....	-	-	-	17	17
Pineapple.....	1	-	-	61	62
Pera Rio .....	2,093	523	1,694	10,749	15,059
Valencia.....	1,573	524	1,028	15,081	18,206
V.Folha Murcha <sup>4</sup> ..	231	76	431	715	1,453
Natal.....	527	142	881	6,546	8,096
<b>Subtotal.....</b>	<b>5,848</b>	<b>1,896</b>	<b>4,779</b>	<b>42,103</b>	<b>54,626</b>
<b>Percentage.....</b>	<b>10.71</b>	<b>3.47</b>	<b>8.75</b>	<b>77.08</b>	<b>72.71</b>
<b>ITG<sup>5</sup></b>					
Hamlin.....	361	237	206	722	1,526
Westin.....	21	40	30	83	174
Rubi.....	115	317	163	121	716
V.Americana <sup>3</sup> .....	213	295	176	67	751
Seleta.....	-	-	-	2	2
Pineapple.....	204	300	354	42	900
Pera Rio .....	1,491	1,427	1,404	2,080	6,402
Valencia.....	467	770	708	3,114	5,059
V.Folha Murcha <sup>4</sup> ..	183	63	140	415	801
Natal.....	783	311	425	2,651	4,170
<b>Subtotal.....</b>	<b>3,838</b>	<b>3,760</b>	<b>3,606</b>	<b>9,297</b>	<b>20,501</b>
<b>Percentage.....</b>	<b>18.72</b>	<b>18.34</b>	<b>17.59</b>	<b>45.35</b>	<b>27.29</b>
<b>Total.....</b>	<b>9,686</b>	<b>5,656</b>	<b>8,385</b>	<b>51,400</b>	<b>75,127</b>

<sup>1</sup> Area of young orange groves.

<sup>2</sup> AVA – Avaré.

<sup>3</sup> V.Americana – Valencia Americana.

<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>5</sup> ITG – Itapetininga.

**Table 61 – Oranges: Trees by age group, age group of plot, region and variety – Southwest Sector [2021 inventory]**

Sector and variety	Plot and tree ages										Total	
	Plots 1 – 2 years		Plots 3 – 5 years		Plots 6 – 10 years		Plots over 10 years					
	Trees 1 – 2 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees 1 – 2 years	Trees 3 – 5 years	Trees 6 – 10 years	Trees Over 10 years		
<b>AVA<sup>1</sup></b>	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	
Hamlin.....	533.10	4.55	151.73	12.22	8.10	121.77	53.41	156.75	194.73	2,094.30	3,330.66	
Westin.....	125.78	0.28	8.17	5.37	3.36	44.88	5.10	13.59	12.10	280.85	499.48	
Rubi.....	42.25	1.82	66.55	13.54	8.64	128.37	7.16	21.61	19.15	457.84	766.93	
V.Americana <sup>2</sup> .....	111.96	4.50	123.14	1.32	4.74	85.68	15.30	20.38	16.37	391.85	775.24	
Seleta.....	0.20	-	-	-	-	-	0.65	0.66	0.32	5.58	7.41	
Pineapple.....	0.58	-	-	-	-	-	0.60	2.70	1.05	25.60	30.53	
Pera Rio .....	1,403.40	27.48	336.10	46.33	51.66	1,003.74	87.94	137.41	200.90	4,770.32	8,065.28	
Valencia.....	961.02	6.95	382.48	35.14	38.40	622.17	136.52	159.21	363.65	6,410.08	9,115.62	
V.Folha Murcha <sup>3</sup> ....	147.07	1.02	53.98	19.11	20.63	268.14	13.78	7.86	21.71	318.96	872.26	
Natal.....	367.05	3.03	88.70	71.53	95.70	436.76	59.97	115.54	129.01	2,748.81	4,116.10	
<b>Subtotal.....</b>	<b>3,692.41</b>	<b>49.63</b>	<b>1,210.85</b>	<b>204.56</b>	<b>231.23</b>	<b>2,711.51</b>	<b>380.43</b>	<b>635.71</b>	<b>958.99</b>	<b>17,504.19</b>	<b>27,579.51</b>	
<b>Percentage.....</b>	<b>13.39</b>	<b>0.18</b>	<b>4.39</b>	<b>0.74</b>	<b>0.84</b>	<b>9.83</b>	<b>1.38</b>	<b>2.31</b>	<b>3.48</b>	<b>63.47</b>	<b>68.28</b>	
<b>ITG<sup>4</sup></b>												
Hamlin.....	266.61	1.86	241.84	0.77	0.22	114.63	-	0.02	0.26	313.70	939.91	
Westin.....	15.76	0.16	24.66	0.13	0.04	15.01	-	-	0.06	38.01	93.83	
Rubi.....	82.15	0.90	193.48	0.28	0.15	100.37	-	0.13	0.34	58.68	436.48	
V.Americana <sup>2</sup> .....	137.18	2.98	258.73	0.33	2.75	117.69	0.97	4.99	1.29	23.14	550.05	
Seleta.....	-	-	-	-	-	-	0.03	0.14	0.04	0.65	0.86	
Pineapple.....	124.00	9.51	241.76	-	-	230.80	-	-	-	31.02	637.09	
Pera Rio .....	1,161.81	22.46	1,107.22	15.83	5.52	879.85	27.82	2.21	7.71	983.62	4,214.05	
Valencia.....	339.73	0.72	565.01	1.26	1.97	480.58	2.55	3.73	8.14	1,699.10	3,102.79	
V.Folha Murcha <sup>3</sup> ....	135.11	0.12	46.16	0.77	0.16	83.98	0.72	0.75	0.01	239.53	507.31	
Natal.....	510.91	2.33	220.90	1.90	3.89	244.62	9.22	2.62	1.60	1,334.32	2,332.31	
<b>Subtotal.....</b>	<b>2,773.26</b>	<b>41.04</b>	<b>2,899.76</b>	<b>21.27</b>	<b>14.70</b>	<b>2,267.53</b>	<b>41.31</b>	<b>14.59</b>	<b>19.45</b>	<b>4,721.77</b>	<b>12,814.68</b>	
<b>Percentage.....</b>	<b>21.64</b>	<b>0.32</b>	<b>22.63</b>	<b>0.17</b>	<b>0.11</b>	<b>17.69</b>	<b>0.32</b>	<b>0.11</b>	<b>0.15</b>	<b>36.85</b>	<b>31.72</b>	
<b>Total.....</b>	<b>6,465.67</b>	<b>90.67</b>	<b>4,110.61</b>	<b>225.83</b>	<b>245.93</b>	<b>4,979.04</b>	<b>421.74</b>	<b>650.30</b>	<b>978.44</b>	<b>22,225.96</b>	<b>40,394.19</b>	

<sup>1</sup> AVA – Avaré.

<sup>2</sup> V.Americana – Valencia Americana.

<sup>3</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>4</sup> ITG – Itapetininga.

**Table 62 – Oranges: Area of groves by sector and variety [2021 inventory]**

Variety	Sector					Total	Percentage of the variety group	Percentage of total
	North	Northwest	Central	South	Southwest			
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(%)	(%)
<b>Early</b>								
Hamlin.....	13,873	4,225	14,023	7,358	8,878	48,357	56.95	12.49
Westin.....	1,538	157	615	2,617	1,207	6,134	7.22	1.58
Rubi.....	1,382	925	2,380	1,431	2,401	8,519	10.03	2.20
Valencia Americana.....	5,038	3,821	6,984	1,174	2,414	19,431	22.89	5.02
Seleta.....	2	-	69	76	19	166	0.20	0.04
Pineapple.....	248	267	806	14	962	2,297	2.71	0.59
<b>Subtotal.....</b>	<b>22,081</b>	<b>9,395</b>	<b>24,877</b>	<b>12,670</b>	<b>15,881</b>	<b>84,904</b>	<b>100.00</b>	<b>21.93</b>
<b>Mid-season</b>								
Pera Rio .....	27,860	17,998	38,009	27,302	21,461	132,630	100.00	34.26
<b>Subtotal.....</b>	<b>27,860</b>	<b>17,998</b>	<b>38,009</b>	<b>27,302</b>	<b>21,461</b>	<b>132,630</b>	<b>100.00</b>	<b>34.26</b>
<b>Late</b>								
Valencia.....	29,053	6,222	29,377	21,584	23,265	109,501	64.55	28.28
V.Folha Murcha <sup>1</sup> .....	2,775	1,662	4,627	4,424	2,254	15,742	9.28	4.07
Natal.....	10,157	4,030	11,551	6,388	12,266	44,392	26.17	11.47
<b>Subtotal.....</b>	<b>41,985</b>	<b>11,914</b>	<b>45,555</b>	<b>32,396</b>	<b>37,785</b>	<b>169,635</b>	<b>100.00</b>	<b>43.81</b>
<b>Total.....</b>	<b>91,926</b>	<b>39,307</b>	<b>108,441</b>	<b>72,368</b>	<b>75,127</b>	<b>387,169</b>	<b>100.00</b>	<b>100.00</b>
<b>Percentage.....</b>	<b>23.74</b>	<b>10.15</b>	<b>28.01</b>	<b>18.69</b>	<b>19.40</b>	<b>100.00</b>	<b>(X)</b>	<b>(X)</b>

(X) Not applicable.

<sup>1</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 63 – Oranges: Trees by sector and variety [2021 inventory]**

Variety	Sector					Total	Percentage of the variety group	Percentage of total
	North	Northwest	Central	South	Southwest			
	(1,000 trees)	(%)	(%)					
<b>Early</b>								
Hamlin.....	5,702.36	2,036.52	6,447.13	3,405.54	4,270.57	21,862.12	54.04	11.26
Westin.....	643.77	61.34	265.19	1,269.70	593.31	2,833.31	7.00	1.46
Rubi.....	747.37	415.68	1,286.23	772.34	1,203.41	4,425.03	10.94	2.28
Valencia Americana.....	2,596.14	2,035.82	3,325.90	545.54	1,325.29	9,828.69	24.29	5.06
Seleta.....	0.98	-	35.49	30.74	8.27	75.48	0.19	0.04
Pineapple.....	131.62	159.12	467.13	6.93	667.62	1,432.42	3.54	0.74
<b>Subtotal.....</b>	<b>9,822.24</b>	<b>4,708.48</b>	<b>11,827.07</b>	<b>6,030.79</b>	<b>8,068.47</b>	<b>40,457.05</b>	<b>100.00</b>	<b>20.83</b>
<b>Mid-season</b>								
Pera Rio .....	15,068.45	8,381.19	20,491.02	14,708.47	12,279.33	70,928.46	100.00	36.52
<b>Subtotal.....</b>	<b>15,068.45</b>	<b>8,381.19</b>	<b>20,491.02</b>	<b>14,708.47</b>	<b>12,279.33</b>	<b>70,928.46</b>	<b>100.00</b>	<b>36.52</b>
<b>Late</b>								
Valencia.....	13,201.34	3,095.52	13,935.27	10,042.35	12,218.41	52,492.89	63.38	27.03
V.Folha Murcha <sup>1</sup> .....	1,422.40	837.20	2,526.19	2,335.02	1,379.57	8,500.38	10.26	4.38
Natal.....	4,654.74	2,025.94	5,420.24	3,285.37	6,448.41	21,834.70	26.36	11.24
<b>Subtotal.....</b>	<b>19,278.48</b>	<b>5,958.66</b>	<b>21,881.70</b>	<b>15,662.74</b>	<b>20,046.39</b>	<b>82,827.97</b>	<b>100.00</b>	<b>42.65</b>
<b>Total.....</b>	<b>44,169.17</b>	<b>19,048.33</b>	<b>54,199.79</b>	<b>36,402.00</b>	<b>40,394.19</b>	<b>194,213.48</b>	<b>100.00</b>	<b>100.00</b>
<b>Percentage.....</b>	<b>22.74</b>	<b>9.81</b>	<b>27.91</b>	<b>18.74</b>	<b>20.80</b>	<b>100.00</b>	<b>(X)</b>	<b>(X)</b>

(X) Not applicable.

<sup>1</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 64 – Oranges: Area of groves by planting year [2020 and 2021 inventories and variation]**

Planting year <sup>1</sup>	2020 inventory <sup>2</sup>	2021 inventory <sup>2</sup>	Variation <sup>3</sup>	
	(hectares)	(hectares)	(hectares)	(percentage)
1979 and previous years.....	1,531	1,420	-111	-7.25
1980.....	133	101	-32	-24.06
1981.....	149	100	-49	-32.89
1982.....	146	127	-19	-13.01
1983.....	566	449	-117	-20.67
1984.....	169	126	-43	-25.44
1985.....	547	469	-78	-14.26
1986.....	1,041	820	-221	-21.23
1987.....	810	728	-82	-10.12
1988.....	747	643	-104	-13.92
1989.....	1,570	1,260	-310	-19.75
1990.....	2,468	2,060	-408	-16.53
1991.....	1,941	1,583	-358	-18.44
1992.....	1,728	1,214	-514	-29.75
1993.....	1,863	1,008	-855	-45.89
1994.....	1,778	1,506	-272	-15.30
1995.....	2,605	2,225	-380	-14.59
1996.....	2,515	2,284	-231	-9.18
1997.....	4,492	3,929	-563	-12.53
1998.....	4,348	3,764	-584	-13.43
1999.....	5,764	5,016	-748	-12.98
2000.....	8,876	7,542	-1,334	-15.03
2001.....	8,784	7,950	-834	-9.49
2002.....	13,692	12,025	-1,667	-12.17
2003.....	18,250	16,909	-1,341	-7.35
2004.....	20,567	18,960	-1,607	-7.81
2005.....	27,010	24,764	-2,246	-8.32
2006.....	24,342	22,408	-1,934	-7.95
2007.....	32,262	29,787	-2,475	-7.67
2008.....	30,485	27,721	-2,764	-9.07
2009.....	21,292	19,723	-1,569	-7.37
2010.....	20,103	15,710	-4,393	-21.85
2011.....	18,821	17,814	-1,007	-5.35
2012.....	23,661	22,577	-1,084	-4.58
2013.....	16,679	15,988	-691	-4.14
2014.....	8,526	8,223	-303	-3.55
2015.....	11,487	10,965	-522	-4.54
2016.....	10,773	10,821	48	0.45
2017.....	11,923	12,035	-1,557	-11.46
2018 <sup>4</sup> .....	(X)	13,369	-223	-1.64
<b>Mature groves.....</b>	<b>364,444</b>	<b>346,123</b>	<b>-18,321</b>	<b>-5.03</b>
2018.....	13,592	(X)	(X)	(X)
2019.....	17,635	17,822	187	1.06
2020.....	(X)	23,224	(X)	(X)
<b>Young groves.....</b>	<b>31,227</b>	<b>41,046</b>	<b>9,819</b>	<b>31.44</b>
<b>Total.....</b>	<b>395,671</b>	<b>387,169</b>	<b>-8,502</b>	<b>-2.15</b>

(X) Not applicable.

<sup>1</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.<sup>2</sup> Snapshot of groves in March of the year the inventory is published.<sup>3</sup> Estimate of eradicated and abandoned groves from April 2020 to March 2021.<sup>4</sup> Groves planted in 2018 belonged to the group of young groves in the 2020 inventory and moved to the group of mature groves in this 2021 inventory.

**Table 65 – Oranges: Trees by planting year [2020 and 2021 inventories and variation]**

Planting year <sup>1</sup>	2020 inventory <sup>2</sup>	2021 inventory <sup>2</sup>	Variation <sup>3</sup>	
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(percentage)
1979 and previous years.....	350.61	331.39	-19	-5.48
1980.....	37.19	30.08	-7.11	-19.12
1981.....	42.99	32.24	-10.75	-25.01
1982.....	52.07	46.78	-5.29	-10.16
1983.....	163.16	129.53	-33.63	-20.61
1984.....	40.62	30.20	-10.42	-25.65
1985.....	147.69	124.04	-23.65	-16.01
1986.....	286.73	224.73	-62.00	-21.62
1987.....	254.89	224.25	-30.64	-12.02
1988.....	215.68	184.45	-31.23	-14.48
1989.....	477.62	378.20	-99.42	-20.82
1990.....	782.15	653.50	-128.65	-16.45
1991.....	587.31	480.23	-107.08	-18.23
1992.....	541.85	384.14	-157.71	-29.11
1993.....	566.94	309.17	-257.77	-45.47
1994.....	546.96	447.64	-99.32	-18.16
1995.....	970.01	833.80	-136.21	-14.04
1996.....	882.98	795.36	-87.62	-9.92
1997.....	1,475.80	1,254.14	-221.66	-15.02
1998.....	1,510.82	1,305.13	-205.69	-13.61
1999.....	1,903.59	1,633.13	-270.46	-14.21
2000.....	2,931.55	2,488.89	-442.66	-15.10
2001.....	3,014.66	2,750.88	-263.78	-8.75
2002.....	4,901.88	4,256.17	-645.71	-13.17
2003.....	6,503.74	5,924.84	-578.90	-8.90
2004.....	7,399.14	6,793.55	-605.59	-8.18
2005.....	10,515.64	9,470.77	-1,044.87	-9.94
2006.....	9,733.94	8,689.68	-1,044.26	-10.73
2007.....	13,799.19	12,450.87	-1,348.32	-9.77
2008.....	14,132.59	12,464.10	-1,668.49	-11.81
2009.....	9,693.53	8,872.78	-820.75	-8.47
2010.....	10,296.26	7,489.41	-2,806.85	-27.26
2011.....	10,035.71	9,631.23	-404.48	-4.03
2012.....	12,621.82	12,241.64	-380.18	-3.01
2013.....	9,483.02	9,192.01	-291.01	-3.07
2014.....	5,106.28	4,981.41	-124.87	-2.45
2015.....	7,107.69	6,540.44	-567.25	-7.98
2016.....	6,691.68	6,689.36	-2.32	-0.03
2017.....	7,844.56	7,763.12	-81.44	-10.32
2018 <sup>4</sup> .....	(X)	8,077.76	-578.87	-6.69
6 to 10 years old resets <sup>5</sup> .....	5,840.18	5,767.17	-73.01	-1.25
3 to 5 years old resets <sup>5</sup> .....	4,762.51	4,191.92	-570.59	-11.98
<b>Bearing trees.....</b>	<b>174,253.23</b>	<b>166,560.13</b>	<b>-7,693.10</b>	<b>-4.41</b>
0 a 2 years old resets <sup>5</sup> .....	3,944.30	3,413.42	-530.88	-13.46
2018.....	8,656.63	(X)	(X)	(X)
2019.....	10,865.78	10,883.72	17.94	0.17
2020.....	(X)	13,356.21	(X)	(X)
<b>Non-bearing trees.....</b>	<b>23,466.71</b>	<b>27,653.35</b>	<b>4,186.64</b>	<b>17.84</b>
<b>Total.....</b>	<b>197,719.94</b>	<b>194,213.48</b>	<b>-3,506.46</b>	<b>-1.77</b>

(X) Not applicable.

<sup>1</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.

<sup>2</sup> Snapshot of groves in March of the year the inventory is published.

<sup>3</sup> Estimate of eradicated and abandoned groves from April 2020 to March 2021.

<sup>4</sup> Groves planted in 2018 belonged to the group of young groves in the 2020 inventory and moved to the group of mature groves in this 2021 inventory.

<sup>5</sup> Trees from resettings after the original plot was planted were estimated at their respective ages.

**Table 66 – Oranges: Area of groves by sector and planting year [2021 inventory]**

Planting year <sup>1</sup>	Sector					Total
	North	Northwest	Central	South	Southwest	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
1979 and previous .....	264	2	82	1,042	30	1,420
1980.....	42	9	-	50	-	101
1981.....	44	-	-	16	40	100
1982.....	19	-	-	108	-	127
1983.....	191	-	173	85	-	449
1984.....	6	3	2	100	15	126
1985.....	28	52	145	229	15	469
1986.....	54	233	60	438	35	820
1987.....	65	32	-	425	206	728
1988.....	27	65	305	215	31	643
1989.....	59	164	293	459	285	1,260
1990.....	264	33	764	664	335	2,060
1991.....	96	29	287	801	370	1,583
1992.....	349	19	93	399	354	1,214
1993.....	193	53	165	359	238	1,008
1994.....	98	98	335	315	660	1,506
1995.....	366	66	502	730	561	2,225
1996.....	280	33	687	682	602	2,284
1997.....	632	18	1,342	831	1,106	3,929
1998.....	753	81	1,265	1,147	518	3,764
1999.....	1,999	56	1,029	1,144	788	5,016
2000.....	2,732	160	1,909	1,919	822	7,542
2001.....	2,306	963	1,512	2,267	902	7,950
2002.....	1,876	502	4,081	3,124	2,442	12,025
2003.....	4,394	519	4,898	2,837	4,261	16,909
2004.....	5,132	1,399	4,865	3,125	4,439	18,960
2005.....	5,795	1,083	7,497	4,101	6,288	24,764
2006.....	5,741	1,730	5,205	3,449	6,283	22,408
2007.....	7,503	2,135	9,089	4,402	6,658	29,787
2008.....	6,022	3,670	6,884	3,471	7,674	27,721
2009.....	5,402	2,599	5,294	3,011	3,417	19,723
2010.....	4,632	2,197	3,486	3,370	2,025	15,710
2011.....	4,417	3,433	4,485	3,232	2,247	17,814
2012.....	6,211	3,582	6,412	3,989	2,383	22,577
2013.....	4,973	1,348	6,201	1,952	1,514	15,988
2014.....	1,785	793	3,365	1,246	1,034	8,223
2015.....	2,337	1,628	2,954	2,839	1,207	10,965
2016.....	2,199	1,823	2,951	2,573	1,275	10,821
2017.....	1,576	991	5,297	2,030	2,141	12,035
2018.....	3,121	2,402	3,185	2,421	2,240	13,369
<b>Mature groves.....</b>	<b>83,983</b>	<b>34,003</b>	<b>97,099</b>	<b>65,597</b>	<b>65,441</b>	<b>346,123</b>
2019.....						
2020.....	3,499	2,596	4,494	3,219	4,014	17,822
<b>Young groves.....</b>	<b>4,444</b>	<b>2,708</b>	<b>6,848</b>	<b>3,552</b>	<b>5,672</b>	<b>23,224</b>
<b>Total.....</b>	<b>7,943</b>	<b>5,304</b>	<b>11,342</b>	<b>6,771</b>	<b>9,686</b>	<b>41,046</b>
<b>Percentage.....</b>	<b>91,926</b>	<b>39,307</b>	<b>108,441</b>	<b>72,368</b>	<b>75,127</b>	<b>387,169</b>

<sup>1</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.

**Table 67 – Oranges: Trees by sector and planting year [2021 inventory]**

Planting year <sup>1</sup>	Sector					Total (1,000 trees)
	North (1,000 trees)	Northwest (1,000 trees)	Central (1,000 trees)	South (1,000 trees)	Southwest (1,000 trees)	
1979 and previous years.....	78.98	0.54	13.06	230.39	8.42	331.39
1980.....	14.65	2.23	-	13.20	-	30.08
1981.....	12.05	-	-	2.88	17.31	32.24
1982.....	6.42	-	-	40.36	-	46.78
1983.....	42.65	-	58.60	28.28	-	129.53
1984.....	2.32	0.93	0.49	22.74	3.72	30.20
1985.....	6.33	19.52	46.36	46.75	5.08	124.04
1986.....	18.42	65.25	18.79	111.46	10.81	224.73
1987.....	15.27	12.52	-	112.11	84.35	224.25
1988.....	10.43	28.01	78.42	58.47	9.12	184.45
1989.....	14.04	51.67	84.08	144.67	83.74	378.20
1990.....	92.24	10.85	233.99	207.32	109.10	653.50
1991.....	29.66	11.38	89.67	235.97	113.55	480.23
1992.....	103.27	5.03	24.83	129.18	121.83	384.14
1993.....	58.86	17.18	40.95	119.97	72.21	309.17
1994.....	25.85	35.76	92.06	100.60	193.37	447.64
1995.....	136.12	21.01	181.29	252.87	242.51	833.80
1996.....	83.69	9.41	239.25	232.76	230.25	795.36
1997.....	222.06	5.87	326.30	274.43	425.48	1,254.14
1998.....	253.89	24.36	438.51	402.26	186.11	1,305.13
1999.....	618.62	20.66	328.99	371.81	293.05	1,633.13
2000.....	873.61	44.97	586.91	673.15	310.25	2,488.89
2001.....	802.72	265.99	439.77	816.28	426.12	2,750.88
2002.....	646.67	172.06	1,331.92	1,127.07	978.45	4,256.17
2003.....	1,616.28	176.10	1,526.16	1,030.36	1,575.94	5,924.84
2004.....	1,804.06	424.19	1,732.07	1,157.22	1,676.01	6,793.55
2005.....	2,101.25	403.11	2,747.79	1,517.03	2,701.59	9,470.77
2006.....	2,164.35	649.40	1,930.07	1,284.89	2,660.97	8,689.68
2007.....	3,216.34	831.44	3,556.60	1,684.54	3,161.95	12,450.87
2008.....	2,732.37	1,684.55	2,917.13	1,424.80	3,705.25	12,464.10
2009.....	2,526.80	1,068.83	2,239.94	1,333.40	1,703.81	8,872.78
2010.....	2,281.77	978.29	1,531.56	1,582.18	1,115.61	7,489.41
2011.....	2,416.16	1,655.70	2,499.88	1,761.43	1,298.06	9,631.23
2012.....	3,392.25	1,672.50	3,503.17	2,256.83	1,416.89	12,241.64
2013.....	2,917.72	710.21	3,495.57	1,195.89	872.62	9,192.01
2014.....	1,045.60	439.40	2,084.75	776.11	635.55	4,981.41
2015.....	1,309.78	968.44	1,790.34	1,715.96	755.92	6,540.44
2016.....	1,214.61	1,046.61	1,895.56	1,524.93	1,007.65	6,689.36
2017.....	864.52	518.98	3,596.49	1,152.70	1,630.43	7,763.12
2018.....	1,868.13	1,460.81	1,782.74	1,493.55	1,472.53	8,077.76
6 to 10 years old resets <sup>2</sup> .....	1,240.71	186.60	1,911.81	1,449.61	978.44	5,767.17
3 to 5 years old resets <sup>2</sup> .....	783.13	271.11	1,083.45	1,158.00	896.23	4,191.92
<b>Bearing trees.....</b>	<b>39,664.65</b>	<b>15,971.47</b>	<b>46,479.32</b>	<b>31,254.41</b>	<b>33,190.28</b>	<b>166,560.13</b>
0 to 2 years old resets <sup>2</sup> .....	527.36	237.78	821.18	1,088.86	738.24	3,413.42
2019.....	1,998.88	1,416.85	2,739.88	1,923.10	2,805.01	10,883.72
2020.....	1,978.28	1,422.23	4,159.41	2,135.63	3,660.66	13,356.21
<b>Non-bearing trees.....</b>	<b>4,504.52</b>	<b>3,076.86</b>	<b>7,720.47</b>	<b>5,147.59</b>	<b>7,203.91</b>	<b>27,653.35</b>
<b>Total.....</b>	<b>44,169.17</b>	<b>19,048.33</b>	<b>54,199.79</b>	<b>36,402.00</b>	<b>40,394.19</b>	<b>194,213.48</b>
<b>Percentage.....</b>	<b>22.74</b>	<b>9.81</b>	<b>27.91</b>	<b>18.74</b>	<b>20.80</b>	<b>100.00</b>

<sup>1</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.

<sup>2</sup> Trees from resetting after the original plot was planted were estimated at their respective ages.

**Table 68 – Oranges: Area of groves of early varieties by planting year [2021 inventory]**

Planting year <sup>1</sup>	Early varieties						Total
	Hamlin	Westin	Rubi	Valencia Americana	Seleta	Pineapple	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
1979 and previous years....	315	-	-	-	26	-	341
1980.....	-	-	-	-	-	-	-
1981.....	33	-	-	-	-	-	33
1982.....	3	-	-	-	-	-	3
1983.....	10	-	-	-	-	-	10
1984.....	65	-	-	-	-	-	65
1985.....	71	7	95	-	-	-	173
1986.....	28	-	67	75	-	-	170
1987.....	124	2	-	27	-	-	153
1988.....	149	7	-	-	3	-	159
1989.....	38	-	-	-	-	-	38
1990.....	85	63	-	27	-	-	175
1991.....	142	59	-	-	-	-	201
1992.....	354	-	-	26	-	11	391
1993.....	309	5	-	48	-	-	362
1994.....	604	8	21	-	-	-	633
1995.....	154	30	-	-	-	-	184
1996.....	233	2	-	23	-	2	260
1997.....	270	139	6	488	-	36	939
1998.....	535	129	45	140	-	12	861
1999.....	797	272	-	216	2	-	1,287
2000.....	1,094	89	30	173	-	-	1,386
2001.....	565	68	28	411	-	24	1,096
2002.....	1,903	239	169	677	3	18	3,009
2003.....	2,915	227	120	731	19	3	4,015
2004.....	2,670	358	342	714	3	26	4,113
2005.....	4,411	356	197	815	-	45	5,824
2006.....	4,306	350	655	871	-	67	6,249
2007.....	5,704	407	231	1,753	11	48	8,154
2008.....	5,033	593	626	1,502	-	59	7,813
2009.....	2,233	447	703	1,552	77	48	5,060
2010.....	1,474	339	571	589	11	102	3,086
2011.....	1,482	282	829	1,281	6	246	4,126
2012.....	1,992	203	979	1,094	-	471	4,739
2013.....	702	127	301	605	2	223	1,960
2014.....	182	12	88	42	-	167	491
2015.....	372	51	193	204	2	2	824
2016.....	442	79	369	279	-	13	1,182
2017.....	1,466	367	539	852	-	159	3,383
2018.....	1,085	179	548	1,070	-	235	3,117
<b>Mature groves.....</b>	<b>44,350</b>	<b>5,496</b>	<b>7,752</b>	<b>16,285</b>	<b>165</b>	<b>2,017</b>	<b>76,065</b>
2019.....	1,556	333	213	1,251	-	136	3,489
2020.....	2,451	305	554	1,895	1	144	5,350
<b>Young groves.....</b>	<b>4,007</b>	<b>638</b>	<b>767</b>	<b>3,146</b>	<b>1</b>	<b>280</b>	<b>8,839</b>
<b>Total.....</b>	<b>48,357</b>	<b>6,134</b>	<b>8,519</b>	<b>19,431</b>	<b>166</b>	<b>2,297</b>	<b>84,904</b>
<b>Percentage.....</b>	<b>56.95</b>	<b>7.22</b>	<b>10.03</b>	<b>22.89</b>	<b>0.20</b>	<b>2.71</b>	<b>21.93</b>

<sup>1</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.

**Table 69 – Oranges: Trees of early varieties by planting year [2021 inventory]**

Planting year <sup>1</sup>	Early varieties						Total (1,000 trees)
	Hamlin (1,000 trees)	Westin (1,000 trees)	Rubi (1,000 trees)	Valencia Americana (1,000 trees)	Seleta (1,000 trees)	Pineapple (1,000 trees)	
1979 and previous years.....	64.11	-	-	-	6.33	-	70.44
1980.....	-	-	-	-	-	-	-
1981.....	8.10	-	-	-	-	-	8.10
1982.....	0.91	-	-	-	-	-	0.91
1983.....	3.34	-	-	-	-	-	3.34
1984.....	12.17	-	-	-	-	-	12.17
1985.....	17.46	1.99	9.48	-	-	-	28.93
1986.....	4.59	-	4.18	19.18	-	-	27.95
1987.....	26.07	0.71	-	4.07	-	-	30.85
1988.....	36.23	2.47	-	-	1.13	-	39.83
1989.....	8.57	-	-	-	-	-	8.57
1990.....	21.94	18.47	-	8.29	-	-	48.70
1991.....	33.65	14.27	-	-	-	-	47.92
1992.....	101.51	-	-	6.63	-	3.79	111.93
1993.....	80.38	1.85	-	9.30	-	-	91.53
1994.....	141.46	3.13	6.42	-	-	-	151.01
1995.....	58.61	10.32	-	-	-	-	68.93
1996.....	74.58	0.74	-	8.19	-	-	83.51
1997.....	80.62	37.75	1.69	70.57	-	10.90	201.53
1998.....	158.31	35.45	12.89	45.52	-	3.48	255.65
1999.....	212.85	83.75	-	65.50	0.65	-	362.75
2000.....	325.60	31.48	11.73	44.73	-	-	413.54
2001.....	185.23	20.78	13.92	93.01	-	7.78	320.72
2002.....	633.18	92.57	58.85	224.29	1.06	6.39	1,016.34
2003.....	975.11	77.07	32.33	240.41	6.47	1.26	1,332.65
2004.....	889.82	104.23	94.24	232.84	1.02	9.96	1,332.11
2005.....	1,540.31	121.65	67.65	288.48	-	19.18	2,037.27
2006.....	1,531.14	116.15	233.43	354.22	-	28.08	2,263.02
2007.....	2,204.91	148.81	97.33	709.80	4.92	17.41	3,183.18
2008.....	2,070.85	233.74	258.99	645.16	-	34.84	3,243.58
2009.....	913.74	181.99	311.29	708.20	36.33	19.89	2,171.44
2010.....	627.35	158.13	273.78	280.70	5.12	61.57	1,406.65
2011.....	730.79	144.12	445.00	640.76	2.88	164.56	2,128.11
2012.....	1,036.00	98.72	504.23	519.76	0.09	257.96	2,416.76
2013.....	404.67	78.54	181.87	305.82	1.20	122.35	1,094.45
2014.....	90.98	7.77	49.88	22.36	-	107.72	278.71
2015.....	229.94	32.45	129.86	118.53	0.88	0.92	512.58
2016.....	272.71	48.84	220.71	166.66	-	10.57	719.49
2017.....	1,066.36	179.40	338.20	614.26	-	147.85	2,346.07
2018.....	566.70	86.83	243.55	841.57	-	170.42	1,909.07
6 to 10 years old resets <sup>2</sup> .....	1,053.76	98.46	97.69	198.35	3.04	9.77	1,461.07
3 to 5 years old resets <sup>2</sup> .....	706.44	93.86	143.60	207.96	2.46	17.70	1,172.02
<b>Bearing trees.....</b>	<b>19,201.05</b>	<b>2,366.49</b>	<b>3,842.79</b>	<b>7,695.12</b>	<b>73.58</b>	<b>1,234.35</b>	<b>34,413.38</b>
0 to 2 years old resets <sup>2</sup> .....	354.45	61.02	108.68	202.93	1.02	21.43	749.53
2019.....	951.44	214.88	134.89	873.26	0.33	92.18	2,266.98
2020.....	1,355.18	190.92	338.67	1,057.38	0.55	84.46	3,027.16
<b>Non-bearing trees.....</b>	<b>2,661.07</b>	<b>466.82</b>	<b>582.24</b>	<b>2,133.57</b>	<b>1.90</b>	<b>198.07</b>	<b>6,043.67</b>
<b>Total.....</b>	<b>21,862.12</b>	<b>2,833.31</b>	<b>4,425.03</b>	<b>9,828.69</b>	<b>75.48</b>	<b>1,432.42</b>	<b>40,457.05</b>
<b>Percentual.....</b>	<b>54.04</b>	<b>7.00</b>	<b>10.94</b>	<b>24.29</b>	<b>0.19</b>	<b>3.54</b>	<b>20.83</b>

<sup>1</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.

<sup>2</sup> Trees from resettings after the original plot was planted were estimated at their respective ages.

**Table 70 – Oranges: Area of groves of mid-season and late varieties by planting year [2021 inventory]**

Planting year <sup>1</sup>	Mid-season and late varieties				Total
	Pera Rio	Valencia	Valencia Folha Murcha	Natal	
	(hectares)	(hectares)	(hectares)	(hectares)	(hectares)
1979 and previous years...					
1980.....	295	661	-	123	1,079
1981.....	28	41	-	32	101
1982.....	2	8	-	57	67
1983.....	36	72	-	16	124
1984.....	125	170	5	139	439
1985.....	20	21	-	20	61
1986.....	162	89	3	42	296
1987.....	325	180	13	132	650
1988.....	214	246	26	89	575
1989.....	243	115	20	106	484
1990.....	498	524	29	171	1,222
1991.....	490	781	145	469	1,885
1992.....	339	763	27	253	1,382
1993.....	249	343	13	218	823
1994.....	203	224	54	165	646
1995.....	364	255	118	136	873
1996.....	681	927	148	285	2,041
1997.....	632	779	262	351	2,024
1998.....	1,029	1,411	69	481	2,990
1999.....	1,031	1,401	288	183	2,903
2000.....	1,263	1,953	245	268	3,729
2001.....	1,421	3,413	483	839	6,156
2002.....	1,427	3,358	464	1,605	6,854
2003.....	2,011	4,927	275	1,803	9,016
2004.....	4,453	6,249	149	2,043	12,894
2005.....	4,678	6,370	429	3,370	14,847
2006.....	6,105	8,477	662	3,696	18,940
2007.....	5,280	6,993	601	3,285	16,159
2008.....	7,846	9,563	1,013	3,211	21,633
2009.....	8,497	7,103	1,316	2,992	19,908
2010.....	8,024	4,568	913	1,158	14,663
2011.....	6,606	4,065	772	1,181	12,624
2012.....	7,117	4,914	670	987	13,688
2013.....	9,255	6,292	743	1,548	17,838
2014.....	7,320	3,796	835	2,077	14,028
2015.....	4,349	1,527	1,023	833	7,732
2016.....	5,605	1,871	864	1,801	10,141
2017.....	5,787	2,257	398	1,197	9,639
2018.....	5,349	1,628	290	1,385	8,652
<b>Mature groves.....</b>	<b>114,531</b>	<b>101,390</b>	<b>13,832</b>	<b>40,305</b>	<b>270,058</b>
2019.....	8,145	3,490	840	1,858	14,333
2020.....	9,954	4,621	1,070	2,229	17,874
<b>Young groves.....</b>	<b>18,099</b>	<b>8,111</b>	<b>1,910</b>	<b>4,087</b>	<b>32,207</b>
<b>Total.....</b>	<b>132,630</b>	<b>109,501</b>	<b>15,742</b>	<b>44,392</b>	<b>302,265</b>
<b>Percentage.....</b>	<b>43.88</b>	<b>36.23</b>	<b>5.21</b>	<b>14.69</b>	<b>78.07</b>

<sup>1</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.

**Table 71 – Oranges: Trees of mid-season and late varieties by planting year [2021 inventory]**

Planting year <sup>1</sup>	Mid-season and late varieties				Total
	Pera Rio	Valencia	Valencia Folha Murcha	Natal	
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)
1979 and previous years....	83.18	148.91	-	28.86	260.95
1980.....	10.50	9.93	-	9.65	30.08
1981.....	0.39	1.32	-	22.43	24.14
1982.....	13.02	27.82	-	5.03	45.87
1983.....	43.26	55.18	1.45	26.30	126.19
1984.....	5.45	6.99	-	5.59	18.03
1985.....	54.62	29.33	1.04	10.12	95.11
1986.....	101.84	49.61	4.78	40.55	196.78
1987.....	89.47	72.68	5.26	25.99	193.40
1988.....	78.14	31.09	7.64	27.75	144.62
1989.....	160.08	150.06	10.45	49.04	369.63
1990.....	158.13	249.10	44.61	152.96	604.80
1991.....	115.89	238.83	9.74	67.85	432.31
1992.....	91.12	112.89	4.42	63.78	272.21
1993.....	67.27	74.20	20.59	55.58	217.64
1994.....	130.80	85.88	44.44	35.51	296.63
1995.....	282.27	334.84	51.76	96.00	764.87
1996.....	235.68	247.98	117.38	110.81	711.85
1997.....	397.38	501.00	27.40	126.83	1,052.61
1998.....	361.11	499.50	130.77	58.10	1,049.48
1999.....	445.51	651.02	87.72	86.13	1,270.38
2000.....	508.25	1,125.27	178.51	263.32	2,075.35
2001.....	503.72	1,266.97	184.07	475.40	2,430.16
2002.....	688.11	1,814.26	99.74	637.72	3,239.83
2003.....	1,656.01	2,177.48	51.36	707.34	4,592.19
2004.....	1,801.05	2,250.96	165.50	1,243.93	5,461.44
2005.....	2,464.84	3,261.92	274.50	1,432.24	7,433.50
2006.....	2,144.64	2,778.42	258.14	1,245.46	6,426.66
2007.....	3,334.09	4,018.92	473.39	1,441.29	9,267.69
2008.....	3,868.20	3,300.95	660.89	1,390.48	9,220.52
2009.....	3,631.86	2,091.04	429.14	549.30	6,701.34
2010.....	3,248.43	1,918.89	375.29	540.15	6,082.76
2011.....	3,903.22	2,679.72	391.60	528.58	7,503.12
2012.....	5,211.77	3,354.84	427.26	831.01	9,824.88
2013.....	4,299.80	2,165.82	488.00	1,143.94	8,097.56
2014.....	2,667.74	891.90	630.96	512.10	4,702.70
2015.....	3,410.53	1,016.23	498.40	1,102.70	6,027.86
2016.....	3,496.31	1,501.59	254.25	717.72	5,969.87
2017.....	3,255.81	1,041.60	167.81	951.83	5,417.05
2018.....	3,215.37	1,657.66	243.92	1,051.74	6,168.69
6 to 10 years old resets <sup>2</sup> ....	1,552.54	1,976.88	199.63	577.05	4,306.10
3 to 5 years old resets <sup>2</sup> ....	1,360.03	1,054.56	175.05	430.26	3,019.90
<b>Bearing trees.....</b>	<b>59,147.43</b>	<b>46,924.04</b>	<b>7,196.86</b>	<b>18,878.42</b>	<b>132,146.75</b>
0 to 2 years old resets <sup>2</sup> .....	1,430.31	738.56	146.45	348.57	2,663.89
2019.....	4,768.71	2,099.38	514.47	1,234.18	8,616.74
2020.....	5,582.01	2,730.91	642.60	1,373.53	10,329.05
<b>Non-bearing trees.....</b>	<b>11,781.03</b>	<b>5,568.85</b>	<b>1,303.52</b>	<b>2,956.28</b>	<b>21,609.68</b>
<b>Total.....</b>	<b>70,928.46</b>	<b>52,492.89</b>	<b>8,500.38</b>	<b>21,834.70</b>	<b>153,756.43</b>
<b>Percentage.....</b>	<b>46.13</b>	<b>34.14</b>	<b>5.53</b>	<b>14.20</b>	<b>79.17</b>

<sup>1</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.

<sup>2</sup> Trees from resetting after the original plot was planted were estimated at their respective ages.

**Table 72 – Oranges: Density<sup>1</sup> of young and mature groves by sector and region [2020 and 2021 inventories]**

Sector and region	2020 inventory		2021 inventory	
	Young groves <sup>2</sup>	Mature groves <sup>3</sup>	Young groves <sup>2</sup>	Mature groves <sup>3</sup>
	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)
<b>North</b>				
Triângulo Mineiro.....	499	471	475	472
Bebedouro.....	600	474	513	481
Altinópolis.....	835	498	494	483
<b>Average.....</b>	<b>593</b>	<b>476</b>	<b>501</b>	<b>478</b>
<b>Northwest</b>				
Votuporanga.....	433	445	466	436
São José do Rio Preto.....	688	481	634	498
<b>Average.....</b>	<b>589</b>	<b>466</b>	<b>535</b>	<b>477</b>
<b>Central</b>				
Matão.....	657	501	646	505
Duartina.....	588	502	601	486
Brotas.....	552	459	577	450
<b>Average.....</b>	<b>602</b>	<b>494</b>	<b>608</b>	<b>487</b>
<b>South</b>				
Porto Ferreira.....	628	484	608	505
Limeira.....	621	474	587	481
<b>Average.....</b>	<b>625</b>	<b>479</b>	<b>600</b>	<b>493</b>
<b>Southwest</b>				
Avaré.....	672	498	632	490
Itapetininga.....	762	583	722	602
<b>Average.....</b>	<b>718</b>	<b>519</b>	<b>668</b>	<b>518</b>
<b>Average.....</b>	<b>625</b>	<b>489</b>	<b>591</b>	<b>491</b>

<sup>1</sup> Weighted average density per stratum area.

<sup>2</sup> Groves planted in 2019 and 2020.

<sup>3</sup> Groves planted in 2018 and previous years. Calculation considers total trees in the plot, that is, bearing and non-bearing trees (resets in 2019 and 2020).

**Table 73 – Oranges: Density<sup>1</sup> of young and mature groves by variety [2020 and 2021 inventories]**

Variety	2020 inventory		2021 inventory	
	Young groves <sup>2</sup>	Mature groves <sup>3</sup>	Young groves <sup>2</sup>	Mature groves <sup>3</sup>
	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)
<b>Early</b>				
Hamlin.....	587	458	575	441
Westin.....	593	459	635	441
Rubi.....	519	534	618	510
Valencia Americana.....	786	469	614	485
Seleta.....	640	460	561	453
Pineapple.....	794	589	632	621
<b>Average.....</b>	<b>661</b>	<b>471</b>	<b>599</b>	<b>462</b>
<b>Mid-season</b>				
Pera Rio.....	610	520	572	529
<b>Average.....</b>	<b>610</b>	<b>520</b>	<b>572</b>	<b>529</b>
<b>Late</b>				
Valencia.....	592	467	596	470
Valencia Folha Murcha.....	591	533	606	531
Natal.....	692	473	639	477
<b>Average.....</b>	<b>622</b>	<b>475</b>	<b>609</b>	<b>477</b>
<b>Average.....</b>	<b>625</b>	<b>489</b>	<b>591</b>	<b>491</b>

NA Non-available data.

<sup>1</sup> Weighted average density per stratum area.

<sup>2</sup> Groves planted in 2019 and 2020.

<sup>3</sup> Groves planted in 2018 and previous years. Calculation considers total trees in the plot, that is, bearing and non-bearing trees (resets in 2019 and 2020).

**Table 74 – Oranges: Density<sup>1</sup> of young groves by variety and region [2021 inventory]**

Variety	Region												Average
	TMG <sup>2</sup>	BEB <sup>3</sup>	ALT <sup>4</sup>	VOT <sup>5</sup>	SJO <sup>6</sup>	MAT <sup>7</sup>	DUA <sup>8</sup>	BRO <sup>9</sup>	PFE <sup>10</sup>	LIM <sup>11</sup>	AVA <sup>12</sup>	ITG <sup>13</sup>	
<b>Early</b>	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)								
Hamlin.....	524	529	499	615	660	535	613	610	556	548	532	737	575
Westin.....	(NA)	507	524	613	613	(NA)	620	615	640	578	701	749	635
Rubi.....	524	529	488	621	616	604	608	608	580	555	723	716	618
Valencia Americana....	556	528	597	537	719	689	647	630	570	537	612	645	614
Seleta.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	640	(NA)	(NA)	546	601	(NA)	561
Pineapple.....	688	517	(NA)	(NA)	753	(NA)	640	(NA)	(NA)	(NA)	640	607	632
<b>Average.....</b>	<b>548</b>	<b>528</b>	<b>529</b>	<b>577</b>	<b>701</b>	<b>604</b>	<b>628</b>	<b>611</b>	<b>577</b>	<b>553</b>	<b>571</b>	<b>684</b>	<b>599</b>
<b>Mid-season</b>													
Pera Rio.....	450	485	470	427	562	663	589	590	608	609	671	779	572
<b>Average.....</b>	<b>450</b>	<b>485</b>	<b>470</b>	<b>427</b>	<b>562</b>	<b>663</b>	<b>589</b>	<b>590</b>	<b>608</b>	<b>609</b>	<b>671</b>	<b>779</b>	<b>572</b>
<b>Late</b>													
Valencia.....	554	522	556	646	615	613	579	563	690	570	611	727	596
V.Folha Murcha <sup>14</sup> .....	578	549	525	623	614	569	580	561	667	585	638	737	606
Natal.....	454	576	515	650	752	724	728	571	562	556	698	653	639
<b>Average.....</b>	<b>510</b>	<b>534</b>	<b>536</b>	<b>648</b>	<b>666</b>	<b>661</b>	<b>600</b>	<b>564</b>	<b>631</b>	<b>571</b>	<b>633</b>	<b>688</b>	<b>609</b>
<b>Average.....</b>	<b>475</b>	<b>513</b>	<b>494</b>	<b>466</b>	<b>634</b>	<b>646</b>	<b>601</b>	<b>577</b>	<b>608</b>	<b>587</b>	<b>632</b>	<b>722</b>	<b>591</b>

NA Non-available data.

<sup>1</sup> Weighted average density per stratum area.<sup>2</sup> TMG – Triângulo Mineiro.<sup>3</sup> BEB – Bebedouro.<sup>4</sup> ALT – Altinópolis.<sup>5</sup> VOT – Votuporanga.<sup>6</sup> SJO – São José do Rio Preto.<sup>7</sup> MAT – Matão.<sup>8</sup> DUA – Duartina.<sup>9</sup> BRO – Brotas.<sup>10</sup> PFE – Porto Ferreira.<sup>11</sup> LIM – Limeira.<sup>12</sup> AVA – Avaré.<sup>13</sup> ITG – Itapetininga.<sup>14</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 75 – Oranges: Density<sup>1</sup> of mature groves by variety and region [2021 inventory]**

Variety	Region												Average
	TMG <sup>2</sup>	BEB <sup>3</sup>	ALT <sup>4</sup>	VOT <sup>5</sup>	SJO <sup>6</sup>	MAT <sup>7</sup>	DUA <sup>8</sup>	BRO <sup>9</sup>	PFE <sup>10</sup>	LIM <sup>11</sup>	AVA <sup>12</sup>	ITG <sup>13</sup>	
	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)								
<b>Early</b>													
Hamlin.....	412	400	417	460	471	484	433	410	457	448	441	578	441
Westin.....	471	406	336	388	370	382	374	398	509	446	438	511	441
Rubi.....	562	537	540	493	426	506	555	496	544	511	446	590	510
Valencia Americana.....	520	508	545	473	506	422	486	416	441	463	448	766	485
Seleta.....	(NA)	522	(NA)	(NA)	(NA)	(NA)	515	(NA)	484	370	416	428	453
Pineapple.....	416	502	797	675	543	578	444	665	470	531	489	738	621
<b>Average.....</b>	<b>427</b>	<b>440</b>	<b>446</b>	<b>474</b>	<b>481</b>	<b>469</b>	<b>460</b>	<b>433</b>	<b>479</b>	<b>451</b>	<b>442</b>	<b>644</b>	<b>462</b>
<b>Mid-season</b>													
Pera Rio.....	544	564	527	431	531	565	516	496	548	511	514	621	529
<b>Average.....</b>	<b>544</b>	<b>564</b>	<b>527</b>	<b>431</b>	<b>531</b>	<b>565</b>	<b>516</b>	<b>496</b>	<b>548</b>	<b>511</b>	<b>514</b>	<b>621</b>	<b>529</b>
<b>Late</b>													
Valencia.....	450	447	464	451	492	477	468	429	469	444	490	601	470
V.Folha Murcha <sup>14</sup> .....	499	509	530	493	505	569	535	486	552	488	594	601	531
Natal.....	435	465	467	414	493	432	463	418	474	554	495	538	477
<b>Average.....</b>	<b>447</b>	<b>457</b>	<b>469</b>	<b>449</b>	<b>494</b>	<b>474</b>	<b>473</b>	<b>430</b>	<b>480</b>	<b>468</b>	<b>497</b>	<b>576</b>	<b>477</b>
<b>Average.....</b>	<b>472</b>	<b>481</b>	<b>483</b>	<b>436</b>	<b>498</b>	<b>505</b>	<b>486</b>	<b>450</b>	<b>505</b>	<b>481</b>	<b>490</b>	<b>602</b>	<b>491</b>

NA Non-available data.

<sup>1</sup> Weighted average density per stratum area. Calculation for groves over 2 years of age considers the total trees of the plot, that is, bearing and non-bearing trees (resets of 2019 and 2020).

<sup>2</sup> TMG – Triângulo Mineiro.

<sup>3</sup> BEB – Bebedouro.

<sup>4</sup> ALT – Altinópolis.

<sup>5</sup> VOT – Votuporanga.

<sup>6</sup> SJO – São José do Rio Preto.

<sup>7</sup> MAT – Matão.

<sup>8</sup> DUA – Duartina.

<sup>9</sup> BRO – Brotas.

<sup>10</sup> PFE – Porto Ferreira.

<sup>11</sup> LIM – Limeira.

<sup>12</sup> AVA – Avaré.

<sup>13</sup> ITG – Itapetininga.

<sup>14</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 76 – Oranges: Density<sup>1</sup> of groves of up to 10 years old by variety and region [2021 inventory]**

Variety	Region												Average
	TMG <sup>2</sup>	BEB <sup>3</sup>	ALT <sup>4</sup>	VOT <sup>5</sup>	SJO <sup>6</sup>	MAT <sup>7</sup>	DUA <sup>8</sup>	BRO <sup>9</sup>	PFE <sup>10</sup>	LIM <sup>11</sup>	AVA <sup>12</sup>	ITG <sup>13</sup>	
	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)								
<b>Early</b>													
Hamlin.....	585	523	540	628	550	679	567	484	591	548	545	777	590
Westin.....	534	489	516	572	526	494	555	510	653	590	645	610	579
Rubi.....	601	585	576	561	579	605	609	538	609	547	622	635	597
Valencia Americana.....	568	586	590	524	616	730	614	528	583	432	590	759	625
Seleta.....	(NA)	522	(NA)	(NA)	(NA)	(NA)	665	(NA)	(NA)	451	601	(NA)	543
Pineapple.....	511	612	(NA)	450	699	578	675	675	504	(NA)	640	707	659
<b>Average.....</b>	<b>582</b>	<b>556</b>	<b>564</b>	<b>574</b>	<b>591</b>	<b>672</b>	<b>592</b>	<b>547</b>	<b>607</b>	<b>552</b>	<b>576</b>	<b>720</b>	<b>605</b>
<b>Mid-season</b>													
Pera Rio.....	551	584	638	455	579	669	591	599	640	632	666	738	605
<b>Average.....</b>	<b>551</b>	<b>584</b>	<b>638</b>	<b>455</b>	<b>579</b>	<b>669</b>	<b>591</b>	<b>599</b>	<b>640</b>	<b>632</b>	<b>666</b>	<b>738</b>	<b>605</b>
<b>Late</b>													
Valencia.....	533	544	588	611	549	598	589	611	631	552	655	714	589
V.Folha Murcha <sup>14</sup> .....	594	578	578	503	522	614	604	590	669	584	692	688	614
Natal.....	494	618	578	586	639	729	604	589	622	675	686	649	635
<b>Average.....</b>	<b>529</b>	<b>568</b>	<b>582</b>	<b>596</b>	<b>577</b>	<b>632</b>	<b>594</b>	<b>601</b>	<b>634</b>	<b>592</b>	<b>669</b>	<b>686</b>	<b>605</b>
<b>Average.....</b>	<b>545</b>	<b>573</b>	<b>610</b>	<b>475</b>	<b>582</b>	<b>657</b>	<b>592</b>	<b>591</b>	<b>633</b>	<b>607</b>	<b>647</b>	<b>715</b>	<b>605</b>

NA Non-available data.

<sup>1</sup> Weighted average density per stratum area. Calculation for groves over 2 years of age considers the total trees of the plot, that is, bearing and non-bearing trees (resets of 2019 and 2020).<sup>2</sup> TMG – Triângulo Mineiro.<sup>3</sup> BEB – Bebedouro.<sup>4</sup> ALT – Altinópolis.<sup>5</sup> VOT – Votuporanga.<sup>6</sup> SJO – São José do Rio Preto.<sup>7</sup> MAT – Matão.<sup>8</sup> DUA – Duartina.<sup>9</sup> BRO – Brotas.<sup>10</sup> PFE – Porto Ferreira.<sup>11</sup> LIM – Limeira.<sup>12</sup> AVA – Avaré.<sup>13</sup> ITG – Itapetininga.<sup>14</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 77 – Oranges: Density<sup>1</sup> of groves over 10 years old by variety and region [2021 inventory]**

Variety	Region												Average
	TMG <sup>2</sup>	BEB <sup>3</sup>	ALT <sup>4</sup>	VOT <sup>5</sup>	SJO <sup>6</sup>	MAT <sup>7</sup>	DUA <sup>8</sup>	BRO <sup>9</sup>	PFE <sup>10</sup>	LIM <sup>11</sup>	AVA <sup>12</sup>	ITG <sup>13</sup>	
	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)	(trees/hectare)								
<b>Early</b>													
Hamlin.....	390	386	413	319	430	393	398	411	423	435	429	436	408
Westin.....	459	363	336	283	360	330	357	373	462	407	421	463	407
Rubi.....	402	437	442	449	369	482	476	410	451	432	400	487	428
Valencia Americana....	497	467	527	439	402	346	403	394	425	472	403	449	412
Seleta.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	505	(NA)	484	365	416	428	448
Pineapple.....	(NA)	444	797	696	465	(NA)	357	466	452	531	489	738	493
<b>Average.....</b>	<b>398</b>	<b>407</b>	<b>424</b>	<b>382</b>	<b>412</b>	<b>381</b>	<b>405</b>	<b>407</b>	<b>434</b>	<b>430</b>	<b>421</b>	<b>457</b>	<b>411</b>
<b>Mid-season</b>													
Pera Rio.....	483	509	465	397	480	422	467	410	460	439	483	491	460
<b>Average.....</b>	<b>483</b>	<b>509</b>	<b>465</b>	<b>397</b>	<b>480</b>	<b>422</b>	<b>467</b>	<b>410</b>	<b>460</b>	<b>439</b>	<b>483</b>	<b>491</b>	<b>460</b>
<b>Late</b>													
Valencia.....	392	412	459	432	418	393	413	400	422	424	469	550	431
VFolha Murcha <sup>14</sup> .....	427	473	516	492	493	472	487	415	456	443	508	580	477
Natal.....	421	385	413	394	331	299	419	378	352	453	467	508	415
<b>Average.....</b>	<b>403</b>	<b>411</b>	<b>458</b>	<b>435</b>	<b>402</b>	<b>368</b>	<b>422</b>	<b>396</b>	<b>412</b>	<b>430</b>	<b>469</b>	<b>534</b>	<b>431</b>
<b>Average.....</b>	<b>416</b>	<b>428</b>	<b>454</b>	<b>404</b>	<b>424</b>	<b>387</b>	<b>433</b>	<b>401</b>	<b>431</b>	<b>433</b>	<b>463</b>	<b>516</b>	<b>434</b>

NA Non-available data.

<sup>1</sup> Weighted average density per stratum area. Calculation for groves over 2 years of age considers the total trees of the plot, that is, bearing and non-bearing trees (resets of 2019 and 2020).

<sup>2</sup> TMG – Triângulo Mineiro.

<sup>3</sup> BEB – Bebedouro.

<sup>4</sup> ALT – Altinópolis.

<sup>5</sup> VOT – Votuporanga.

<sup>6</sup> SJO – São José do Rio Preto.

<sup>7</sup> MAT – Matão.

<sup>8</sup> DUA – Duartina.

<sup>9</sup> BRO – Brotas.

<sup>10</sup> PFE – Porto Ferreira.

<sup>11</sup> LIM – Limeira.

<sup>12</sup> AVA – Avaré.

<sup>13</sup> ITG – Itapetininga.

<sup>14</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 78 – Oranges: Density<sup>1</sup> of groves by planting year [2021 inventory]**

Planting year <sup>2</sup>	Density (trees/hectare)
1979 and previous years.....	332
1980.....	341
1981.....	366
1982.....	428
1983.....	342
1984.....	278
1985.....	338
1986.....	336
1987.....	372
1988.....	327
1989.....	342
1990.....	355
1991.....	352
1992.....	356
1993.....	354
1994.....	363
1995.....	422
1996.....	394
1997.....	353
1998.....	393
1999.....	372
2000.....	370
2001.....	377
2002.....	391
2003.....	386
2004.....	399
2005.....	425
2006.....	432
2007.....	464
2008.....	496
2009.....	495
2010.....	524
2011.....	574
2012.....	572
2013.....	607
2014.....	641
2015.....	631
2016.....	637
2017.....	664
2018.....	624
<b>Mature groves.....</b>	<b>491</b>
2019.....	611
2020.....	575
<b>Young groves.....</b>	<b>591</b>
<b>Average.....</b>	<b>502</b>

<sup>1</sup> Weighted average density per stratum area. Calculation for groves over 2 years of age considers the total trees of the plot, that is, bearing and non-bearing trees (resets of 2019 and 2020).

<sup>2</sup> Information per planting year considers the year the original plot was planted and refers to remaining groves at the time data were collected to take inventory. Therefore, information does not depict the totality of groves established in such years, since eradication and renovation occurred along time.

**Table 79 – Oranges: Area of irrigated and non-irrigated groves and of groves with no information on irrigation, by sector and region<sup>1</sup> [2020 and 2021 inventories]**

Sector and region	2020 inventory		2021 inventory	
	Irrigated area	Non-irrigated area or without irrigation information	Irrigated area	Non-irrigated area or without irrigation information
	(hectares)	(hectares)	(hectares)	(hectares)
<b>North</b>				
Triângulo Mineiro.....	21,781	5,421	22,151	5,530
Bebedouro.....	35,089	17,720	34,734	17,608
Altinópolis.....	962	10,280	991	10,912
<b>Subtotal .....</b>	<b>57,832</b>	<b>33,421</b>	<b>57,876</b>	<b>34,050</b>
<b>Northwest</b>				
Votuporanga.....	5,771	11,215	5,003	9,796
São José do Rio Preto.....	10,599	13,737	10,639	13,869
<b>Subtotal.....</b>	<b>16,370</b>	<b>24,952</b>	<b>15,643</b>	<b>23,664</b>
<b>Central</b>				
Matão.....	16,487	21,020	15,992	20,505
Duartina.....	9,166	45,005	9,265	46,174
Brotas.....	1,261	17,234	1,086	15,419
<b>Subtotal.....</b>	<b>26,914</b>	<b>83,259</b>	<b>26,343</b>	<b>82,098</b>
<b>South</b>				
Porto Ferreira.....	8,075	32,848	7,221	29,753
Limeira.....	4,906	32,066	4,619	30,775
<b>Subtotal.....</b>	<b>12,981</b>	<b>64,914</b>	<b>11,840</b>	<b>60,528</b>
<b>Southwest</b>				
Avaré.....	4,913	49,624	4,796	49,830
Itapetininga.....	246	20,245	195	20,306
<b>Subtotal .....</b>	<b>5,159</b>	<b>69,869</b>	<b>4,991</b>	<b>70,136</b>
<b>Total.....</b>	<b>119,255</b>	<b>276,416</b>	<b>116,693</b>	<b>270,476</b>
<b>Percentage.....</b>	<b>30.14</b>	<b>69.86</b>	<b>30.14</b>	<b>69.86</b>

**Table 80 – Oranges: Area of irrigated and non-irrigated groves and of groves with no information on irrigation, by variety<sup>1</sup> [2020 and 2021 inventories]**

Variety	2020 inventory		2021 inventory	
	Irrigated area	Non-irrigated area or without irrigation information	Irrigated area	Non-irrigated area or without irrigation information
	(hectares)	(hectares)	(hectares)	(hectares)
<b>Early</b>				
Hamlin.....	15,188	33,473	15,074	33,283
Westin.....	1,622	4,551	1,609	4,525
Rubi.....	2,383	5,678	2,515	6,004
Valencia Americana.....	5,664	11,409	6,439	12,992
Seleta.....	28	117	32	134
Pineapple.....	968	1,250	1,001	1,296
<b>Subtotal.....</b>	<b>25,853</b>	<b>56,478</b>	<b>26,670</b>	<b>58,234</b>
<b>Mid-season</b>				
Pera Rio .....	41,110	93,645	40,409	92,221
<b>Subtotal.....</b>	<b>41,110</b>	<b>93,645</b>	<b>40,409</b>	<b>92,221</b>
<b>Late</b>				
Valencia.....	33,105	82,874	31,211	78,290
Valencia Folha Murcha.....	4,080	12,272	3,921	11,821
Natal.....	15,107	31,147	14,482	29,910
<b>Subtotal.....</b>	<b>52,292</b>	<b>126,293</b>	<b>49,614</b>	<b>120,021</b>
<b>Total.....</b>	<b>119,255</b>	<b>276,416</b>	<b>116,693</b>	<b>270,476</b>

<sup>1</sup> Data will be updated in the next mapping.**Table 81– Oranges: Area of irrigated and non-irrigated groves and of groves with no information on irrigation, by age groups<sup>1</sup> [2020 and 2021 inventories]**

Grove age	2020 inventory		2021 inventory	
	Irrigated area	Non-irrigated area or without irrigation information	Irrigated area	Non-irrigated area or without irrigation information
	(hectares)	(hectares)	(hectares)	(hectares)
1 – 2 years.....	6,603	24,624	8,723	32,323
3 – 5 years.....	15,004	19,179	15,928	20,297
6 – 10 years.....	24,837	62,953	21,453	54,114
Over 10 years.....	72,811	169,660	70,589	163,742
<b>Total.....</b>	<b>119,255</b>	<b>276,416</b>	<b>116,693</b>	<b>270,476</b>

<sup>1</sup> Data will be updated in the next mapping.**Table 82 – Oranges: Area of irrigated groves by irrigation method<sup>1</sup> [2020 and 2021 inventories]**

Irrigation method	2020 inventory		2021 inventory	
	Irrigated area	Percentage	Irrigated area	Percentage
	(hectares)	(%)	(hectares)	(%)
Sprinkling.....	12,880	10.80	12,603	10.80
Localized.....	106,375	89.20	104,090	89.20
<b>Total.....</b>	<b>119,255</b>	<b>100.00</b>	<b>116,693</b>	<b>100.00</b>

<sup>1</sup> Data will be updated in the next mapping.

**Table 83 – Oranges: Average age<sup>1</sup> of mature groves by sector and region [2015 to 2021 inventories]**

Sector and region	2015 inventory <sup>2</sup>	2016 inventory <sup>3</sup>	2017 inventory <sup>4</sup>	2018 inventory <sup>5</sup>	2019 inventory <sup>6</sup>	2020 inventory <sup>7</sup>	2021 inventory <sup>7</sup>
	(years)						
<b>North</b>							
Triângulo Mineiro.....	11.1	7.8	8.6	9.3	10.0	10.5	11.1
Bebedouro.....	9.2	9.5	10.1	10.6	10.9	11.2	11.5
Altinópolis.....	9.5	10.3	11.0	11.6	12.0	12.8	12.9
<b>Average</b> .....	<b>9.6</b>	<b>9.1</b>	<b>9.8</b>	<b>10.3</b>	<b>10.8</b>	<b>11.2</b>	<b>11.5</b>
<b>Northwest</b>							
Votuporanga.....	7.9	8.3	8.9	9.5	10.1	9.5	9.1
São José do Rio Preto.....	8.0	8.0	7.9	8.5	8.3	8.7	9.2
<b>Average</b> .....	<b>7.9</b>	<b>8.2</b>	<b>8.3</b>	<b>8.9</b>	<b>9.0</b>	<b>9.0</b>	<b>9.1</b>
<b>Central</b>							
Matão.....	9.3	8.9	9.4	9.0	9.2	9.8	10.0
Duartina.....	9.6	9.3	9.8	9.5	10.1	10.3	10.2
Brotas.....	7.6	10.9	11.5	12.7	13.3	13.8	13.1
<b>Average</b> .....	<b>9.0</b>	<b>9.4</b>	<b>9.9</b>	<b>9.8</b>	<b>10.3</b>	<b>10.6</b>	<b>10.5</b>
<b>South</b>							
Porto Ferreira.....	10.2	9.9	10.6	11.4	11.6	11.8	11.5
Limeira.....	10.6	11.7	12.5	12.1	12.7	12.9	13.1
<b>Average</b> .....	<b>10.3</b>	<b>10.8</b>	<b>11.6</b>	<b>11.8</b>	<b>12.1</b>	<b>12.3</b>	<b>12.3</b>
<b>Southwest</b>							
Avaré.....	11.7	10.7	11.6	12.2	12.9	13.1	12.7
Itapetininga.....	11.2	10.6	10.5	9.5	9.3	9.0	8.6
<b>Average</b> .....	<b>11.5</b>	<b>10.7</b>	<b>11.3</b>	<b>11.4</b>	<b>11.8</b>	<b>11.8</b>	<b>11.4</b>
<b>Average</b> .....	<b>9.8</b>	<b>9.8</b>	<b>10.3</b>	<b>10.5</b>	<b>10.9</b>	<b>11.2</b>	<b>11.1</b>

<sup>1</sup> Average age weighted by sector trees.

<sup>2</sup> Groves planted in 2012 and previous years.

<sup>3</sup> Groves planted in 2013 and previous years.

<sup>4</sup> Groves planted in 2014 and previous years.

<sup>5</sup> Groves planted in 2015 and previous years.

<sup>6</sup> Groves planted in 2016 and previous years.

<sup>7</sup> Groves planted in 2017 and previous years.

<sup>8</sup> Groves planted in 2018 and previous years.

**Table 84 – Oranges: Area of eradicated groves, eradication and renovation rates by sector and region [2020 and 2021 inventories]**

Sector and region	2020 inventory accumulated <sup>1</sup>				2021 inventory <sup>2</sup>				Total <sup>3</sup>			
	Eradication		Renovation	Net loss	Eradication		Renovation	Net loss	Eradication		Renovation	Net loss
	Area	Rate	Area	Rate	Area	Rate	Area	Area	Area	Rate	Area	Area
(ha)	(%)	(ha)	(ha)	(%)	(ha)	(%)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)
<b>North</b>												
Triângulo Mineiro.....	793	2.96	768	25	599	2.20	529	70	1,392	5.16	1,297	95
Bebedouro.....	2,958	5.69	1,807	1,151	2,920	5.53	2,556	364	5,878	11.22	4,363	1,515
Altinópolis.....	421	3.74	194	227	105	0.93	102	3	526	4.67	296	230
<b>Subtotal.....</b>	<b>4,172</b>	<b>4.64</b>	<b>2,769</b>	<b>1,403</b>	<b>3,624</b>	<b>3.97</b>	<b>3,187</b>	<b>437</b>	<b>7,796</b>	<b>8.61</b>	<b>5,956</b>	<b>1,840</b>
<b>Northwest</b>												
Votuporanga.....	3,127	16.31	520	2,607	3,545	20.87	336	3,209	6,672	37.19	856	5,816
S. J. do Rio Preto.....	1,452	6.28	730	722	779	3.20	695	84	2,231	9.48	1,425	806
<b>Subtotal.....</b>	<b>4,579</b>	<b>10.73</b>	<b>1,250</b>	<b>3,329</b>	<b>4,324</b>	<b>10.46</b>	<b>1,031</b>	<b>3,293</b>	<b>8,903</b>	<b>21.19</b>	<b>2,281</b>	<b>6,622</b>
<b>Central</b>												
Matão.....	5,232	13.06	493	4,739	2,739	7.30	1,637	1,102	7,971	20.36	2,130	5,841
Duartina.....	5,145	9.51	854	4,291	1,840	3.40	1,808	32	6,985	12.91	2,662	4,323
Brotas.....	239	1.27	102	137	2,918	15.78	644	2,274	3,157	17.05	746	2,411
<b>Subtotal.....</b>	<b>10,616</b>	<b>9.39</b>	<b>1,449</b>	<b>9,167</b>	<b>7,497</b>	<b>6.80</b>	<b>4,089</b>	<b>3,408</b>	<b>18,113</b>	<b>16.20</b>	<b>5,538</b>	<b>12,575</b>
<b>South</b>												
Porto Ferreira.....	2,966	7.35	747	2,219	5,797	14.17	1,605	4,192	8,763	21.51	2,352	6,411
Limeira.....	5,529	13.96	853	4,676	3,026	8.18	1,032	1,994	8,555	22.14	1,885	6,670
<b>Subtotal.....</b>	<b>8,495</b>	<b>10.61</b>	<b>1,600</b>	<b>6,895</b>	<b>8,823</b>	<b>11.33</b>	<b>2,637</b>	<b>6,186</b>	<b>17,318</b>	<b>21.94</b>	<b>4,237</b>	<b>13,081</b>
<b>Southwest</b>												
Avaré.....	2,886	5.28	1,140	1,746	2,469	4.53	344	2,125	5,355	9.81	1,484	3,871
Itapetininga.....	2,099	10.81	1,126	973	2,001	9.77	1,454	547	4,100	20.57	2,580	1,520
<b>Subtotal.....</b>	<b>4,985</b>	<b>6.74</b>	<b>2,266</b>	<b>2,719</b>	<b>4,470</b>	<b>5.96</b>	<b>1,798</b>	<b>2,672</b>	<b>9,455</b>	<b>12.70</b>	<b>4,064</b>	<b>5,391</b>
<b>Total.....</b>	<b>32,847</b>	<b>8.23</b>	<b>9,334</b>	<b>23,513</b>	<b>28,738</b>	<b>7.26</b>	<b>12,742</b>	<b>15,996</b>	<b>61,585</b>	<b>15.50</b>	<b>22,076</b>	<b>39,509</b>

<sup>1</sup> April 2018 to March 2020.

<sup>2</sup> April 2020 to March 2021.

<sup>3</sup> April 2018 to March 2021.

**Table 85 – Oranges: Area of eradicated groves, eradication and renovation rates by variety [2020 and 2021 inventories]**

Variety	2020 inventory accumulated <sup>1</sup>				2021 inventory <sup>2</sup>				Total <sup>3</sup>			
	Eradication		Renovation	Net loss	Eradication		Renovation	Net loss	Eradication		Renovation	Net loss
	Area	Rate	Area	Rate	Area	Rate	Area	Area	Area	Rate	Area	Area
(ha)	(%)	(ha)	(ha)	(%)	(ha)	(%)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)
<b>Early</b>												
Hamlin, Westin,	5,153	8.09	2,228	2,925	2,924	4.65	1,925	999	8,077	12.74	4,153	3,924
Other earlies.....	2,618	13.19	877	1,741	-424	-	537	-961	2,194	11.01	1,414	780
<b>Mid-season</b>												
Pera Rio.....	11,622	8.54	3,651	7,971	11,174	8.29	6,273	4,901	22,796	16.83	9,924	12,872
<b>Late</b>												
Valencia and Valencia	9,824	7.32	1,680	8,144	11,255	8.51	2,927	8,328	21,079	15.83	4,607	16,472
Folha Murcha.....												
Natal.....	3,630	7.85	898	2,732	3,809	8.23	1,080	2,729	7,439	16.08	1,978	5,461
<b>Total.....</b>	<b>32,847</b>	<b>8.23</b>	<b>9,334</b>	<b>23,513</b>	<b>28,738</b>	<b>7.26</b>	<b>12,742</b>	<b>15,996</b>	<b>61,585</b>	<b>15.50</b>	<b>22,076</b>	<b>39,509</b>

<sup>1</sup> April 2018 to March 2020.

<sup>2</sup> April 2020 to March 2021.

<sup>3</sup> April 2018 to March 2021.

**Table 86 – Oranges: Area of eradicated groves, eradication and renovation rates by age group [2020 and 2021 inventories]**

Plot age	2020 inventory accumulated <sup>1</sup>			2021 inventory <sup>2</sup>			Total <sup>3</sup>				
	Eradication		Renovation	Net loss	Eradication		Renovation	Net loss	Eradication	Renovation	Net loss
	Area	Rate	Area	Area	Area	Rate	Area	Area	Rate	Area	Area
(ha)	(%)	(ha)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)	(%)	(ha)	(ha)
1 – 2 years.....	-	-	-	-	-	-	-	-	-	-	-
3 – 5 years.....	762	2.36	26	736	352	1.03	-	352	1,114	3.39	26
6 – 10 years.....	3,894	3.29	1,623	2,271	3,816	4.35	35	7,710	7.63	1,658	6,052
Over 10 years.....	28,191	12.45	7,685	24,570	10.13	12,707	11,86	22.58	20,392	32,369	
<b>Total.....</b>	<b>32,847</b>	<b>8.23</b>	<b>9,334</b>	<b>28,738</b>	<b>7.26</b>	<b>12,742</b>			<b>15.50</b>	<b>22,076</b>	<b>39,509</b>

- Represents zero.

<sup>1</sup> April 2018 to March 2020.

<sup>2</sup> April 2020 to March 2021.

<sup>3</sup> April 2018 to March 2021.

**Table 87 – Oranges: Area of eradicated groves and eradication rate stratified by farm size, considering the number of orange trees on the farm [2020 and 2021 inventories]**

Range of the number of orange trees in the farm	2020 inventory accumulated <sup>1</sup>			2021 inventory <sup>2</sup>			Total <sup>3</sup>				
	Eradication		Renovation	Net loss	Eradication		Renovation	Net loss	Eradication	Renovation	Net loss
	Area	Rate	Area	Area	Area	Rate	Area	Area	Rate	Area	Area
(thousand trees)	(ha)	(%)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)	(%)	(ha)	(ha)
Below 10.....	1,743	5.56	415	1,328	2,823	8.53	1,087	1,736	4,566	14.09	1,502
10 – 19.....	2,484	10.61	568	1,916	2,940	12.78	1,385	1,555	5,424	23.39	1,953
20 – 29.....	957	5.80	456	501	3,837	22.93	805	3,032	4,794	28.73	1,261
30 – 49.....	1,385	5.52	847	538	3,393	12.20	2,350	1,043	4,778	17.72	3,197
50 – 99.....	4,251	9.62	2,048	2,203	4,976	11.38	2,294	2,682	9,227	21.00	4,342
100 – 199.....	4,290	9.57	1,139	3,151	4,223	9.48	2,734	1,489	8,513	19.04	3,873
Above 200.....	17,737	8.27	3,861	13,876	6,546	3.17	2,087	4,459	24,283	11.43	5,948
<b>Total.....</b>	<b>32,847</b>	<b>8.23</b>	<b>9,334</b>	<b>23,513</b>	<b>28,738</b>	<b>7.26</b>	<b>12,742</b>	<b>15,996</b>	<b>61,585</b>	<b>15.50</b>	<b>22,076</b>
											<b>39,509</b>

<sup>1</sup> April 2018 to March 2020.

<sup>2</sup> April 2020 to March 2021.

<sup>3</sup> April 2018 to March 2021.

**Table 88 – Oranges: Dead trees and mortality rate by sector and region [2018, 2019, 2020 and 2021 inventories]**

Sector and region	2018 inventory		2019 inventory		2020 inventory		2021 inventory	
	Trees	Rate	Trees	Rate	Trees	Rate	Trees	Rate
	(1,000 trees)	(%)						
<b>North</b>								
Triângulo Mineiro.....	66.98	0.52	83.17	0.63	107.29	0.81	91.87	0.69
Bebedouro.....	249.00	0.99	210.41	0.79	356.64	1.33	156.23	0.60
Altinópolis.....	79.60	1.34	136.30	2.28	111.57	1.82	148.42	2.39
<b>Subtotal.....</b>	<b>395.58</b>	<b>0.90</b>	<b>429.88</b>	<b>0.94</b>	<b>575.50</b>	<b>1.25</b>	<b>396.52</b>	<b>0.87</b>
<b>Northwest</b>								
Votuporanga.....	150.03	1.61	271.07	3.15	168.83	2.09	158.17	2.28
S. J. do Rio Preto.....	155.17	1.31	133.46	1.06	240.50	1.83	257.88	1.94
<b>Subtotal.....</b>	<b>305.20</b>	<b>1.45</b>	<b>404.53</b>	<b>1.91</b>	<b>409.33</b>	<b>1.93</b>	<b>416.05</b>	<b>2.06</b>
<b>Central</b>								
Matão.....	166.99	0.78	305.46	1.47	611.65	2.95	284.74	1.39
Duartina.....	324.49	1.13	342.38	1.20	609.85	2.07	682.31	2.26
Brotas.....	204.18	2.14	200.96	2.11	204.00	2.22	162.82	1.97
<b>Subtotal.....</b>	<b>695.66</b>	<b>1.17</b>	<b>848.80</b>	<b>1.44</b>	<b>1,425.50</b>	<b>2.40</b>	<b>1,129.87</b>	<b>1.92</b>
<b>South</b>								
Porto Ferreira.....	312.34	1.49	186.46	0.90	282.42	1.30	301.27	1.47
Limeira.....	474.32	2.31	318.00	1.67	493.21	2.56	263.79	1.43
<b>Subtotal.....</b>	<b>786.66</b>	<b>1.90</b>	<b>504.46</b>	<b>1.27</b>	<b>775.63</b>	<b>1.89</b>	<b>565.06</b>	<b>1.45</b>
<b>Southwest</b>								
Avaré.....	574.08	1.95	307.15	1.03	913.55	3.07	527.93	1.77
Itapetininga.....	89.30	0.80	156.52	1.27	295.53	2.26	72.05	0.54
<b>Subtotal.....</b>	<b>663.38</b>	<b>1.63</b>	<b>463.67</b>	<b>1.10</b>	<b>1,209.08</b>	<b>2.83</b>	<b>599.98</b>	<b>1.39</b>
<b>Total.....</b>	<b>2,846.48</b>	<b>1.38</b>	<b>2,651.34</b>	<b>1.28</b>	<b>4,395.04</b>	<b>2.09</b>	<b>3,107.48</b>	<b>1.50</b>

**Table 89 – Oranges: Dead trees and mortality rate by variety [2018, 2019, 2020 and 2021 inventories]**

Variety	2018 inventory		2019 inventory		2020 inventory		2021 inventory	
	Trees	Rate	Trees	Rate	Trees	Rate	Trees	Rate
	(1,000 trees)	(%)						
<b>Early</b>								
Hamlin.....	345.94	1.43	414.30	1.74	738.07	3.02	426.84	1.79
Westin.....	52.12	1.70	39.69	1.41	67.67	2.17	44.95	1.47
Rubi.....	51.98	1.18	77.06	1.70	132.33	2.86	74.51	1.55
Valencia Americana.....	79.05	0.92	88.18	0.93	256.13	2.73	152.41	1.44
Seleta.....	0.70	0.77	0.29	0.33	1.42	1.93	2.86	3.37
Pineapple.....	2.14	0.18	15.80	1.10	75.12	5.08	10.61	0.70
<b>Subtotal.....</b>	<b>531.93</b>	<b>1.28</b>	<b>635.32</b>	<b>1.50</b>	<b>1,270.74</b>	<b>2.94</b>	<b>712.18</b>	<b>1.62</b>
<b>Mid-season</b>								
Pera Rio.....	1,158.28	1.56	1,121.15	1.48	1,690.11	2.22	1,299.41	1.72
<b>Subtotal.....</b>	<b>1,158.28</b>	<b>1.56</b>	<b>1,121.15</b>	<b>1.48</b>	<b>1,690.11</b>	<b>2.22</b>	<b>1,299.41</b>	<b>1.72</b>
<b>Late</b>								
Valencia.....	713.58	1.22	627.73	1.09	873.03	1.51	719.22	1.30
Valencia Folha Murcha.....	115.5	1.25	97.94	1.10	105.32	1.13	112.09	1.25
Natal.....	327.19	1.42	169.20	0.73	455.84	1.90	264.58	1.13
<b>Subtotal.....</b>	<b>1,156.27</b>	<b>1.28</b>	<b>894.87</b>	<b>1.00</b>	<b>1,434.19</b>	<b>1.57</b>	<b>1,095.89</b>	<b>1.25</b>
<b>Total.....</b>	<b>2,846.48</b>	<b>1.38</b>	<b>2,651.34</b>	<b>1.28</b>	<b>4,395.04</b>	<b>2.09</b>	<b>3,107.48</b>	<b>1.50</b>

**Table 90 – Oranges: Dead trees and mortality rate by age group [2018, 2019, 2020 and 2021 inventories]**

Age groves	2018 inventory		2019 inventory		2020 inventory		2021 inventory	
	Trees	Rate	Trees	Rate	Trees	Rate	Trees	Rate
	(1,000 trees)	(%)						
1 – 2 years.....	25.27	0.17	11.63	0.07	24.19	0.12	30.86	0.13
3 – 5 years.....	42.84	0.18	39.85	0.19	176.36	0.77	29.55	0.12
6 – 10 years.....	554.35	0.80	393.97	0.66	682.32	1.28	309.48	0.66
Over 10 years .....	2,224.02	2.29	2,205.89	2.00	3,512.17	3.06	2,737.59	2.45
<b>Total.....</b>	<b>2,846.48</b>	<b>1.38</b>	<b>2,651.34</b>	<b>1.28</b>	<b>4,395.04</b>	<b>2.09</b>	<b>3,107.48</b>	<b>1.50</b>

**Table 91 – Oranges: Vacancies by sector and region [2018 to 2021 inventories]**

Sector and region	2018 inventory		2019 inventory		2020 inventory		2021 inventory	
	Vacancies	Percentage	Vacancies	Percentage	Vacancies	Percentage	Vacancies	Percentage
	(1,000 holes)	(%)						
<b>North</b>								
Triângulo Mineiro.....	165.42	1.29	116.91	0.89	234.72	1.78	224.03	1.67
Bebedouro.....	783.02	3.12	852.32	3.22	872.17	3.25	741.00	2.82
Altinópolis.....	230.29	3.89	161.83	2.71	263.84	4.30	303.63	4.88
<b>Subtotal.....</b>	<b>1,178.73</b>	<b>2.69</b>	<b>1,131.06</b>	<b>2.48</b>	<b>1,370.73</b>	<b>2.97</b>	<b>1,268.66</b>	<b>2.77</b>
<b>Northwest</b>								
Votuporanga.....	314.99	3.39	356.90	4.15	364.63	4.52	241.71	3.48
S. J. do Rio Preto.....	437.31	3.70	427.31	3.41	533.09	4.06	522.77	3.93
<b>Subtotal.....</b>	<b>752.30</b>	<b>3.56</b>	<b>784.21</b>	<b>3.71</b>	<b>897.72</b>	<b>4.24</b>	<b>764.48</b>	<b>3.78</b>
<b>Central</b>								
Matão.....	1,121.38	5.27	1,333.33	6.41	1,022.83	4.93	1,428.07	6.96
Duartina.....	1,412.58	4.93	1,508.27	5.27	1,201.20	4.08	1,676.98	5.56
Brotas.....	545.29	5.72	582.93	6.13	432.25	4.70	497.99	6.03
<b>Subtotal.....</b>	<b>3,079.25</b>	<b>5.18</b>	<b>3,424.53</b>	<b>5.81</b>	<b>2,656.28</b>	<b>4.47</b>	<b>3,603.04</b>	<b>6.11</b>
<b>South</b>								
Porto Ferreira.....	1,185.73	5.66	1,117.48	5.40	1,136.22	5.24	1,045.93	5.12
Limeira.....	1,045.33	5.10	1,113.70	5.84	931.81	4.83	861.54	4.68
<b>Subtotal.....</b>	<b>2,231.06</b>	<b>5.38</b>	<b>2,231.18</b>	<b>5.61</b>	<b>2,068.03</b>	<b>5.05</b>	<b>1,907.47</b>	<b>4.91</b>
<b>Southwest</b>								
Avaré.....	1,709.49	5.79	1,737.32	5.84	1,150.69	3.87	1,745.05	5.85
Itapetininga.....	331.40	2.96	261.77	2.12	248.64	1.91	341.57	2.58
<b>Subtotal.....</b>	<b>2,040.89</b>	<b>5.02</b>	<b>1,999.09</b>	<b>4.75</b>	<b>1,399.33</b>	<b>3.27</b>	<b>2,086.62</b>	<b>4.84</b>
<b>Total.....</b>	<b>9,282.23</b>	<b>4.49</b>	<b>9,570.07</b>	<b>4.61</b>	<b>8,392.09</b>	<b>3.99</b>	<b>9,630.27</b>	<b>4.65</b>

**Table 92 – Oranges: Vacancies by variety [2018 to 2021 inventories]**

Variety	2018 inventory		2019 inventory		2020 inventory		2021 inventory	
	Vacancies	Percentage	Vacancies	Percentage	Vacancies	Percentage	Vacancies	Percentage
	(1,000 holes)	(%)						
<b>Early</b>								
Hamlin.....	1,176.62	4.85	1,288.55	5.40	1,109.18	4.53	1,499.49	6.30
Westin.....	176.84	5.76	154.40	5.49	148.63	4.76	184.16	6.01
Rubi.....	199.44	4.54	218.92	4.84	207.90	4.49	315.50	6.55
Valencia Americana.....	548.96	6.40	646.45	6.81	382.52	4.07	623.92	5.88
Seleta.....	4.77	5.24	4.68	5.33	5.53	7.53	6.51	7.67
Pineapple.....	27.24	2.33	21.58	1.50	20.99	1.42	65.51	4.34
<b>Subtotal.....</b>	<b>2,133.87</b>	<b>5.14</b>	<b>2,334.58</b>	<b>5.53</b>	<b>1,874.75</b>	<b>4.34</b>	<b>2,695.09</b>	<b>6.14</b>
<b>Mid-season</b>								
Pera Rio.....	3,122.28	4.20	3,264.58	4.31	3,249.25	4.26	3,127.90	4.15
<b>Subtotal.....</b>	<b>3,122.28</b>	<b>4.20</b>	<b>3,264.58</b>	<b>4.31</b>	<b>3,249.25</b>	<b>4.26</b>	<b>3,127.90</b>	<b>4.15</b>
<b>Late</b>								
Valencia.....	2,563.32	4.39	2,484.80	4.32	1,919.37	3.32	2,246.68	4.05
Valencia Folha Murcha....	396.72	4.31	412.50	4.62	395.37	4.26	345.16	3.85
Natal.....	1,066.04	4.62	1,073.61	4.65	953.35	3.97	1,215.44	5.21
<b>Subtotal.....</b>	<b>4,026.08</b>	<b>4.44</b>	<b>3,970.91</b>	<b>4.44</b>	<b>3,268.09</b>	<b>3.59</b>	<b>3,807.28</b>	<b>4.34</b>
<b>Total.....</b>	<b>9,282.23</b>	<b>4.49</b>	<b>9,570.07</b>	<b>4.61</b>	<b>8,392.09</b>	<b>3.99</b>	<b>9,630.27</b>	<b>4.65</b>

**Table 93 – Oranges: Vacancies by age group [2018 to 2021 inventories]**

Groves age	2018 inventory		2019 inventory		2020 inventory		2021 inventory	
	Vacancies	Percentage	Vacancies	Percentage	Vacancies	Percentage	Vacancies	Percentage
	(1,000 holes)	(%)						
1 – 2 years.....	121.30	0.79	68.33	0.40	9.00	0.05	78.93	0.32
3 – 5 years.....	475.06	1.95	469.40	2.26	348.21	1.52	487.67	2.05
6 – 10 years.....	2,491.35	3.58	2,084.41	3.50	1,774.43	3.33	1,676.86	3.57
Over 10 year.....	6,194.52	6.37	6,947.93	6.30	6,260.45	5.45	7,386.81	6.61
<b>Total.....</b>	<b>9,282.23</b>	<b>4.49</b>	<b>9,570.07</b>	<b>4.61</b>	<b>8,392.09</b>	<b>3.99</b>	<b>9,630.27</b>	<b>4.65</b>

**Table 94 – Other oranges<sup>1</sup>: Area and number of trees by region, variety and age [2021 inventory] (continues next page)**

Region and variety	Area (hectares)	Trees 0 – 2 years			Trees 3 – 5 years (1,000 trees)	Trees 6 – 10 years (1,000 trees)	Trees over 10 years (1,000 trees)	Total (1,000 trees)
		2019 (1,000 trees)	2020 (1,000 trees)	Resets (1,000 trees)				
<b>Triângulo Mineiro</b>								
Washington Navel and Baianinha.....	37	-	0.50	0.18	4.02	1.99	9.49	16.18
Charmute de Brotas.....	5	-	-	-	-	-	2.44	2.44
Acidless sweet oranges and sweet lime <sup>2</sup> .....	19	-	-	0.30	0.27	3.31	4.99	8.87
Other.....	6	0.25	0.14	0.13	0.01	1.71	0.65	2.89
<b>Subtotal.....</b>	<b>67</b>	<b>0.25</b>	<b>0.64</b>	<b>0.61</b>	<b>4.30</b>	<b>7.01</b>	<b>17.57</b>	<b>30.38</b>
<b>Bebedouro</b>								
Washington Navel and Baianinha.....	38	0.50	0.40	-	5.06	2.22	8.54	16.72
Charmute de Brotas.....	4	-	-	0.01	-	-	1.49	1.50
Acidless sweet oranges and sweet lime <sup>2</sup> .....	491	10.79	8.69	0.22	37.19	104.65	56.65	218.19
Other.....	187	24.60	2.73	0.06	35.11	43.49	13.83	119.82
<b>Subtotal.....</b>	<b>720</b>	<b>35.89</b>	<b>11.82</b>	<b>0.29</b>	<b>77.36</b>	<b>150.36</b>	<b>80.51</b>	<b>356.23</b>
<b>Altinópolis</b>								
Washington Navel and Baianinha.....	30	-	-	-	10.80	0.22	4.06	15.08
Charmute de Brotas.....	49	-	-	-	0.01	0.57	18.50	19.08
Acidless sweet oranges and sweet lime <sup>2</sup> .....	117	2.50	-	0.11	9.34	20.33	20.36	52.64
Other.....	11	4.30	-	-	-	0.05	1.55	5.90
<b>Subtotal.....</b>	<b>207</b>	<b>6.80</b>	-	<b>0.11</b>	<b>20.15</b>	<b>21.17</b>	<b>44.47</b>	<b>92.70</b>
<b>Votuporanga</b>								
Washington Navel and Baianinha.....	20	1.40	1.08	0.07	4.52	0.01	3.85	10.93
Charmute de Brotas.....	-	0.10	-	-	-	-	-	0.10
Acidless sweet oranges and sweet lime <sup>2</sup> .....	210	5.60	-	0.42	26.74	55.52	25.20	113.48
Other.....	99	43.36	-	0.01	0.80	2.19	7.02	53.38
<b>Subtotal.....</b>	<b>329</b>	<b>50.46</b>	<b>1.08</b>	<b>0.50</b>	<b>32.06</b>	<b>57.72</b>	<b>36.07</b>	<b>177.89</b>
<b>São José do Rio Preto</b>								
Washington Navel and Baianinha.....	32	0.32	-	1.12	2.26	8.58	2.84	15.12
Charmute de Brotas.....	1	-	-	0.03	0.09	0.42	-	0.54
Acidless sweet oranges and sweet lime <sup>2</sup> .....	36	0.52	-	1.98	3.37	7.52	7.67	21.06
Other.....	178	49.32	0.02	0.18	91.51	7.19	0.13	148.35
<b>Subtotal.....</b>	<b>247</b>	<b>50.16</b>	<b>0.02</b>	<b>3.31</b>	<b>97.23</b>	<b>23.71</b>	<b>10.64</b>	<b>185.07</b>
<b>Matão</b>								
Washington Navel and Baianinha.....	45	-	29.60	0.04	2.37	0.54	0.66	33.21
Charmute de Brotas.....	10	-	-	0.13	3.10	2.55	0.77	6.55
Acidless sweet oranges and sweet lime <sup>2</sup> .....	495	4.42	10.87	6.60	22.09	154.44	72.20	270.62
Other.....	106	9.21	26.76	3.06	45.99	3.00	1.75	89.77
<b>Subtotal.....</b>	<b>656</b>	<b>13.63</b>	<b>67.23</b>	<b>9.83</b>	<b>73.55</b>	<b>160.53</b>	<b>75.38</b>	<b>400.15</b>

**Table 94 – Other oranges<sup>1</sup>: Area and number of trees by region, variety and age [2021 inventory] (continued)**

Region and variety	Area (hectares)	Trees 0 – 2 years			Trees 3 – 5 years (1,000 trees)	Trees 6 – 10 years (1,000 trees)	Trees over 10 years (1,000 trees)	Total (1,000 trees)
		2019 (1,000 trees)	2020 (1,000 trees)	Resets (1,000 trees)				
<b>Duartina</b>								
Washington Navel and Baianinha.....	64	1.38	5.05	0.67	7.35	21.96	4.98	41.39
Charmute de Brotas.....	249	0.67	1.66	0.54	0.42	18.21	61.50	83.00
Acidless sweet oranges and sweet lime <sup>2</sup> ...	541	8.62	3.38	3.68	34.50	120.13	89.70	260.01
Other.....	275	126.47	8.11	0.09	62.23	0.75	-	197.65
<b>Subtotal.....</b>	<b>1,129</b>	<b>137.14</b>	<b>18.20</b>	<b>4.98</b>	<b>104.50</b>	<b>161.05</b>	<b>156.18</b>	<b>582.05</b>
<b>Brotas</b>								
Washington Navel and Baianinha.....	34	-	6.50	0.10	1.45	7.51	2.98	18.54
Charmute de Brotas.....	304	-	-	0.72	11.79	14.90	73.02	100.43
Acidless sweet oranges and sweet lime <sup>2</sup> ...	404	19.57	9.24	1.66	26.32	63.68	67.95	188.42
Other.....	155	7.12	-	0.08	0.72	22.54	29.80	60.26
<b>Subtotal.....</b>	<b>897</b>	<b>26.69</b>	<b>15.74</b>	<b>2.56</b>	<b>40.28</b>	<b>108.63</b>	<b>173.75</b>	<b>367.65</b>
<b>Porto Ferreira</b>								
Washington Navel and Baianinha.....	454	8.84	14.00	9.21	41.70	56.71	80.75	211.21
Charmute de Brotas.....	292	-	5.74	3.55	11.27	27.60	71.32	119.48
Acidless sweet oranges and sweet lime <sup>2</sup> ...	1,787	21.31	40.77	29.01	149.93	162.79	397.02	800.83
Other.....	141	27.68	4.74	2.68	25.08	1.62	1.96	63.76
<b>Subtotal.....</b>	<b>2,674</b>	<b>57.83</b>	<b>65.25</b>	<b>44.45</b>	<b>227.98</b>	<b>248.72</b>	<b>551.05</b>	<b>1,195.28</b>
<b>Limeira</b>								
Washington Navel and Baianinha.....	633	3.73	20.36	3.70	105.62	61.99	127.42	322.82
Charmute de Brotas.....	293	1.53	1.88	0.89	42.73	34.36	68.33	149.72
Acidless sweet oranges and sweet lime <sup>2</sup> ...	1,405	44.15	9.32	3.82	167.38	154.72	369.28	748.67
Other.....	415	38.09	1.38	5.46	40.65	138.01	41.36	264.95
<b>Subtotal.....</b>	<b>2,746</b>	<b>87.50</b>	<b>32.94</b>	<b>13.87</b>	<b>356.38</b>	<b>389.08</b>	<b>606.39</b>	<b>1,486.16</b>
<b>Avaré</b>								
Washington Navel and Baianinha.....	866	14.65	46.39	18.65	53.06	54.03	204.64	391.42
Charmute de Brotas.....	344	3.28	12.21	9.51	10.25	18.44	92.66	146.35
Acidless sweet oranges and sweet lime <sup>2</sup> ...	969	59.00	5.72	29.75	92.53	53.39	213.80	454.19
Other.....	268	84.72	33.94	7.16	42.76	0.79	5.76	175.13
<b>Subtotal.....</b>	<b>2,447</b>	<b>161.65</b>	<b>98.26</b>	<b>65.07</b>	<b>198.60</b>	<b>126.65</b>	<b>516.86</b>	<b>1,167.09</b>
<b>Itapetininga</b>								
Washington Navel and Baianinha.....	288	0.67	3.74	5.32	19.71	61.38	57.79	148.61
Charmute de Brotas.....	71	0.28	8.56	1.79	11.70	18.19	3.07	43.59
Acidless sweet oranges and sweet lime <sup>2</sup> ...	96	5.43	0.02	2.46	6.07	29.21	11.83	55.02
Other.....	573	26.84	24.31	1.65	373.81	83.85	2.53	512.99
<b>Subtotal.....</b>	<b>1,028</b>	<b>33.22</b>	<b>36.63</b>	<b>11.22</b>	<b>411.29</b>	<b>192.63</b>	<b>75.22</b>	<b>760.21</b>
<b>Total.....</b>	<b>13,147</b>	<b>661.22</b>	<b>347.81</b>	<b>156.80</b>	<b>1,643.68</b>	<b>1,647.26</b>	<b>2,344.09</b>	<b>6,800.86</b>

<sup>1</sup> Resets were considered as old as the original planted grove.

<sup>2</sup> Acidless sweet oranges: Lima Verde, Lima Tardia, Piralima, Lima Sorocaba, Lima Roque and João Nunes.

Sweet lime: Palestine sweet lime.

**Table 95—Acid limes and lemons: Area and planting holes estimated<sup>1</sup> by region, variety and age of plot [2018 inventory]**

Region and variety	Area	Plots 0 – 2 years		Plots 3 – 5 years	Plots 6 – 10 years	Plots over 10 years	Plots of non- identified age	Total
		2016	2017					
	(hectares)	(1,000 holes)	(1,000 holes)	(1,000 holes)	(1,000 holes)	(1,000 holes)	(1,000 holes)	(1,000 holes)
<b>Triângulo Mineiro</b>								
Tahiti acid lime .....	369	4.76	-	73.58	76.16	52.99	-	207.49
Sicilian lemon.....	-	-	-	-	-	-	-	-
Other including non-identified ones	-	-	-	-	-	-	-	-
<b>Subtotal.....</b>	<b>369</b>	<b>4.76</b>	<b>-</b>	<b>73.58</b>	<b>76.16</b>	<b>52.99</b>	<b>-</b>	<b>207.49</b>
<b>Bebedouro</b>								
Tahiti acid lime .....	14,881	527.99	612.93	1,409.39	2,414.03	937.61	42.14	5,944.09
Sicilian lemon.....	74	1.98	8.22	8.68	30.84	0.35	-	50.07
Other including non-identified ones	100	1.03	-	8.69	27.02	5.04	3.25	45.03
<b>Subtotal.....</b>	<b>15,055</b>	<b>531.00</b>	<b>621.15</b>	<b>1,426.76</b>	<b>2,471.89</b>	<b>943.00</b>	<b>45.39</b>	<b>6,039.19</b>
<b>Altinópolis</b>								
Tahiti acid lime .....	45	3.19	4.65	1.31	7.81	2.65	4.23	23.84
Sicilian lemon.....	-	-	-	-	-	-	-	-
Other including non-identified ones	-	-	-	0.59	-	-	-	0.59
<b>Subtotal.....</b>	<b>45</b>	<b>3.19</b>	<b>4.65</b>	<b>1.90</b>	<b>7.81</b>	<b>2.65</b>	<b>4.23</b>	<b>24.43</b>
<b>Votuporanga</b>								
Tahiti acid lime .....	3,762	101.49	195.81	325.18	415.35	245.70	73.54	1,357.07
Sicilian lemon.....	1	-	-	-	-	0.43	-	0.43
Other including non-identified ones	8	-	4.87	1.14	-	-	0.56	6.57
<b>Subtotal.....</b>	<b>3,771</b>	<b>101.49</b>	<b>200.68</b>	<b>326.32</b>	<b>415.35</b>	<b>246.13</b>	<b>74.10</b>	<b>1,364.07</b>
<b>São José do Rio Preto</b>								
Tahiti acid lime .....	996	42.09	20.57	60.77	67.15	143.67	16.58	350.83
Sicilian lemon.....	1	-	-	0.52	-	-	-	0.52
Other including non-identified ones	-	-	-	-	-	-	-	-
<b>Subtotal.....</b>	<b>997</b>	<b>42.09</b>	<b>20.57</b>	<b>61.29</b>	<b>67.15</b>	<b>143.67</b>	<b>16.58</b>	<b>351.35</b>
<b>Matão</b>								
Tahiti acid lime .....	10,179	479.49	763.09	1,159.91	1,101.25	1,122.12	16.32	4,642.18
Sicilian lemon.....	37	-	15.14	-	0.26	-	-	15.40
Other including non-identified ones	122	13.98	2.83	18.73	16.02	0.61	1.68	53.85
<b>Subtotal.....</b>	<b>10,338</b>	<b>493.47</b>	<b>781.06</b>	<b>1,178.64</b>	<b>1,117.53</b>	<b>1,122.73</b>	<b>18.00</b>	<b>4,711.43</b>
<b>Duartina</b>								
Tahiti acid lime .....	446	23.99	7.73	99.79	19.09	41.00	18.35	209.95
Sicilian lemon.....	489	12.82	35.89	14.91	175.03	0.95	12.61	252.21
Other including non-identified ones	14	0.13	0.71	6.30	-	-	1.38	8.52
<b>Subtotal.....</b>	<b>949</b>	<b>36.94</b>	<b>44.33</b>	<b>121.00</b>	<b>194.12</b>	<b>41.95</b>	<b>32.34</b>	<b>470.68</b>
<b>Brotas</b>								
Tahiti acid lime .....	62	10.07	2.01	2.28	6.80	5.85	8.67	35.68
Sicilian lemon.....	368	0.40	1.49	84.39	2.79	38.00	5.87	132.94
Other including non-identified ones	138	0.25	-	15.67	7.39	22.11	-	45.42
<b>Subtotal.....</b>	<b>568</b>	<b>10.72</b>	<b>3.50</b>	<b>102.34</b>	<b>16.98</b>	<b>65.96</b>	<b>14.54</b>	<b>214.04</b>
<b>Porto Ferreira</b>								
Tahiti acid lime .....	639	40.24	34.27	65.82	173.30	48.70	0.84	363.17
Sicilian lemon.....	495	53.33	58.36	71.79	57.04	6.85	-	247.37
Other including non-identified ones	20	7.15	-	1.88	1.92	-	-	10.95
<b>Subtotal.....</b>	<b>1,154</b>	<b>100.72</b>	<b>92.63</b>	<b>139.49</b>	<b>232.26</b>	<b>55.55</b>	<b>0.84</b>	<b>621.49</b>
<b>Limeira</b>								
Tahiti acid lime .....	3,629	119.32	214.31	380.42	507.02	334.80	34.08	1,589.95
Sicilian lemon.....	657	64.11	22.03	92.78	178.92	4.96	2.24	365.04
Other including non-identified ones	22	0.06	2.83	2.89	1.87	3.56	-	11.21
<b>Subtotal.....</b>	<b>4,308</b>	<b>183.49</b>	<b>239.17</b>	<b>476.09</b>	<b>687.81</b>	<b>343.32</b>	<b>36.32</b>	<b>1,966.20</b>
<b>Avaré</b>								
Tahiti acid lime .....	35	2.05	1.35	8.05	4.28	0.78	1.99	18.50
Sicilian lemon.....	1,343	43.18	26.40	98.93	445.28	12.71	-	626.50
Other including non-identified ones	-	-	-	-	-	-	-	-
<b>Subtotal.....</b>	<b>1,378</b>	<b>45.23</b>	<b>27.75</b>	<b>106.98</b>	<b>449.56</b>	<b>13.49</b>	<b>1.99</b>	<b>645.00</b>
<b>Itapetininga</b>								
Tahiti acid lime .....	33	-	-	12.14	4.36	-	4.97	21.47
Sicilian lemon.....	112	-	-	9.12	30.35	-	2.30	41.77
Other including non-identified ones	1	-	-	1.14	-	-	-	1.14
<b>Subtotal.....</b>	<b>146</b>	<b>-</b>	<b>-</b>	<b>22.40</b>	<b>34.71</b>	<b>-</b>	<b>7.27</b>	<b>64.38</b>
<b>Total.....</b>	<b>39,078</b>	<b>1,553.10</b>	<b>2,035.49</b>	<b>4,036.79</b>	<b>5,771.33</b>	<b>3,031.44</b>	<b>251.60</b>	<b>16,679.75</b>

<sup>1</sup> The method employed for mapping groves of acid limes and lemons was reduced to the outline of the plots, and data about variety and number of trees were supplied by the farmer or person in charge. Whenever such information was not provided, the number of holes was calculated by the area of the plot divided by the spacing, which was identified by visual evaluation. The counting of 5% of the plots was not performed for this group of citrus species.

**Table 96 – Tangerines: Area and planting holes<sup>1</sup> estimated by region, variety and age of plot [2018 inventory]**

Region and variety	Area	Plots 0 – 2 years		Plots 3 – 5 years	Plots 6 – 10 years	Plots over 10 years	Plots of non- identified age	Total
		2016	2017					
	(hectares)	(1,000 holes)	(1,000 holes)	(1,000 holes)	(1,000 holes)	(1,000 holes)	(1,000 holes)	(1,000 holes)
<b>Triângulo Mineiro</b>								
Ponkan.....	176	2.14	11.11	15.63	10.71	34.39	2.47	76.45
Murcott.....	14	-	-	-	0.87	3.82	-	4.69
Other.....	44	0.47	-	0.64	11.63	9.03	0.97	22.74
<b>Subtotal.....</b>	<b>234</b>	<b>2.61</b>	<b>11.11</b>	<b>16.27</b>	<b>23.21</b>	<b>47.24</b>	<b>3.44</b>	<b>103.88</b>
<b>Bebedouro</b>								
Ponkan.....	914	65.70	43.55	115.08	199.41	53.35	20.22	497.31
Murcott.....	281	12.89	14.19	20.62	57.73	30.50	2.23	138.16
Other.....	159	6.60	19.80	17.45	19.88	12.00	1.10	76.83
<b>Subtotal.....</b>	<b>1,354</b>	<b>85.19</b>	<b>77.54</b>	<b>153.15</b>	<b>277.02</b>	<b>95.85</b>	<b>23.55</b>	<b>712.30</b>
<b>Altinópolis</b>								
Ponkan.....	104	1.16	30.18	17.84	11.66	5.01	0.43	66.28
Murcott.....	80	-	-	11.66	18.85	4.39	-	34.90
Other.....	16	-	-	3.10	-	1.96	3.19	8.25
<b>Subtotal.....</b>	<b>200</b>	<b>1.16</b>	<b>30.18</b>	<b>32.60</b>	<b>30.51</b>	<b>11.36</b>	<b>3.62</b>	<b>109.43</b>
<b>Votuporanga</b>								
Ponkan.....	945	28.60	65.65	176.44	122.64	45.52	68.20	507.05
Murcott.....	83	19.14	5.10	19.31	1.47	-	-	45.02
Other.....	58	4.08	9.48	14.61	4.21	1.40	1.63	35.41
<b>Subtotal.....</b>	<b>1,086</b>	<b>51.82</b>	<b>80.23</b>	<b>210.36</b>	<b>128.32</b>	<b>46.92</b>	<b>69.83</b>	<b>587.48</b>
<b>São José do Rio Preto</b>								
Ponkan.....	337	9.46	24.14	60.74	54.23	48.00	2.99	199.56
Murcott.....	81	0.30	-	-	2.19	25.17	-	27.66
Other.....	30	2.45	-	12.49	3.27	0.79	0.31	19.31
<b>Subtotal.....</b>	<b>448</b>	<b>12.21</b>	<b>24.14</b>	<b>73.23</b>	<b>59.69</b>	<b>73.96</b>	<b>3.30</b>	<b>246.53</b>
<b>Matão</b>								
Ponkan.....	321	30.94	2.55	63.77	28.23	27.59	19.14	172.22
Murcott.....	433	29.26	5.80	82.25	11.17	86.05	3.82	218.35
Other.....	35	0.95	-	12.05	3.95	2.61	1.21	20.77
<b>Subtotal.....</b>	<b>789</b>	<b>61.15</b>	<b>8.35</b>	<b>158.07</b>	<b>43.35</b>	<b>116.25</b>	<b>24.17</b>	<b>411.34</b>
<b>Duartina</b>								
Ponkan.....	351	37.20	0.45	102.14	23.08	39.29	4.97	207.13
Murcott.....	865	34.69	-	31.29	23.82	253.89	-	343.69
Other.....	202	0.52	0.76	9.04	183.09	3.27	0.49	197.17
<b>Subtotal.....</b>	<b>1,418</b>	<b>72.41</b>	<b>1.21</b>	<b>142.47</b>	<b>229.99</b>	<b>296.45</b>	<b>5.46</b>	<b>747.99</b>
<b>Brotas</b>								
Ponkan.....	34	3.09	5.77	9.72	0.60	0.04	2.10	21.32
Murcott.....	204	17.25	-	50.20	8.30	23.90	24.99	124.64
Other.....	134	3.01	-	6.67	1.94	50.17	1.61	63.40
<b>Subtotal.....</b>	<b>372</b>	<b>23.35</b>	<b>5.77</b>	<b>66.59</b>	<b>10.84</b>	<b>74.11</b>	<b>28.70</b>	<b>209.36</b>
<b>Porto Ferreira</b>								
Ponkan.....	246	12.68	7.86	35.69	28.64	35.46	25.57	145.90
Murcott.....	1,094	47.52	43.05	112.89	53.79	254.01	46.24	557.50
Other.....	82	-	5.08	10.27	2.14	11.98	21.43	50.90
<b>Subtotal.....</b>	<b>1,422</b>	<b>60.20</b>	<b>55.99</b>	<b>158.85</b>	<b>84.57</b>	<b>301.45</b>	<b>93.24</b>	<b>754.30</b>
<b>Limeira</b>								
Ponkan.....	1,074	24.82	23.97	181.92	214.49	197.10	6.12	648.42
Murcott.....	1,326	67.70	57.60	215.48	53.58	307.42	4.94	706.72
Other.....	132	9.45	17.59	35.84	7.55	25.96	-	96.39
<b>Subtotal.....</b>	<b>2,532</b>	<b>101.97</b>	<b>99.16</b>	<b>433.24</b>	<b>275.62</b>	<b>530.48</b>	<b>11.06</b>	<b>1,451.53</b>
<b>Avaré</b>								
Ponkan.....	214	3.13	4.28	7.07	44.11	38.62	1.76	98.97
Murcott.....	725	45.61	37.08	25.62	81.26	122.58	69.31	381.46
Other.....	145	15.43	2.36	19.22	10.63	14.84	-	62.48
<b>Subtotal.....</b>	<b>1,084</b>	<b>64.17</b>	<b>43.72</b>	<b>51.91</b>	<b>136.00</b>	<b>176.04</b>	<b>71.07</b>	<b>542.91</b>
<b>Itapetininga</b>								
Ponkan.....	570	4.99	5.45	48.11	80.33	55.12	99.15	293.15
Murcott.....	421	12.47	2.83	28.75	70.73	52.08	71.65	238.51
Other.....	274	5.34	27.56	24.65	35.78	38.05	11.63	143.01
<b>Subtotal.....</b>	<b>1,265</b>	<b>22.80</b>	<b>35.84</b>	<b>101.51</b>	<b>186.84</b>	<b>145.25</b>	<b>182.43</b>	<b>674.67</b>
<b>Total.....</b>	<b>12,204</b>	<b>559.04</b>	<b>473.24</b>	<b>1,598.25</b>	<b>1,485.96</b>	<b>1,915.36</b>	<b>519.87</b>	<b>6,551.72</b>

<sup>1</sup> The method employed for mapping tangerines groves was reduced to the outline of the plots, and data about variety and number of trees were supplied by the farmer or person in charge. Whenever such information was not provided, the number of holes was calculated by the area of the plot divided by the spacing, which was identified by visual evaluation. The counting of 5% of the plots was not performed for this group of citrus species.

**Table 97 – Oranges: Cities with groves by sector and region [2018 inventory]**

Sector	Region	Cities
North 69 cities	Triângulo Mineiro (TMG) 15 cities	Campina Verde, Campo Florido, Canápolis, Comendador Gomes, Conceição das Alagoas, Frutal, Gurinhatã, Itapagipe, Ituiutaba, Monte Alegre de Minas, Planura, Prata, São Francisco de Sales, Uberaba, Uberlândia.
	Bebedouro (BEB) 34 cities	Ariranha, Barretos, Bebedouro, Cajobi, Catanduva, Catiguá, Colina, Colômbia, Elisiário, Embaúba, Guaraci, Ibirá, Irapuã, Itajobi, Marapoama, Monte Azul Paulista, Novais, Olímpia, Palmares Paulista, Paraíso, Pirangi, Pitangueiras, Sales, Santa Adélia, Severinia, Tabapuã, Taiaçu, Taiúva, Taquaral, Terra Roxa, Uchoa, Urupês, Viradouro, Vista Alegre do Alto.
	Altinópolis (ALT) 20 cities	Altinópolis, Batatais, Brodowski, Cajuru, Cássia dos Coqueiros, Cristais Paulista, Fortaleza de Minas, Franca, Ibiraci, Igarapava, Jacuí, Jeriquara, Monte Santo de Minas, Nova Resende, Patrocínio Paulista, Pedregulho, Santo Antônio da Alegria, São Pedro da União, São Sebastião do Paraíso, São Tomás de Aquino.
Northwest 86 cities	Votuporanga (VOT) 52 cities	Álvares Florence, Américo de Campos, Andradina, Aparecida d'Oeste, Aspásia, Auriflama, Cardoso, Dirce Reis, Dolcinópolis, Estrela d'Oeste, Fernandópolis, General Salgado, Guaraçá, Guarani d'Oeste, Guzelândia, Indiaporã, Jales, Macedônia, Marinópolis, Meridiano, Mesópolis, Mira Estrela, Murutinga do Sul, Nova Canaã Paulista, Ouroeste, Palmeira d'Oeste, Paranapuã, Parisi, Pedranópolis, Pontalinda, Pontes Gestal, Populina, Riolândia, Rubinéia, Santa Albertina, Santa Clara d'Oeste, Santa Fé do Sul, Santa Rita d'Oeste, Santa Salete, Santana da Ponte Pensa, Santo Antônio do Aracanguá, São Francisco, São João das Duas Pontes, São João de Iracema, Sud Mennucci, Suzanápolis, Três Fronteiras, Turmalina, Urânia, Valentim Gentil, Votorânia Brasil, Votuporanga.
	São José do Rio Preto (SJO) 34 cities	Adolfo, Altair, Bady Bassitt, Bálsmo, Cedral, Cosmorama, Floreal, Guapiaçu, Icém, Ipuiguá, Jaci, José Bonifácio, Magda, Mendonça, Mirassol, Mirassolândia, Monções, Monte Aprazível, Neves Paulista, Nhandeara, Nipoã, Nova Aliança, Nova Granada, Onda Verde, Orindiúva, Palestina, Paulo de Faria, Planalto, Poloni, Potirendaba, São José do Rio Preto, Tanabi, Ubarana, Zacarias.
Central 73 cities	Matão (MAT) 20 cities	Américo Brasiliense, Araraquara, Bariri, Boa Esperança do Sul, Borborema, Cândido Rodrigues, Fernando Prestes, Gavião Peixoto, Ibitinga, Itaju, Itápolis, Matão, Monte Alto, Motuca, Nova Europa, Novo Horizonte, Rincão, Santa Lúcia, Tabatinga, Taquaritinga.
	Duartina (DUA) 38 cities	Agudos, Alvinlândia, Arealva, Avaí, Balbinos, Bauru, Cabralia Paulista, Cafelândia, Campos Novos Paulista, Duartina, Echaporã, Espírito Santo do Turvo, Fernão, Gália, Garça, Getulina, Guaiçara, Guaimbê, Guarantã, Iacanga, Júlio Mesquita, Lins, Lucianópolis, Lupércio, Marília, Ocauçu, Paulistânia, Pederneiras, Pirajuí, Piratininga, Pongá, Presidente Alves, Reginópolis, Sabino, Santa Cruz do Rio Pardo, São Pedro do Turvo, Ubirajara, Uru.
	Brotas (BRO) 15 cities	Analândia, Bocaina, Brotas, Corumbataí, Dois Córregos, Dourado, Ibaté, Itirapina, Mineiros do Tietê, Ribeirão Bonito, Santa Maria da Serra, São Carlos, São Pedro, Torrinha, Trabiju.
South 43 cities	Porto Ferreira (PFE) 17 cities	Aguaiá, Caconde, Casa Branca, Descalvado, Itobi, Luís Antônio, Mococa, Pirassununga, Porto Ferreira, Santa Cruz da Conceição, Santa Cruz das Palmeiras, Santa Rita do Passa Quatro, Santa Rosa de Viterbo, São João da Boa Vista, São Simão, Tambaú, Vargem Grande do Sul.
	Limeira (LIM) 26 cities	Águas de Lindóia, Amparo, Araras, Artur Nogueira, Bragança Paulista, Conchal, Cordeirópolis, Cosmópolis, Engenheiro Coelho, Espírito Santo do Pinhal, Estiva Gerbi, Holambra, Iracemápolis, Itapira, Jaguariúna, Jarinu, Leme, Limeira, Mogi Guaçu, Mogi Mirim, Paulínia, Piracicaba, Rio Claro, Santo Antônio de Posse, Serra Negra, Socorro.
Southwest 49 cities	Avaré (AVA) 29 cities	Águas de Santa Bárbara, Angatuba, Anhembi, Araçoiaba da Serra, Arandu, Avaré, Bofete, Borebi, Botucatu, Capela do Alto, Cerqueira César, Cesário Lange, Conchas, Guareí, Iaras, Iperó, Itatinga, Lençóis Paulista, Manduri, Óleo, Pardinho, Porangaba, Porto Feliz, Pratânia, Salto de Pirapora, São Manuel, Sorocaba, Tatuí, Tietê.
	Itapetininga (ITG) 20 cities	Alambari, Buri, Campina do Monte Alegre, Capão Bonito, Coronel Mamede, Itaberá, Itaí, Itapetininga, Itapeva, Itaporanga, Itararé, Nova Campina, Paranapanema, Pilar do Sul, São Miguel Arcanjo, Sarapuí, Sarutaiá, Taquarituba, Taquarivaí, Tejupá.
Total 5 sectors	Total 12 regions	Total 320 cities

**Table 98 – Other oranges: Cities with groves by sector and region [2018 inventory]**

Sector	Region	Cities
North 37 cities	Triângulo Mineiro (TMG) 4 cities	Monte Alegre de Minas, Prata, Uberaba, Conceição das Alagoas.
	Bebedouro (BEB) 21 cities	Ariranha, Barretos, Bebedouro, Cajobi, Colômbia, Embaúba, Itajobi, Marapoama, Monte Azul Paulista, Olímpia, Paraíso, Pirangi, Pitangueiras, Santa Adélia, Severinia, Taiaçu, Taiúva, Uchoa, Urupês, Vista Alegre do Alto, Terra Roxa.
	Altinópolis (ALT) 12 cities	Altinópolis, Batatais, Brodowski, Cássia dos Coqueiros, Ibiraci, Monte Santo de Minas, Nova Resende, Patrocínio Paulista, Pedregulho, Santo Antônio da Alegria, São Pedro da União, São Sebastião do Paraíso.
Northwest 36 cities	Votuporanga (VOT) 25 cities	Álvares Florence, Aspásia, Estrela d'Oeste, Fernandópolis, Jales, Macedônia, Mesópolis, Murutinga do Sul, Palmeira d'Oeste, Paranápolis, Parisi, Pontalinda, Santa Albertina, Santa Clara d'Oeste, Santa Fé do Sul, Santa Salete, Santana da Ponte Pensa, São João das Duas Pontes, Sud Mennucci, Três Fronteiras, Turmalina, Urânia, Vitória Brasil, Votuporanga, Auriflama.
	São José do Rio Preto (SJO) 11 cities	Altair, Bálamo, Cedral, Ipuá, José Bonifácio, Mendonça, Mirassolândia, Monte Aprazível, Nhandeara, Nova Aliança, Potirendaba.
Central 48 cities	Matão (MAT) 12 cities	Américo Brasiliense, Bariri, Boa Esperança do Sul, Borborema, Fernando Prestes, Ibitinga, Itaju, Itápolis, Monte Alto, Novo Horizonte, Tabatinga, Taquaritinga.
	Duartina (DUA) 23 cities	Alvinlândia, Areália, Avaí, Cabrália Paulista, Cafelândia, Campos Novos Paulista, Duartina, Fernão, Guaimbê, Iacanga, Lucianópolis, Marília, Paulistânia, Pederneiras, Piratininga, Presidente Alves, São Pedro do Turvo, Ubirajara, Agudos, Echaporã, Espírito Santo do Turvo, Guarantã, Santa Cruz do Rio Pardo.
	Brotas (BRO) 13 cities	Analândia, Bocaina, Brotas, Corumbataí, Dois Córregos, Itirapina, Mineiros do Tietê, Santa Maria da Serra, Torrinha, Trabiju, Ribeirão Bonito, São Carlos, São Pedro.
South 31 cities	Porto Ferreira (PFE) 12 cities	Aguá, Casa Branca, Descalvado, Mococa, Pirassununga, Porto Ferreira, Santa Cruz das Palmeiras, Santa Rita do Passa Quatro, São João da Boa Vista, São Simão, Tambáu, Vargem Grande do Sul.
	Limeira (LIM) 19 cities	Amparo, Araras, Artur Nogueira, Bragança Paulista, Conchal, Cordeirópolis, Cosmópolis, Engenheiro Coelho, Espírito Santo do Pinhal, Estiva Gerbi, Holambra, Jaguariúna, Leme, Limeira, Mogi Guaçu, Mogi Mirim, Piracicaba, Santo Antônio de Posse, Águas de Lindóia.
Southwest 36 cities	Avaré (AVA) 19 cities	Águas de Santa Bárbara, Angatuba, Anhembi, Araçoiaba da Serra, Avaré, Botucatu, Capela do Alto, Guareí, Iperó, Itatinga, Manduri, Porto Feliz, Pratânia, Salto de Pirapora, Sorocaba, Tatuí, Arandu, Cerqueira César, Conchas.
	Itapetininga (ITG) 17 cities	Alambari, Buri, Capão Bonito, Itaberá, Itaí, Itapetininga, Itapeva, Itaporanga, Paranapanema, São Miguel Arcanjo, Sarapuí, Tejupá, Coronel Mamede, Itararé, Pilar do Sul, Sarutaiá, Taquarivaí.
Total 5 sectors	Total 12 regions	Total 188 cities

**Table 99 – Acid limes and lemons: Cities with groves by sector and region [2018 inventory]**

Sector	Region	Cities
North 47 cities	Triângulo Mineiro (TMG) 8 cities	Campina Verde, Campo Florido, Frutal, Monte Alegre de Minas, Prata, Uberaba, Conceição das Alagoas, Iturama.
	Bebedouro (BEB) 33 cities	Ariranha, Barretos, Bebedouro, Cajobi, Colina, Colômbia, Elisiário, Embaúba, Guaraci, Ibirá, Irapuã, Itajobi, Marapoama, Monte Azul Paulista, Novais, Olímpia, Paraíso, Pirangi, Sales, Santa Adélia, Severínia, Tabapuã, Taiaçu, Taiúva, Taquaral, Uchoa, Urupês, Viradouro, Vista Alegre do Alto, Catanduva, Catiguá, Palmares Paulista, Pindorama.
	Altinópolis (ALT) 6 cities	Altinópolis, Brodowski, Monte Santo de Minas, Patrocínio Paulista, Santo Antônio da Alegria, São Sebastião do Paraíso.
Northwest 70 cities	Votuporanga (VOT) 45 cities	Álvares Florence, Aparecida d'Oeste, Aspásia, Dolcinópolis, Estrela d'Oeste, Fernandópolis, Guaraçá, Guarani d'Oeste, Jales, Macedônia, Marinópolis, Meridiano, Mesópolis, Mira Estrela, Murutinga do Sul, Palmeira d'Oeste, Paranapuã, Parisi, Pedranópolis, Pontalinda, Populina, Rubinéia, Santa Albertina, Santa Fé do Sul, Santa Rita d'Oeste, Santa Salete, Santana da Ponte Pensa, Santo Antônio do Aracanguá, São Francisco, São João das Duas Pontes, São João de Iracema, Sud Mennucci, Três Fronteiras, Turmalina, Urânia, Valentim Gentil, Vitória Brasil, Votuporanga, Mirandópolis, Dirce Reis, Guzolândia, Nova Canaã Paulista, Ouroeste, Pereira Barreto, Pontes Gestal.
	São José do Rio Preto (SJO) 25 cities	Adolfo, Altair, Bady Bassitt, Bálamo, Cedral, Cosmorama, Jaci, Ipiguá, José Bonifácio, Mendonça, Mirassolândia, Nhandeara, Nova Aliança, Palestina, Nova Granada, Planalto, Potirendaba, São José do Rio Preto, Tanabi, Macaubal, Guapiaçu, Neves Paulista, Onda Verde, Sebastianópolis do Sul, Zacarias.
Central 57 cities	Matão (MAT) 17 cities	Bariri, Boa Esperança do Sul, Borborema, Cândido Rodrigues, Fernando Prestes, Ibitinga, Itápolis, Itaju, Matão, Monte Alto, Motuca, Nova Europa, Novo Horizonte, Taquaritinga, Tabatinga, Araraquara, Jaboticabal.
	Duartina (DUA) 31 cities	Arealva, Avaí, Bauru, Cabrália Paulista, Cafelândia, Campos Novos Paulista, Fernão, Duartina, Getulina, Guaimbê, Iacanga, Lins, Lucianópolis, Pederneiras, Marília, Piratininga, Presidente Alves, São Pedro do Turvo, Ubirajara, Álvaro de Carvalho, Boracéia, Echaporã, Gália, Guaiçara, Guarantã, Ocauçu, Pirajuí, Pongaí, Promissão, Reginópolis, Uru.
	Brotas (BRO) 9 cities	Analândia, Bocaina, Corumbataí, Brotas, Dois Córregos, Itirapina, Mineiros do Tietê, Trabiju, Ribeirão Bonito.
South 40 cities	Porto Ferreira (PFE) 16 cities	Aguáí, Casa Branca, Pirassununga, Mococa, Porto Ferreira, Santa Rita do Passa Quatro, São João da Boa Vista, São Simão, Tambaú, Guaxupé, Guaranésia, Itobi, Luís Antônio, Santa Rosa de Viterbo, São José do Rio Pardo, Vargem Grande do Sul.
	Limeira (LIM) 24 cities	Araras, Artur Nogueira, Cordeirópolis, Conchal, Cosmópolis, Engenheiro Coelho, Espírito Santo do Pinhal, Estiva Gerbi, Holambra, Iracemápolis, Jaguariúna, Leme, Limeira, Mogi Guaçu, Mogi Mirim, Piracicaba, Rio Claro, Santo Antônio de Posse, Serra Negra, Itatiba, Monte Alegre do Sul, Pinhalzinho, Charqueada, Itapira.
Southwest 20 cities	Avaré (AVA) 13 cities	Águas de Santa Bárbara, Angatuba, Avaré, Araçoiaba da Serra, Botucatu, Capela do Alto, Itatinga, Porto Feliz, Sorocaba, Tatuí, Arandu, Cabreúva, Cerqueira César.
	Itapetininga (ITG) 7 cities	Buri, Itaberá, Itapeva, Itaí, Itaporanga, Paranapanema, São Miguel Arcanjo.
Total 5 sectors	Total 12 regions	Total 234 cities

**Table 100 – Tangerines: Cities with groves by sector and region [2018 inventory]**

Sector	Region	Cities
North 49 cities	Triângulo Mineiro (TMG) 7 cities	Campina Verde, Campo Florido, Frutal, Itapagipe, Monte Alegre de Minas, Prata, Uberaba.
	Bebedouro (BEB) 30 cities	Ariranha, Barretos, Bebedouro, Cajobi, Colina, Colômbia, Elisiário, Embaúba, Ibirá, Irapuã, Marapoama, Guaraci, Itajobi, Monte Azul Paulista, Novais, Olímpia, Paraíso, Pirangi, Pitangueiras, Sales, Severinia, Santa Adélia, Tabapuã, Taiaçu, Taiúva, Taquaral, Uchoa, Urupês, Viradouro, Vista Alegre do Alto.
	Altinópolis (ALT) 12 cities	Altinópolis, Cajuru, Ibiraci, Itamogi, Jacuí, Monte Santo de Minas, Nova Resende, Patrocínio Paulista, Pedregulho, Santo Antônio da Alegria, São Pedro da União, São Sebastião do Paraíso.
Northwest 66 cities	Votuporanga (VOT) 44 cities	Álvares Florence, Américo de Campos, Andradina, Aparecida d'Oeste, Aspásia, Cardoso, Dolcinópolis, Estrela d'Oeste, Fernandópolis, Guaraçá, Guarani d'Oeste, Jales, Macedônia, Marinópolis, Meridiano, Mesópolis, Mira Estrela, Murutinga do Sul, Palmeira d'Oeste, Paranapanã, Parisi, Pedranópolis, Pontalinda, Populina, Rubinéia, Santa Albertina, Santa Clara d'Oeste, Santa Fé do Sul, Santa Rita d'Oeste, Santa Salete, Santana da Ponte Pensa, Santo Antônio do Aracanguá, São Francisco, São João das Duas Pontes, São João de Iracema, Sud Mennucci, Suzanápolis, Três Fronteiras, Turmalina, Urânia, Valentim Gentil, Vitória Brasil, Votuporanga, Mirandópolis.
	São José do Rio Preto (SJO) 22 cities	Adolfo, Altair, Bady Bassitt, Bálsmo, Cedral, Cosmorama, Floreal, Ipiguá, Jaci, José Bonifácio, Mendonça, Mirassolândia, Monte Aprazível, Nhandeara, Nova Aliança, Nova Granada, Palestina, Paulo de Faria, Planalto, Potirendaba, São José do Rio Preto, Tanabi.
Central 49 cities	Matão (MAT) 18 cities	Américo Brasiliense, Bariri, Boa Esperança do Sul, Borborema, Cândido Rodrigues, Fernando Prestes, Gavião Peixoto, Ibitinga, Itaju, Itápolis, Matão, Monte Alto, Motuca, Nova Europa, Novo Horizonte, Santa Lúcia, Tabatinga, Taquaritinga.
	Duartina (DUA) 21 cities	Alvinlândia, Arealva, Avaí, Bauru, Cabralia Paulista, Cafelândia, Campos Novos Paulista, Duartina, Fernão, Getulina, Guaimbê, Iacanga, Lins, Lucianópolis, Marília, Paulistânia, Pederneiras, Piratininga, Presidente Alves, São Pedro do Turvo, Ubirajara.
	Brotas (BRO) 10 cities	Analândia, Bocaina, Brotas, Corumbataí, Dois Córregos, Itirapina, Mineiros do Tietê, Santa Maria da Serra, Torrinha, Trabiju.
South 42 cities	Porto Ferreira (PFE) 13 cities	Aguaí, Casa Branca, Descalvado, Mococa, Pirassununga, Porto Ferreira, Santa Cruz da Conceição, Santa Cruz das Palmeiras, Santa Rita do Passa Quatro, São João da Boa Vista, São Simão, Tambaú, Guaxupé.
	Limeira (LIM) 29 cities	Amparo, Araras, Artur Nogueira, Bragança Paulista, Conchal, Cordeirópolis, Cosmópolis, Engenheiro Coelho, Espírito Santo do Pinhal, Estiva Gerbi, Holambra, Iracemápolis, Jaguariúna, Jarinu, Leme, Limeira, Mogi Guaçu, Mogi Mirim, Paulínia, Piracicaba, Rio Claro, Santo Antônio de Posse, Serra Negra, Socorro, Itibaia, Itatiba, Lindóia, Monte Alegre do Sul, Pinhalzinho.
Southwest 28 cities	Avaré (AVA) 16 cities	Águas de Santa Bárbara, Angatuba, Anhembi, Araçoiaba da Serra, Avaré, Botucatu, Capela do Alto, Guareí, Iperó, Itatinga, Manduri, Porto Feliz, Pratânia, Salto de Pirapora, Sorocaba, Tatuí.
	Itapetininga (ITG) 12 cities	Alambari, Buri, Capão Bonito, Itaberá, Itaí, Itapetininga, Itapeva, Itaporanga, Paranapanema, São Miguel Arcanjo, Sarapuí, Tejupá.
Total 5 sectors	Total 12 regions	Total 234 cities

### 3.3 – ABANDONED ORANGE GROVES

Abandoned groves are plots where no management signs are identified, therefore showing no pruning/mowing, insufficient plant health control, high infestation of pests and diseases, with frequent rotten fruit on the ground, and cattle present in the plot. In many cases, the grove degradation is so severe that it prevents agents entering to collect data such as tree spacing, planting year and variety.

**Table 101 – Oranges: Area and percentage of abandoned groves in relation to the total area [2020 and 2021 inventories]**

Sector and region	2020 inventory				2021 inventory			
	Updated abandoned area found in the mapping (scan)	Abandoned area found in the 2020 sample survey (previously bearing groves, abandoned in 2018 and 2019)	Total	Percentage of abandoned area in relation to total	Updated abandoned area found in the mapping (scan)	Abandoned area found in the 2021 sample survey (previously bearing groves, abandoned in 2018, 2019 and 2020)	Total	Percentage of abandoned area in relation to total
(hectares)	(hectares)	(hectares)	(hectares)	(%)	(hectares)	(hectares)	(hectares)	(%)
<b>North</b>								
Triângulo Mineiro.....	1	76	77	0.28	-	63	63	0.23
Bebedouro.....	25	-	25	0.05	13	141	154	0.30
Altinópolis.....	6	-	6	0.05	-	-	-	-
<b>Subtotal.....</b>	<b>32</b>	<b>76</b>	<b>108</b>	<b>0.12</b>	<b>13</b>	<b>204</b>	<b>217</b>	<b>0.24</b>
<b>Northwest</b>								
Votuporanga.....	168	1,742	1,910	10.11	49	822	871	5.78
S. J. do Rio Preto....	-	388	388	1.57	-	231	231	0.94
<b>Subtotal.....</b>	<b>168</b>	<b>2,130</b>	<b>2,298</b>	<b>5.27</b>	<b>49</b>	<b>1,053</b>	<b>1,102</b>	<b>2.78</b>
<b>Central</b>								
Matão.....	41	-	41	0.11	9	-	9	0.02
Duartina.....	26	25	51	0.09	16	1,108	1,124	2.04
Brotas.....	184	1,154	1,338	6.75	6	220	226	1.41
<b>Subtotal.....</b>	<b>251</b>	<b>1,179</b>	<b>1,430</b>	<b>1.28</b>	<b>31</b>	<b>1,328</b>	<b>1,359</b>	<b>1.27</b>
<b>South</b>								
Porto Ferreira.....	8	-	8	0.02	-	256	256	0.71
Limeira.....	83	166	249	0.67	45	-	45	0.13
<b>Subtotal.....</b>	<b>91</b>	<b>166</b>	<b>257</b>	<b>0.33</b>	<b>45</b>	<b>256</b>	<b>301</b>	<b>0.43</b>
<b>Southwest</b>								
Avaré.....	-	-	-	-	-	1,103	1,103	2.01
Itapetininga.....	-	-	-	-	-	-	-	-
<b>Subtotal.....</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,103</b>	<b>1,103</b>	<b>1.47</b>
<b>Total.....</b>	<b>542</b>	<b>3,551</b>	<b>4,093</b>	<b>1.02</b>	<b>138</b>	<b>3,944</b>	<b>4,082</b>	<b>1.06</b>

**Table 102 – Other oranges: Area and percentage of abandoned groves in relation to the total area [2020 and 2021 inventories]**

Sector and region	2020 inventory				2021 inventory			
	Updated abandoned area found in the mapping (scan)	Abandoned area found in the 2020 sample survey (previously bearing groves, abandoned in 2018 and 2019)	Total	Percentage of abandoned area in relation to total	Updated abandoned area found in the mapping (scan)	Abandoned area found in the 2021 sample survey (previously bearing groves, abandoned in 2018, 2019 and 2020)	Total	Percentage of abandoned area in relation to total
	(hectares)	(hectares)	(hectares)	(%)	(hectares)	(hectares)	(hectares)	(%)
<b>North</b>								
Triângulo Mineiro.....	-	-	-	-	-	-	-	-
Bebedouro.....	1	-	1	0.19	-	-	-	-
Altinópolis.....	-	-	-	-	-	-	-	-
<b>Subtotal.....</b>	<b>1</b>	-	<b>1</b>	<b>0.13</b>	-	-	-	-
<b>Northwest</b>								
Votuporanga.....	-	-	-	-	-	-	-	-
S. J. do Rio Preto....	-	-	-	-	-	-	-	-
<b>Subtotal.....</b>	<b>-</b>	-	<b>-</b>	<b>-</b>	-	-	-	-
<b>Central</b>								
Matão.....	-	-	-	-	13	-	13	1.93
Duartina.....	-	-	-	-	-	-	-	-
Brotas.....	21	208	229	19.47	-	-	-	-
<b>Subtotal.....</b>	<b>21</b>	<b>208</b>	<b>229</b>	<b>8.09</b>	<b>13</b>	-	<b>13</b>	<b>0.48</b>
<b>South</b>								
Porto Ferreira.....	-	-	-	-	-	-	-	-
Limeira.....	27	3	30	1.16	2	-	2	0.07
<b>Subtotal.....</b>	<b>27</b>	<b>3</b>	<b>30</b>	<b>0.65</b>	<b>2</b>	-	<b>2</b>	<b>0.04</b>
<b>Southwest</b>								
Avaré.....	-	-	-	-	-	50	50	1.99
Itapetininga.....	-	209	209	14.98	-	-	-	-
<b>Subtotal.....</b>	<b>-</b>	<b>209</b>	<b>209</b>	<b>5.55</b>	-	<b>50</b>	<b>50</b>	<b>1.40</b>
<b>Total.....</b>	<b>48</b>	<b>420</b>	<b>468</b>	<b>3.72</b>	<b>15</b>	<b>50</b>	<b>65</b>	<b>0.49</b>

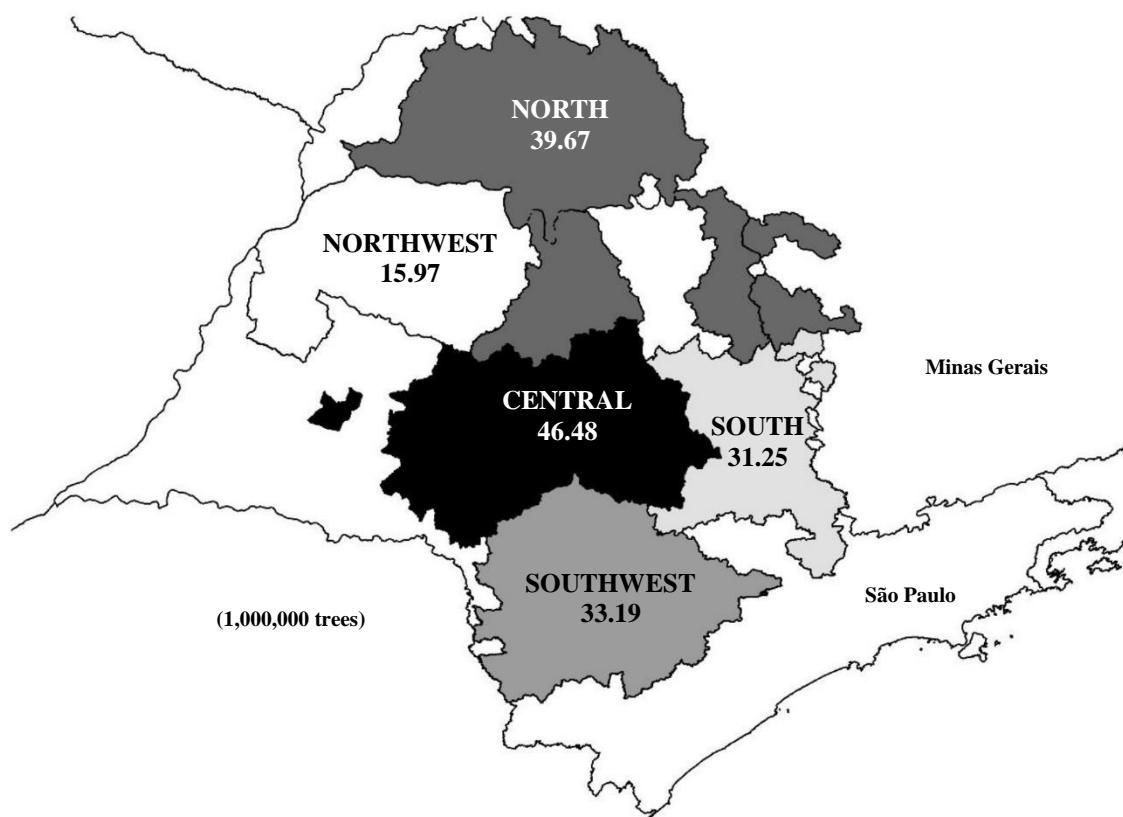


**2021-2022 ORANGE CROP FORECAST FOR  
THE SÃO PAULO AND WEST-SOUTHWEST  
MINAS GERAIS CITRUS BELT**  
**MAY 2021 FORECAST**



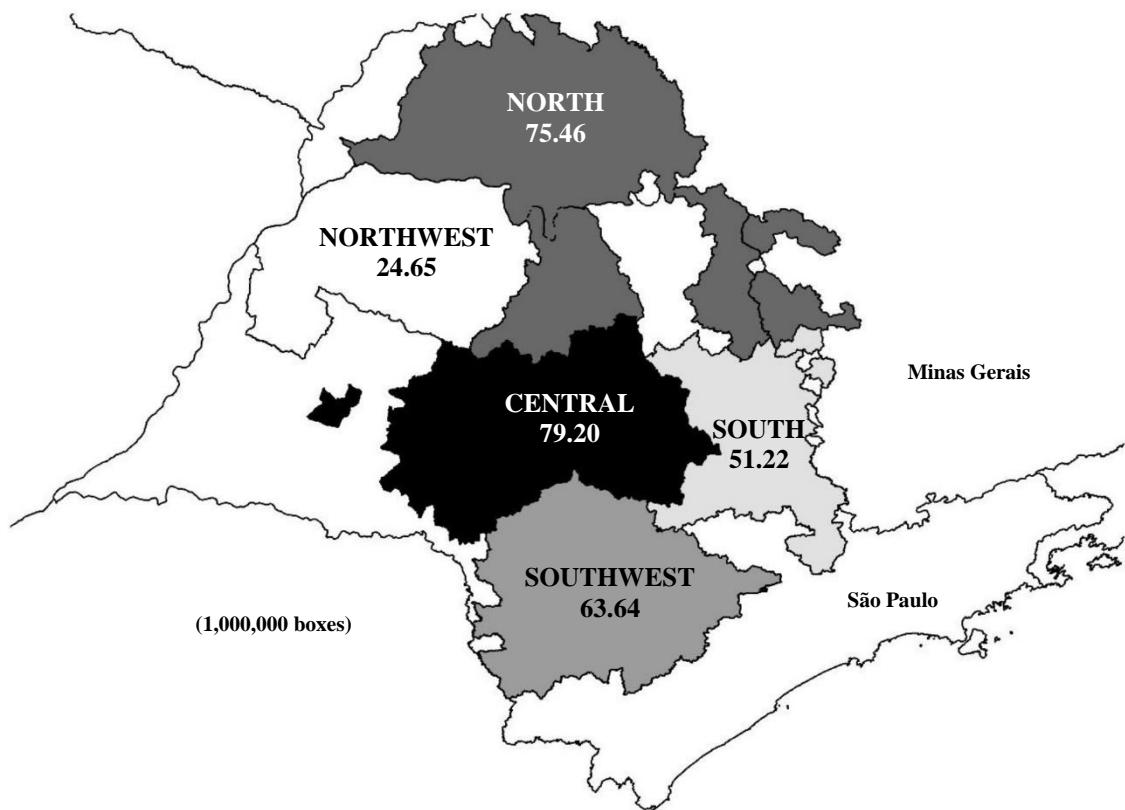
## ORANGE BEARING TREES<sup>1</sup> BY SECTOR

Total: 166.56 million trees



## 2021-2022 ORANGE CROP FORECAST<sup>1</sup> BY SECTOR<sup>2</sup>

Total: 294.17 million boxes of 40.8 kg



<sup>1</sup> Snapshot in March 2021. Varieties: Hamlin, Westin, Rubi, Valencia Americana, Seleta, Pineapple, Pera Rio, Valencia, Valencia Folha Murcha and Natal.

<sup>2</sup> Status in May 2021.

---

## **2021-2022 ORANGE CROP FORECAST FOR THE SÃO PAULO AND WEST-SOUTHWEST MINAS GERAIS CITRUS BELT – MAY 2021 FORECAST**

---

**Published on June 18, 2021<sup>1</sup>**

---

### **Publication Schedule**

#### **2021-2022 Crop Year**

Executive summary of the 2021-2022 orange crop forecast: May 27, 2021

March 2021 tree inventory: June 18, 2021

Crop forecast: June 18, 2021

1<sup>st</sup> Crop forecast update: September 10, 2021

2<sup>nd</sup> Crop forecast update: December 10, 2021

3<sup>rd</sup> Crop forecast update: February 10, 2022

Final crop forecast: April 11, 2022

---

This is a live document in that it serves to know and explore the citrus belt in rich detail and provide support to agents in this sector. In that sense and with the aim of meeting the demands both from the citrus segment and the press, we reserve the right to enlarge, review and deepen the information already published. It is therefore recommended that the most recent publication available at [www.fundecitrus.com.br](http://www.fundecitrus.com.br) be used.

<sup>1</sup> Year 7 – Nº 1 – June 18, 2021 (Portuguese only).

Year 7 – Nº 2 – July 15, 2021 (Portuguese and English versions).

Year 7 – Nº 3 – July 30, 2021 (Portuguese and English versions).

---

### **Data update carried out by the CDA-SP and presented in this version published on July 30, 2021.**

In July 2021, the CDA-SP (farming and livestock protection office) of the São Paulo state department of agriculture and supply revised the data on the number of nursery citrus plants marketed under the permit to transit plants in 2020. Based on the new data made available by the CDA-SP, plantings in 2020 were estimated at 13.36 million orange trees in the São Paulo and West-Southwest Minas Gerais citrus belt, instead of the 8.72 million trees announced by Fundecitrus on May 27, 2021, when the 2021-2022 orange crop forecast and its respective tree inventory were published. Upon this revision, previously announced data was replaced by the revised data presented in this publication.

Since groves are newly planted and still non-bearing, this revision does not change whatsoever the 2021-2022 orange crop forecast. The actual data on groves planted in 2020 will be collected in the field as of August 2021 and announced in May next year. Although data is preliminary and will be replaced by final data collected in the field, Fundecitrus decided to update this inventory as a means to guarantee its professional conduct and best statistical practices, which are fundamental for information and institutions to be trusted.

---



**Performed by FUNDECITRUS in cooperation with MARKESTRAT, FEA-RP/USP and the  
department of Math and Science of FCAV/Unesp**

**2021-2022 ORANGE CROP FORECAST FOR  
THE SÃO PAULO AND WEST-SOUTHWEST  
MINAS GERAIS CITRUS BELT  
MAY 2021 FORECAST**

Fundecitrus  
Araraquara, São Paulo  
2021

Catalog card in Fundecitrus Library

338.1    2021-2022 orange crop forecast for the São Paulo  
E816       and West-Southwest Minas Gerais Citrus Belt:  
             May 2019 forecast / Fundo de Defesa da  
             Citricultura... [et al.]. - Araraquara, SP:  
             Fundecitrus, 2021.  
             31 p.

ISSN 2446-7707 (printed)

ISSN 2446-7715 (online)

1. Economy - Forecast 2. Orange I. Fundecitrus  
II. Markestrat III. FEA-RP/USP IV. FCAV/Unesp.

The use of any data from this publication should be rightfully credited to publishers by citing their names and complying with norms for usage. Such credits shall be stated in any publication or public communication that mentions any of this data. Copying, publishing, distributing or reprinting in full or of a substantial part of this document for commercial reasons is not allowed, except otherwise authorized by legal representatives of publishers.

**Lourival Carmo Monaco**

Fundecitrus President

**Antonio Juliano Ayres**

Fundecitrus General Manager

**Marcos Fava Neves**

PES Political-Institutional and Methodological Coordinator, part-time Full Professor at  
FEA-RP/USP and EAESP/FGV

**Vinícius Gustavo Trombin**

PES Executive Coordinator linked to Markestrat

**José Carlos Barbosa**

Methodology Analyst and (Voluntary) Full Professor at the department of engineering,  
math and science of FCAV/Unesp

**Fernando Alvarinho Delgado**

PES Supervisor/Fundecitrus

**Roseli Reina**

PES Specialist/Fundecitrus

**Fernando Engelberg de Moraes**

Legal Adviser



## SUMMARY

<b>1 – 2021-2022 ORANGE CROP FORECAST.....</b>	<b>11</b>
<b>2 – OBJECTIVE SURVEY METHOD FOR THE ORANGE CROP FORECAST .....</b>	<b>14</b>
2.1 – BEARING TREES .....	15
2.2 – FRUIT PER TREE .....	15
2.3 – DROP RATE .....	21
2.4 – FRUIT PER BOX.....	21
<b>3 – TABLES OF DATA .....</b>	<b>23</b>

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1 – Yield per hectare and variety for the 2016-2017 crop to the 2021-2022 crop .....	12
2 – Variation in yield per hectare for varieties as compared to previous season's .....	13
3 – Yield per hectare of sectors for the 2016-2017 crop to the 2021-2022 crop.....	13
4 – Variation in yield per hectare of sectors in relation to the previous crop season's .....	13
5 – Fruit drop rates by causes from the 2015-2016 crop to the 2020-2021 crop .....	21
6 – Data for the 2010-2011 crop to the 2020-2021 crop and data used to estimate the final fruit size in the 2021-2022 crop....	22
7 – 2021-2022 Orange crop forecast by sector .....	23
8 – 2021-2022 Orange crop forecast by tree age group .....	23
9 – 2021-2022 Orange crop forecast by bloom.....	24
10 – 2021-2022 Orange crop forecast in percentage of bloom by region .....	24
11 – 2021-2022 Orange crop forecast and its components by variety group.....	24
12 – 2021-2022 Orange crop forecast by variety group and sector .....	25
13 – 2021-2022 Orange crop forecast by variety group – North Sector .....	25
14 – 2021-2022 Orange crop forecast by variety group – Northwest Sector.....	25
15 – 2021-2022 Orange crop forecast by variety group – Central Sector.....	26
16 – 2021-2022 Orange crop forecast by variety group – South Sector .....	26
17 – 2021-2022 Orange crop forecast by variety group – Southwest Sector.....	26
18 – Fruit per tree at stripping by age group, region and variety – North Sector.....	27
19 – Fruit per tree at stripping by age group, region and variety – Northwest Sector .....	28
20 – Fruit per tree at stripping by age group, region and variety – Central Sector .....	29
21 – Fruit per tree at stripping by age group, region and variety – South Sector.....	30
22 – Fruit per tree at stripping by age group, region and variety – Southwest Sector .....	31



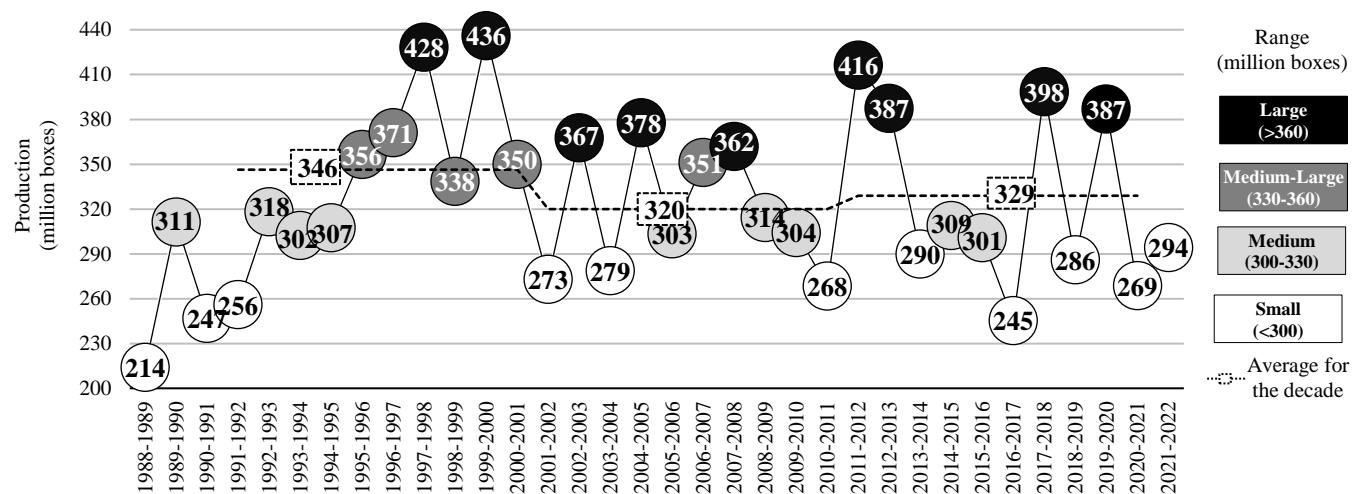
## 1 – 2021-2022 ORANGE CROP FORECAST

The 2021-2022 orange crop forecast for the São Paulo and West-Southwest Minas Gerais citrus belt, published on May 27, 2021 by Fundecitrus, in cooperation with Markestrat, FEA-RP/USP and FCAV/Unesp, is 294.17 million boxes (40.8 kg or 90 lb). Total orange production includes:

- 51.37 million boxes of the Hamlin, Westin and Rubi varieties;
- 16.87 million boxes of the Valencia Americana, Seleta and Pineapple varieties;
- 84.66 million boxes of the Pera Rio variety;
- 107.07 million boxes of the Valencia and Valencia Folha Murcha varieties;
- 34.20 million boxes of the Natal variety.

Approximately 26.09 million boxes are expected to be produced in the Triângulo Mineiro.

As compared to the final forecast of 268.63 million boxes in the previous crop, the current projection represents an increase of 9.51% although it is still below the average of 35 million boxes for the last ten crop seasons, which corresponds to a drop of 10.53%. Graph 1 shows production volumes since 1988-1989.



**Graph 1 – Orange production from 1988-1989 to 2020-2021 and 2021-2022 crop forecast**

Sources: CitrusBR (1988-1989 to 2014-2015) and Fundecitrus (2015-2016 to 2021-2022)

Although this is an on-year crop, the increase in the number of fruits per tree as compared to that in the previous crop season is lower than what was observed in the years the crop was also favored by high production cycles. The last on-year crop seasons were 2017-2018 and 2019-2020, years when the increase in the average number of fruits per tree in relation to previous crop seasons was 75% and 39%, respectively. In the current crop season, that increase is of only 12.50%, which means orange trees had the physiological conditions to bear a heavier fruit load than that of the previous cycle, owing to the reserves saved from the low production volume. Nevertheless, the adverse climate significantly affected that production volume, which shows that citriculture in the state of São Paulo and West-Southwest Minas Gerais is highly dependent on climatic factors, since approximately 70% of the planted area is rain-fed.

The citrus belt also faced opposite climate extremes in the beginning of this crop season: rains in the regions of Itapetininga, Avaré and Duartina in June and August 2020, which triggered the first bloom, while a long drought hit the remaining regions of the citrus belt and only ended in mid-October, when rains enabled good water conditions for plants in that part of the citrus belt to have a late first bloom at a period when a second bloom usually takes place. Before rains fell, that is, from September 30 to October

7, 2020, a strong heat wave hit the whole citrus belt, with average maximum temperatures on the order of 42°C (107.6°F), affecting the setting of first bloom fruits in the regions of Itapetininga, Avaré and Duartina, and in irrigated groves. Those fruits were still small, having a diameter of 0.5 to 3.0 centimeters and intense physiological drop caused by high temperatures.

Due to the erratic behavior of the climate and poorly marked seasons, with prolonged droughts and high temperatures at a time critical to the two main blooms, there was a third bloom in many groves in December 2020 and January 2021, and a fourth bloom as of February 2021. In general, the first bloom accounts for 29.6% of the crop; the second bloom for 46.3%; the third bloom for 20.0%; and the fourth bloom for 4.1%. This year, the third and fourth blooms stand out as accounting for greater percentages of the crop, due to the unfavorable climate conditions in the early post-flowering stage.

Rains became scarce once again in April and May 2021, which was felt by orange trees, and evidenced by the small size of stripped fruits in this crop that weighed an average 81 grams each (2.86 oz), as compared to a weight of approximately 100 grams (3.53 oz) at that time in regular years. However, more adversities to production should still arise from climate conditions.

According to Somar Meteorologia/Climatempo, the rainfall volume below the historical average should not change in the coming months. Rains are forecast to be scarce until October 2021, repeating the scenario observed last year. If this forecast is confirmed, the maturation period, which includes fruit development and filling, will also be affected. However, the effects of these unfavorable climate conditions are already included in this crop forecast, since the projected weight of the oranges at harvest is small (157.5 grams or 5.56 oz), below their average weight in the last six crops (167 grams or 5.89 oz), and the projected fruit drop rate (20.50%) is the second highest since 2015, the year when Fundecitrus first started carrying out the surveys. These parameters are similar to those observed in the previous season, but quite different from the average of the last crops.

The average yield in this crop is estimated at 850 boxes per hectare and 1.77 boxes per tree, as compared to 737 boxes per hectare and 1.55 boxes per tree harvested in the 2020-2021 crop season. The expected average yield per hectare has increased by 15.33% in relation to the previous crop, which is a higher rate as compared to the growth of 9.51% that is expected for production, confirming the trend of maintaining better managed groves, with higher yields, and eradicating groves with the worst yields per hectare. The groves of Valencia and Valencia Folha Murcha stand out in terms of increased yield per variety, with an expected increase of 25.71% as compared to the previous crop season, the highest among all varieties, which relates to the larger number and size of fruits of those varieties and the high concentration of trees in the category of older and more productive age, above 10 years, which account for about 67% of bearing trees. Tables 1 and 2 present yields per variety and variations in relation to the previous crop season.

**Table 1 – Yield per hectare and variety for the 2016-2017 crop to the 2021-2022 crop**

Group of varieties	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022 <sup>e</sup>
	(boxes/hectare)	(boxes/hectare)	(boxes/hectare)	(boxes/hectare)	(boxes/hectare)	(boxes/hectare)
Hamlin, Westin and Rubi...	744	1,235	833	1,319	797	892
Other earlies.....	744	1,008	810	1,121	827	914
Subtotal for earlies.....	744	1,184	828	1,273	804	897
Pera Rio.....	596	945	633	943	671	739
Valencia and V.Folha Murcha.	597	1,016	826	998	739	929
Natal.....	650	1,063	765	1,082	803	849
<b>Total.....</b>	<b>634</b>	<b>1,033</b>	<b>756</b>	<b>1,045</b>	<b>737</b>	<b>850</b>

<sup>e</sup> Estimate.

**Table 2 – Variation in yield per hectare for varieties as compared to previous season's**

Group of varieties	2017-2018 in comparison to 2016-2017		2018-2019 in comparison to 2017-2018		2019-2020 in comparison to 2018-2019		2020-2021 in comparison to 2019-2020		2021-2022 <sup>e</sup> in comparison to 2020-2021	
	(boxes/ hectare)	%	(boxes/ hectare)	%	(boxes/ hectare)	%	(boxes/ hectare)	%	(boxes/ hectare)	%
Hamlin, Westin and Rubi...	491	66.0%	-402	-32.5%	486	58.4%	-522	-39.6%	95	11.9%
Other earlies.....	264	35.5%	-198	-19.6%	311	38.4%	-294	-26.2%	87	10.5%
Subtotal for earlies.....	441	59.2%	-357	-30.1%	445	53.8%	-469	-36.9%	93	11.6%
Pera Rio.....	349	58.5%	-312	-33.0%	310	48.9%	-272	-28.8%	68	10.2%
Valencia and V.Folha Murcha.	420	70.3%	-190	-18.7%	172	20.9%	-259	-26.0%	190	25.7%
Natal.....	413	63.5%	-298	-28.0%	316	41.3%	-279	-25.8%	46	5.7%
<b>Total.....</b>	<b>399</b>	<b>62.9%</b>	<b>-278</b>	<b>-26.9%</b>	<b>290</b>	<b>38.3%</b>	<b>-308</b>	<b>-29.5%</b>	<b>113</b>	<b>15.3%</b>

<sup>e</sup> Estimate.

Regarding yield per sector, greater homogeneity is expected due both to the significant yield reduction in the Southwest as compared to that in the previous crop and to the increase in the other sectors. The Northwest sector, encompassing the regions of Votuporanga and São José do Rio Preto, which had been the most affected by the climate last season, now ranks first among the sectors ordered from the highest to the lowest yield increase between the current and previous crops. The 725 boxes per hectare that should be produced in that sector represent a growth of 54.9% in relation to the 2020-2021 crop. The North sector, comprising the regions of Triângulo Mineiro, Bebedouro and Altinópolis, ranks second with an increase of 38.7% and an expected yield of 899 boxes per hectare. The Central sector, encompassing the regions of Matão, Duartina and Brotas, ranks third with an increase of 22.3% and 816 boxes per hectare projected for this crop. The South sector, encompassing the regions of Porto Ferreira and Limeira, ranks fourth with an increase of 7.7% and 781 boxes expected to be harvested per hectare. The Southwest sector, encompassing the regions of Avaré and Itapetininga, is the only one with a drop in production, equivalent to 12.1% lower than that of the last crop and an expected 972 boxes per hectare. Tables 3 and 4 present yields per sector and variations in relation to the previous crop season.

**Table 3 – Yield per hectare of sectors for the 2016-2017 crop to the 2021-2022 crop**

Sector	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022 <sup>e</sup>
	(boxes/ hectare)	(boxes/ hectare)	(boxes/ hectare)	(boxes/ hectare)	(boxes/ hectare)	(boxes/ hectare)
North.....	495	1,108	606	1,070	648	899
Northwest.....	376	882	404	924	468	725
Central.....	616	984	707	1,032	667	816
South.....	664	989	770	936	725	781
Southeast.....	950	1,154	1,195	1,217	1,106	972
<b>Total.....</b>	<b>634</b>	<b>1,033</b>	<b>756</b>	<b>1,045</b>	<b>737</b>	<b>850</b>

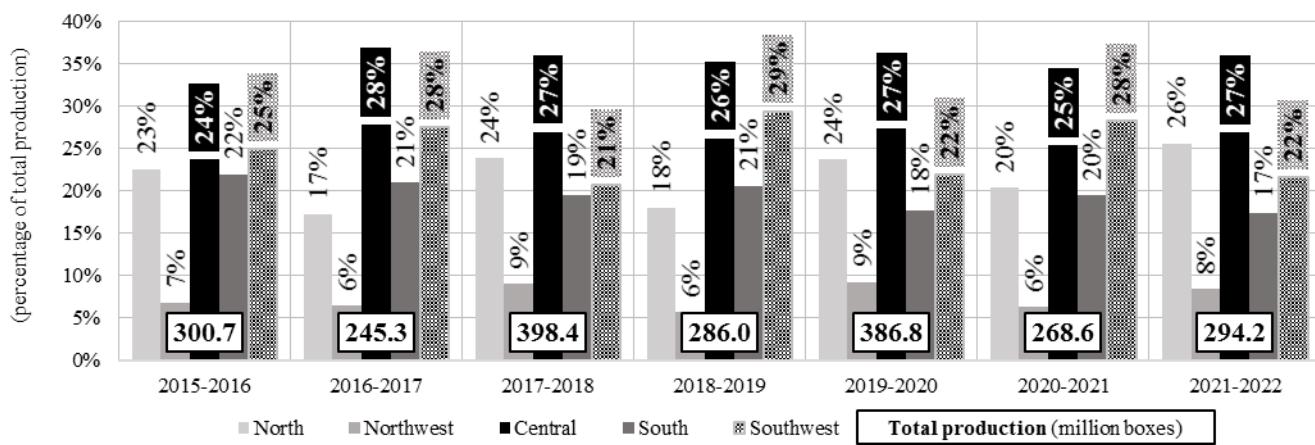
<sup>e</sup> Estimate.

**Table 4 – Variation in yield per hectare of sectors in relation to the previous crop season's**

Sector	2017-2018 in comparison to 2016-2017		2018-2019 in comparison to 2017-2018		2019-2020 in comparison to 2018-2019		2020-2021 in comparison to 2019-2020		2021-2022 <sup>e</sup> in comparison to 2020-2021	
	(boxes/ hectare)	%	(boxes/ hectare)	%	(boxes/ hectare)	%	(boxes/ hectare)	%	(boxes/ hectare)	%
North.....	613	123.6%	-502	-45.3%	464	76.6	-422	-39.4%	251	38.7%
Northwest.....	505	134.2%	-478	-54.2%	520	128.7	-456	-49.4%	257	54.9%
Central.....	368	59.7%	-277	-28.1%	325	46.0	-365	-35.4%	149	22.3%
South.....	325	49.0%	-218	-22.1%	166	21.6	-211	-22.5%	56	7.7%
Southwest.....	204	21.5%	41	3.5%	22	1.8	-111	-9.1%	-134	-12.1%
<b>Total.....</b>	<b>399</b>	<b>62.9%</b>	<b>-278</b>	<b>-26.9%</b>	<b>289</b>	<b>38.2%</b>	<b>-308</b>	<b>-29.5%</b>	<b>113</b>	<b>15.3%</b>

<sup>e</sup> Estimate.

With the reduced yield in the Southwest, that sector loses share to the other sectors in relation to total production. As shown in Graph 2, the Central sector accounts for 27% of the production, the North for 26%, the Southwest for 22%, the South for 17% and, finally, the Northwest for 8%.



Graph 1 – Share of sectors in total orange production for the 2015-2016 crop to the 2020-2021 crop

## 2 – OBJECTIVE SURVEY METHOD FOR THE ORANGE CROP FORECAST

In order to perform this estimate, the objective method used in previous crop seasons was maintained, which is based on quantitative data – field measurements, counting and weighing of fruit – applied to the equation represented below.

$$\text{Forecast production} = \frac{\text{Bearing trees} \times \text{Fruit per tree} \times (1 - \text{Drop rate \%}) \times (1 - \text{CF \%})}{\text{Fruit per box}}$$

where CF is the correction factor

For increased critical mass and transparency, this survey has since its implementation developed activities with the follow-up from a technical committee organized in the 2015-2016 crop year with the purpose of offering operational improvement. This committee is made up by citrus growers, representatives of orange juice companies, academics, as well as Fundecitrus researchers and supervisors.

Results from the inventory and tree stripping were obtained throughout the survey, then compiled and restricted, until the date of this publication, to the following professionals: Antonio Juliano Ayres (Fundecitrus general manager); Fernando Alvarinho Delgado (technical supervisor); Roseli Reina (specialist); Vinícius Gustavo Trombin (executive coordinator linked to Markestrat); Marcos Fava Neves (political-institutional and methodological coordinator linked to FEA-RP/USP and Markestrat); and José Carlos Barbosa (methodology analyst linked to the department of Math and Science of FCAV/Unesp). All of them were subject to confidentiality obligations with regard to PES information before its announcement was made public, according to agreements signed between each of them and Fundecitrus. As for antitrust practices, they were all complied with through the adoption of measures necessary to prevent any communication or sharing of individual information with competitive content among the orange juice companies that collaborate with Fundecitrus in this project or between these and citrus growers.

This team, together with Fundecitrus president Lourival Carmo Monaco in remote attendance, finalized the crop forecast on May 27, 2021, at 9:30 a.m., in a closed meeting at Fundecitrus, with no external communication channel beyond participants. Following that, at 10 a.m., Fundecitrus president began the public announcement of the crop forecast by videoconference, broadcast live at Fundecitrus channel on Youtube ([www.youtube.com/fundecitrus](http://www.youtube.com/fundecitrus)). Next, Fundecitrus general manager Antonio Juliano Ayres presented the detailed data at the Fundecitrus auditorium in Araraquara-SP, with no in-person attendance.

After the crop forecast announcement, the Executive Summary of the 2021-2022 orange crop forecast was made available on the Fundecitrus website. The complete report, including the 2021 tree inventory and the 2021-2022 orange crop forecast, will be available on June 18, 2021 at [www.fundecitrus.com.br](http://www.fundecitrus.com.br).

Details on the estimate for the four components of the equation follow.

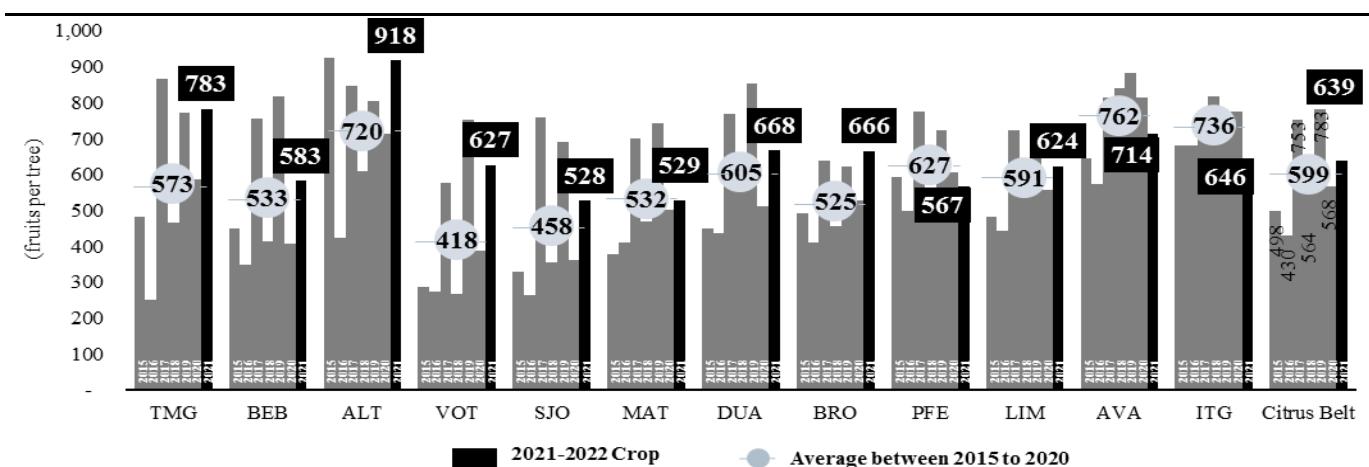
## 2.1 – BEARING TREES

Bearing trees total 166.56 million and occupy an area of 346,123 hectares in this crop. These values represent, respectively, a reduction of 4.41% and 5.03% as compared to the previous inventory of March 2020. Varieties included in this forecast comprise 97% of the area of orange groves in the citrus belt. Information on bearing trees was obtained from the Tree Inventory of the São Paulo and West-Southwest Minas Gerais Citrus Belt: Snapshot of Groves in March 2021, taken from the 2018 primary base – created by mapping groves from September 8, 2017 to January 29, 2018 – and from counting existing trees in approximately 5% of orange plots from February 1 to March 18, 2021. Plots for counting were drawn through stratified random sampling.

Due to restrictions imposed by the Covid-19 pandemic, the new mapping previously scheduled to be carried out in August 2020 was postponed to August 2021. Therefore, the information related to groves planted in 2018 that started bearing fruit in this crop and were included in this forecast was estimated from data provided by the CDA-SP (São Paulo State animal and plant health protection agency) of the São Paulo State department of agriculture and supply, on the number of citrus nursery plants marketed under the permit to transit plants (PTV) in the State of São Paulo, and from surveys carried out by Fundecitrus. This data may change until the end of the crop season if there is a significant variation in the estimated number of trees that were planted in 2018 and in counts from field surveys in this new scan of the citrus planted areas.

## 2.2 – FRUIT PER TREE

The average number of fruits per tree in May 2021, disregarding fruit drop throughout the crop season, is calculated at 639. In general, the number of fruits per tree increased as compared to that in the previous crop, but in three regions there was a decrease: 16% in Itapetininga, 13% in Avaré and 6% in Porto Ferreira. The Itapetininga region showed the greatest reduction in this crop season and was the only region in the entire citrus belt that had an increase in the previous crop. The regions of Avaré and Porto Ferreira have accumulated two consecutive crops with a reduction in the number of fruits per tree. Graph 3 shows the number of fruits per tree stripped from 2015 to 2021 in the citrus belt and the separate data for each of the twelve regions.



Graph 3 – Number of fruits per tree stripped by region in 2015 to 2021

The number of fruits per tree is strongly influenced by the low-volume and irregular rainfall that marked the first development phase of this crop. Between the months of June and August 2020, significant rains were recorded only in the Southwest and in the region of Duartina, in contrast with the drought that prevailed in the rest of the citrus belt, which resulted in quite different conditions for flowering induction and initiation.

In the regions of Itapetininga, Avaré and Duartina, the accumulated rainfall in June 2020 was 178, 138 and 110 mm respectively, resulting in an average of 132 mm for the entire area. Those rains triggered the flowering of orange trees between the months of July and August 2020, which is called the first bloom due to its time of occurrence. The development of this bloom was favored by the rains recorded in August 2020, with an accumulated 140 mm in Itapetininga, 93 mm in Avaré, and 108 mm in Duartina, that is, an average rainfall of 107 mm.

In the other regions of the citrus belt comprising Triângulo Mineiro, Bebedouro, Altinópolis, Votuporanga, São José do Rio Preto, Matão, Brotas, Limeira and Porto Ferreira, the occurrence drought with no significant rain lasted from June to early October 2020. The few rains that fell were light and scattered, hitting only a few cities. The average rainfall in that area of the citrus belt was 21 millimeters in June, 2 millimeters in July, 15 millimeters in August, and 12 millimeters in September. Limited by this severe water deficit, with no conditions for the first bloom, plants in rain-fed groves in those regions entered a long stage of vegetative rest resulting in the accumulation of reserves.

The use of irrigation helped to mitigate the damage caused by the water deficit in those regions. Irrigation is present in about 30.14% of the citrus belt area, of which 88% is concentrated in those regions where the drought prevailed. The high share of irrigated areas in those regions in relation to the total area of the citrus planted area results from the period of more intense drought and higher temperatures from the south to the north of the citrus belt, making irrigation more important the farther north of the citrus belt.

Data on the share of irrigated areas in relation to the total area was retrieved from the last mapping completed in 2018 and will be updated this year with the new mapping. However, considering the sample surveys, a trend of increased irrigated area can already be noticed, especially in the Votuporanga region. The water deficit severity in recent years across the Northwest sector that in addition to Votuporanga also includes the region of São José do Rio Preto, associated with the use of more water-demanding rootstocks and higher planting density, is making irrigation indispensable to achieve a satisfactory yield in this sector.

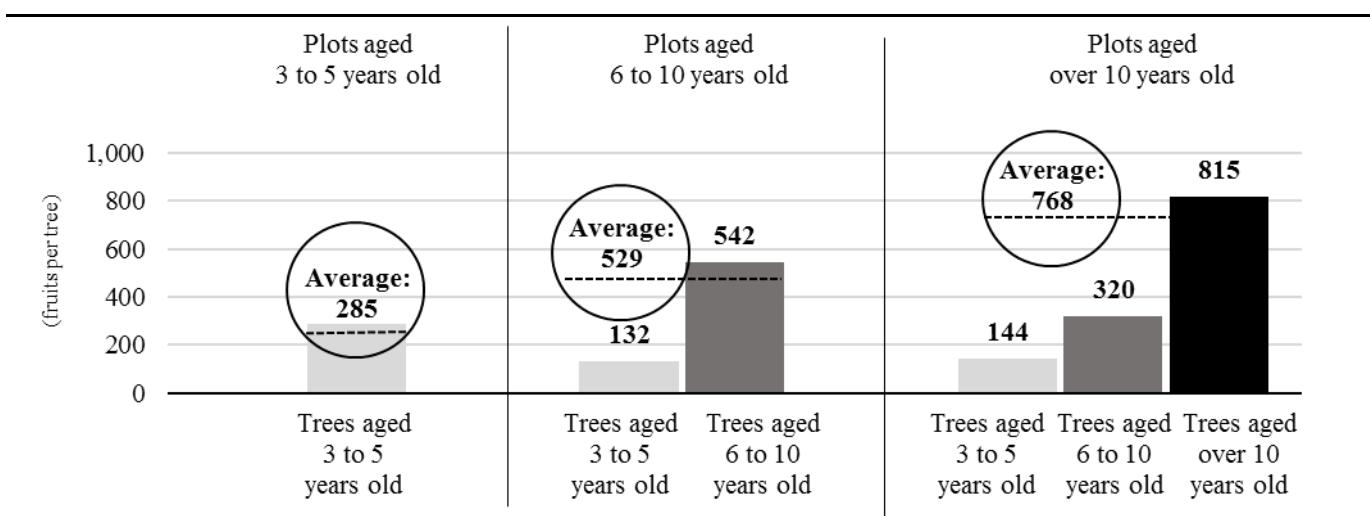
In the vast majority of irrigated groves, irrigation started in June to promote the first orange bloom. However, on many farms, due to scarce rainfall, water reservoirs were below capacity, which made the use of irrigation unfeasible in all plots with systems installed. In many locations, the appropriate water supply had to be restricted, affecting flowering, fruit setting and development.

In September 2020, with the climate event La Niña forming, a strong heat wave hit the whole citrus belt, raising temperatures to the range of 36°C (96.8°F) to 42°C (107.6°C) in virtually all cities in the citrus belt during the eight days between September 30 and October 7, 2020. Under those high temperatures, plants aborted a large part of first bloom fruitlets of an approximate size of up to 3 cm in diameter, which had been produced in the regions of Itapetininga, Avaré and Duartina, and also in irrigated groves.

As of October 10, 2020, rains resumed throughout the citrus belt, creating favorable conditions for flowering that due to its time of occurrence is called the second bloom. That was the first flowering in the rain-fed groves of the South, Central (excluding Duartina), North and Northwest sectors of the citrus belt. These plants, which did not use reserves with the first bloom and had undergone a long period of vegetative rest, produced an abundant bloom that resulted in good setting.

Due to the uncertain climate, the third and fourth blooms happened in several groves. For the forecast, all fruits from the first, second and third blooms were considered as a whole. A fruit set rate of 25% was applied to fruits from the fourth bloom, since it was a late bloom and because the physiological drop of small and weak fruits had not taken place before stripping ended this year. In the separation of fruits per bloom, off-season fruits were also identified as a result from late and sporadic flowers from the previous crop season, not accounted for in the current crop forecast.

Three to five-year-old plots present yield of 285 fruits per tree this crop season. For six to 10-year-old plots, an average of 529 fruits per tree is estimated, with 542 fruits per tree for original plantings and 132 fruits per tree for three to five-year-old resets. Plots over 10 years old have an expected average of 768 fruits per tree and a yield of 815 fruits per tree for original plantings, 320 fruits per tree for six to 10-year-old resets and 144 fruits per tree for three to five-year-old resets. Yield rates are presented in Graph 4.



Ages and planting years: 3 – 5 years (2016 to 2018), 6 – 10 years (2011 to 2015) and over 10 years (2010 and previous years)

**Graph 4 – Age-stratified number of fruits per tree in the plot**

In May 2021, when the trees were stripped, an average of 780 fruits per tree for the group of early Hamlin, Westin and Rubi varieties; 696 fruits per tree for the late Valencia and Valencia Folha Murcha varieties; 638 for the late Natal variety; 614 fruits per tree for the other early varieties; and 531 for the Pera Rio mid-season variety.

The method used consists of tree stripping, that is, the advanced harvest of all fruits in the tree, regardless of the bloom they are from. In this crop season, trees were stripped from March 26 to May 17, 2021. Fruits harvested were taken to a tree stripping laboratory in Araraquara, where each sample was separated into the different blooms it was from. Fruits were quantified by automatic counting equipment and then weighed.

Due to the Covid-19 pandemic, a decision was made jointly with the PES Technical Committee to maintain the number of samples collected in the previous crop season, which had been reduced in order to shorten the period of the survey execution and, thus, mitigate the risk of contagion and transmission of the new coronavirus. This strategy was required to keep up the development of the survey in face of several challenges, as for instance, lockdown, border closures and limitations of food and lodging services in several municipalities. Prevention measures included social distancing, use of two overlaid masks, one surgical mask and one fabric mask, alcohol-based sanitizer, quarantine of employees belonging to risk groups or of employees with flu symptoms, weekly monitoring of workers by means of a health questionnaire, disinfection of surfaces and floor of the stripping sample laboratory and guidance on the disease through the distribution of posters.

Sample size was 1,560 trees selected by a drawing. An initial drawing by the method of stratified random sampling included 1,200 trees distributed proportionally amongst all orange trees in the citrus belt and stratified according to their region, variety and age. For increased estimate precision in some strata with a lower number of samples, 14 additional trees were stripped. An additional drawing included 360 resets of ages lower than the age groups of their groves. These resets correspond to replacements made mainly to offset tree losses caused by greening, citrus canker and other diseases. The tree population in this last drawing comprises plots that were counted in full to update the inventory and that meet the stratification criteria.

The stratification factor “region” is comprised of 12 groups encompassing the 320 cities where there are farms with mature orange groves. In addition to the subdivision into the 12 regions, the following charts present the five subdivisions of the factor “variety” and the six subdivisions of the factor “age”. Combinations of these factors result in 360 strata.

**Chart 1 – Regions of the citrus belt included in the drawing, by sector**

Sector	Region	Abbreviation
North.....	Triângulo Mineiro	TMG
	Bebedouro	BEB
	Altinópolis	ALT
Northwest.....	Votuporanga	VOT
	São José do Rio Preto	SJO
Central.....	Matão	MAT
	Duartina	DUA
	Brotas	BRO
South.....	Porto Ferreira	PFE
	Limeira	LIM
Southwest.....	Avaré	AVA
	Itapetininga	ITG

**Chart 2 – Variety groups included in the drawing, by maturity time**

Maturity time	Variety group
Early.....	Hamlin, Westin and Rubi
Other early.....	Valencia Americana, Seleta and Pineapple
Mid-season.....	Pera Rio
Late.....	Valencia and Valencia Folha Murcha
	Natal

**Chart 1 – Age groups from the combined age of plots and age of trees**

Age of plots <sup>1</sup>	Age of trees <sup>2</sup>
3 to 5 years.....	3 to 5 years
6 to 10 years .....	3 to 5 years
6 to 10 years .....	6 to 10 years
Over 10 years .....	3 to 5 years
Over 10 years .....	6 to 10 years
Over 10 years .....	Over 10 years

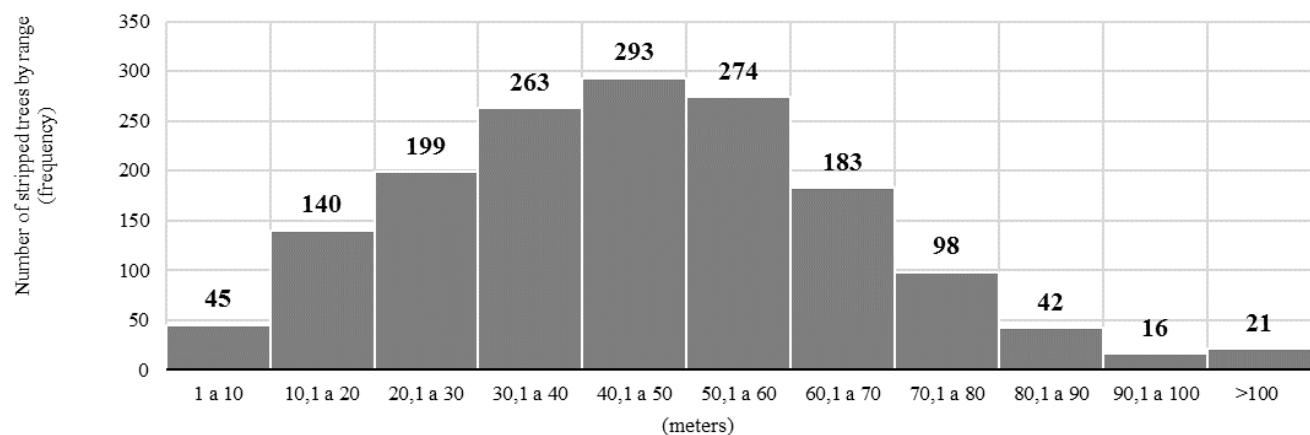
<sup>1</sup> Ages and planting years: 3 to 5 years (2016 to 2018), 6 to 10 years (2011 to 2015) and over 10 years (2010 and previous years).

<sup>2</sup> Estimated from information provided by growers on years resets were planted in the plot and from visual aspects of plants such as trunk circumference, height and shape of canopy, among other factors.

For the 1,200 trees in the first drawing, the location in the plot of the tree to be stripped is predetermined and varies every crop season. This makes the selection of the tree unbiased, that is, free from interference of the survey agent. Otherwise, the choice could be skewed towards trees with more or less fruit. For the 2021-2022 crop, the tree in the drawn plot is the one located in the 20th planting hole in the 12th row. If there is a vacancy or dead tree in that position, or yet a tree of an age different from that of trees originally planted in the plot, the third plant down is selected. Should that situation repeat itself, three more plants

down are counted, until a tree of the drawn age is found. If the plot does not have 12 or more planting rows, the counting restarts in the existing rows until number 12 is reached. For the second drawing of 360 resets, the stripped tree is found in the plot after visual aspects are considered, such as trunk circumference and size of canopy.

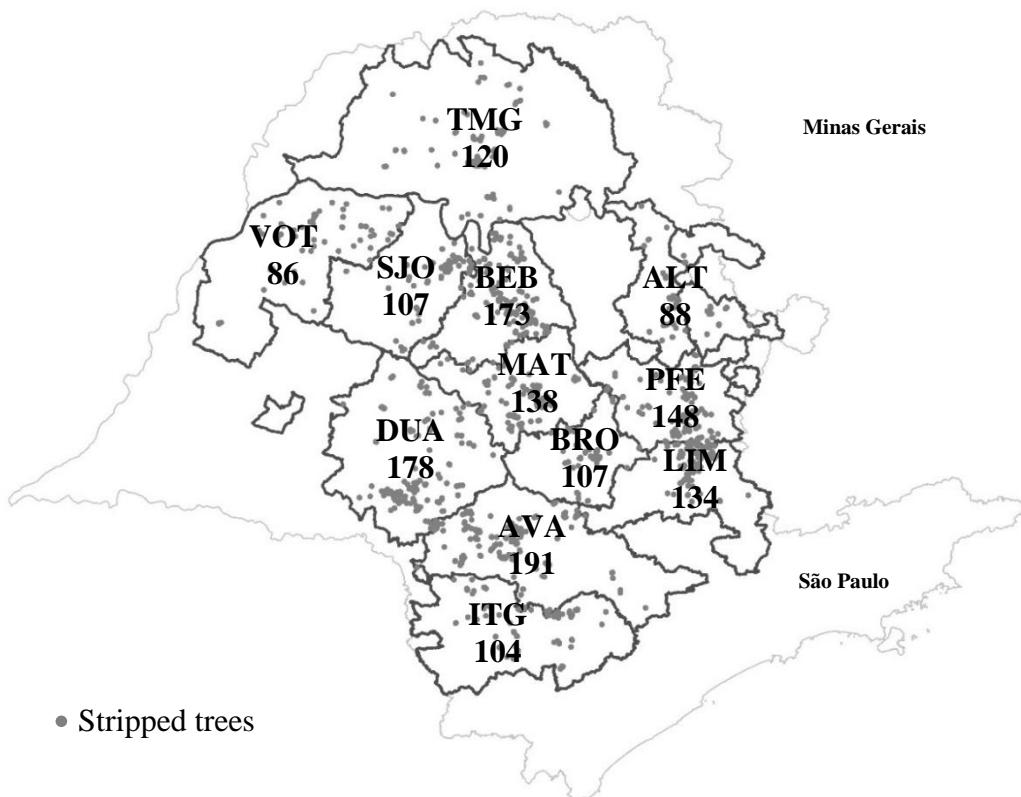
Graph 5 presents the distance (in meters) from the stripped tree to the nearest border of the plot, which shows the majority of classes with similar frequencies, with a central figure between 40 and 50 meters of distance from the stripped tree to the nearest border. Most of the 45 plots with the shortest distances, from one to ten meters, are small – approximately 70% of them have up to four hectares.



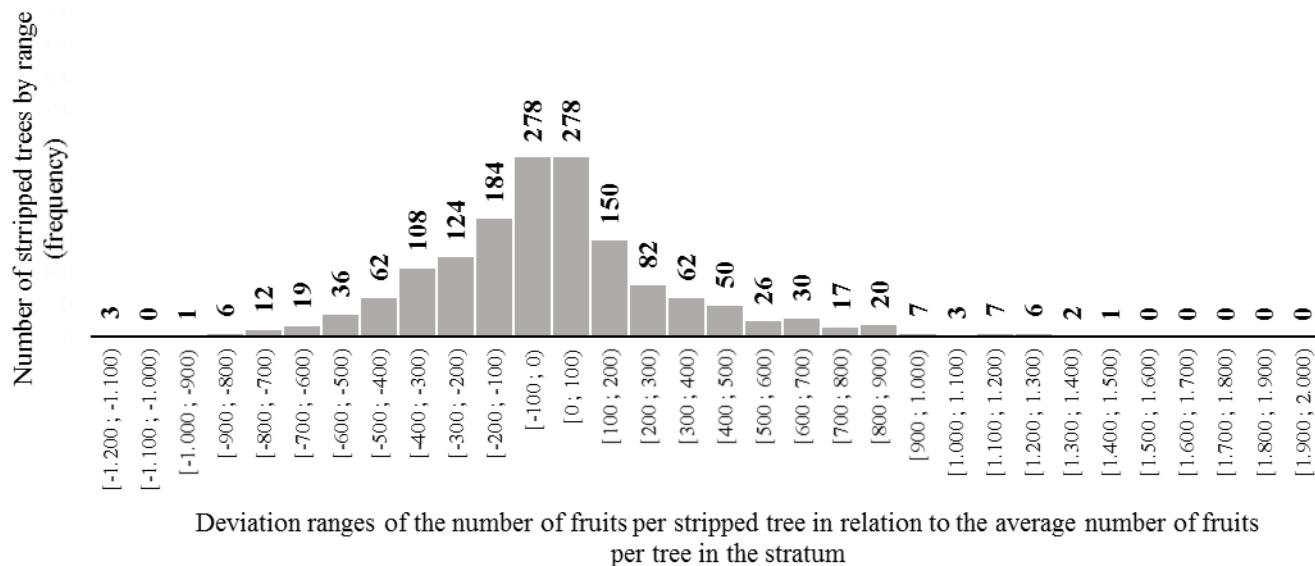
Graph 5 – Histogram of distances from the stripped tree to the nearest border of the plot

Figure 1 shows the location and number of stripped trees in each sector of the citrus belt.

Figure 1 – Location and total number of trees stripped per region

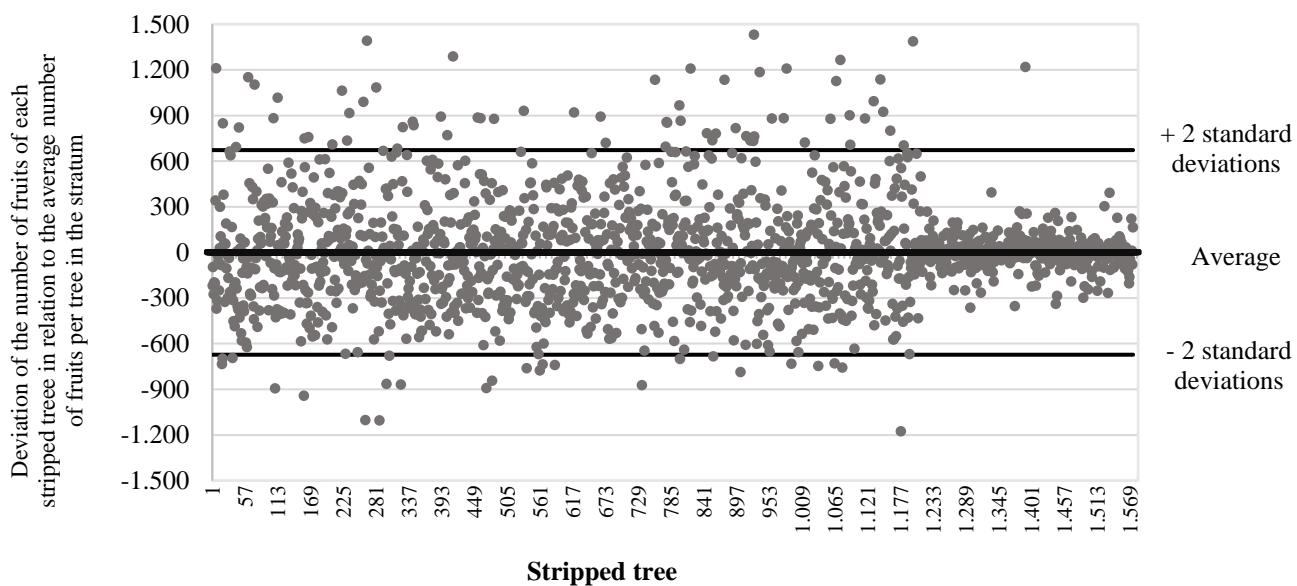


The average number of fruits per tree may vary plus or minus 17 fruits, which corresponds to  $\pm 2.60\%$  of the average number of fruits per tree obtained at stripping. This figure is within the expected error of 2% to 3% always used in sizing the sample. The yield deviation distribution analysis for each stripped tree in relation to the stratum average shows that sample data is randomly distributed according to a normal distribution, as presented in Graph 6. Out of the total samples, eight were discarded upon showing great discrepancy in relation to the others.



**Graph 6 – Histogram of deviations of fruits per tree at stripping**

Graph 7 shows the dispersion of deviations of each stripped tree in relation to the stratum average. It is observed that 95% of samples fall within the average (639 fruits)  $\pm 2$  standard deviations.



**Graph 7 – Deviation on the number of fruits at each stripping in relation to the stratum average**

The tree harvested upon permit from citrus growers is indemnified at R\$ 44.00 through an online payment system where citrus growers can register and redeem the amount due.

## 2.3 – DROP RATE – fruit drop index from tree stripping to final plot harvest

The projected average drop rate is 20.50%, distributed as follows: 12.00% for the early Hamlin, Westin and Rubi varieties, 12.00% for other early varieties; 22.00% for the mid-season Pera Rio variety; 24.00% for the late Valencia and Valencia Folha Murcha varieties; and 23.20% for the late Natal variety. This rate is applied to the number of fruits in the tree in May 2021, when trees were stripped. The result of this calculation is the estimate of the number of fruits that will be available in the tree at harvest, since part of the oranges in the tree in the beginning of the crop season will fall due to physiological drop, damage caused by machines, pests and diseases, and adverse climatic conditions.

If this rate is confirmed, it will be the second highest in the historical series, just below the rate observed in the past crop, when the climate was extremely atypical. The main reasons for this projection are the climate forecast, which indicates accumulated rainfall below the average until October 2021, and the intensification of phytosanitary problems, such as the increased incidence of orange trees with greening symptoms in the citrus belt, which went from 19.02% in 2019 to 20.87% in 2020. Another reason that may continue to cause fruit drop in this crop season is the fruit peel cracking, observed in the past harvest due to severe drought, which led to reduced or halted orange growth, which was eventually resumed with the return of the rains, however, the internal structure of the peel had already lost its plasticity and the fruits suffered peel cracking, resulting in premature drop, as shown in Table 5.

**Table 5 – Fruit drop rates by causes from the 2015-2016 crop to the 2020-2021 crop**

Causes	Drop rate					
	2015-2016 (percentual)	2016-2017 (percentual)	2017-2018 (percentual)	2018-2019 (percentual)	2019-2020 (percentual)	2020-2021 (percentual)
Physiological and mechanical.....	N/A	5.99	7.45	5.16	5.15	6.63
Greening.....	N/A	1.37	4.06	2.70	4.39	3.71
Fruit borer and fruit fly.....	N/A	2.34	2.70	5.70	4.29	4.76
Black spot.....	N/A	3.75	2.16	2.02	2.12	2.98
Leprosis.....	N/A	0.25	0.62	0.82	1.30	1.70
Canker.....	N/A	0.03	0.31	0.30	0.38	0.37
Fruit peel cracking .....	N/A	N/A	N/A	N/A	N/A	1.45
<b>Total.....</b>	<b>17.49</b>	<b>13.73</b>	<b>17.31</b>	<b>16.70</b>	<b>17.63</b>	<b>21.60</b>

N/A – Non-available data, as survey of causes for fruit drop started in the 2016-2017 crop or due to irrelevant reasons.

Monthly and continuous monitoring by Fundecitrus as of June 2021 in 1,200 orange plots visited up to their complete harvest serves as basis to correct the drop rate projected at the time of this publication and consequently to correct the production estimate as well.

## 2.4 – FRUIT PER BOX – fruit size, i.e., number of oranges to reach the weight of 40.8 kg (90 lb box) at harvest

The final fruit size projection is 259 fruits per 40.8 kg box, namely 305 fruits per box for the group of early varieties comprising Hamlin, Westin and Rubi; 259 fruits per box for the group of other early varieties; 260 fruits per box for the mid-season Pera Rio variety; 240 fruits per box for the late Valencia and Valencia Folha Murcha varieties; and 243 fruits per box for the late Natal variety.

The average size of 259 fruits per box is equivalent to oranges weighing approximately 157.5 grams (5.56 oz) at harvest. The final fruit size was estimated by a regression model that considered the final fruit size (fruits per box at harvest) as the dependent variable and the number of fruits per tree counted at stripping, the initial fruit size (fruits per box at stripping), the sum of the production percentages of the first and second blooms in relation to the total production and the rainfall accumulated from May to July as independent variables. Data from the last eleven crops, 2010-2011 to 2020-2021, was used in the regression and is presented in Table 6. The result obtained shows an adjusted R<sup>2</sup> of 0.93. This means that

the four independent variables together explain 93% of the variation in the final fruit size (fruits per box at harvest), which shows how important these variables are for the final fruit size. The comparison between the final fruit size estimated by this model and the final fruit size observed in the last eleven crops presents an average absolute error of 2.67%.

Data relative to final fruit size (fruits per box at harvest), number of fruits per tree counted at stripping, initial fruit size (fruits per box at stripping), the sum of the production percentages from the first and second blooms in relation to the total production for the series from 2009-2010 to 2014-2015 was provided by orange juice companies associated to Fundecitrus – Citrosuco, Cutrale and Louis Dreyfus, which separately have estimated the production for the citrus region since 1988, with the use of objective methodologies. Data was supplied individually and under a formal confidentiality agreement to an independent consulting firm for the determination of the average. Individual data supplied by each company was kept confidential. Data relative to the 2015-2016 to 2020-2021 crops comes from results of estimates developed by Fundecitrus. Data on rainfall accumulated from May to July was supplied by Somar Meteorologia/Climatempo.

Data used in the model to estimate the final fruit size in this crop comprises figures from the 2021 stripping and the rainfall predicted for June to August 2021 in volumes equivalent to the climatological average (1981 – 2010) calculated with information from the Climatempo website. This size was corrected by the regression that used the observed size as the dependent variable and the estimated size as the independent variable. The result that was obtained was adjusted to 259 fruits per box since the stripping was performed at a later period than in prior years, and based on the climate forecast from Somar Meteorologia/Climatempo, which indicates rainfall levels below the historical average until October 2021, in addition to accumulated rainfall below normal ranges in the months of April and May of 2021, which were not sufficient to maintain the soil moisture content at satisfactory levels.

**Table 6 – Data for the 2010-2011 crop to the 2020-2021 crop and data used to estimate the final fruit size in the 2021-2022 crop**

Crop	Fruits per tree at stripping	Initial fruit size at stripping	Sum of productions from first and second blooms	Accumulated rainfall from May to July	Final fruit size observed at harvest	Final fruit size estimated by the model	Error	Absolute error
2010-2011....	(number)	(fruits/box)	(%)	(millimeters)	(fruits/box)	(fruits/box)	(%)	(%)
2010-2011....	532	457	97%	64	271	257	-5%	5%
2011-2012....	859	401	96%	116	269	268	-1%	1%
2012-2013....	764	439	95%	268	250	239	-4%	4%
2013-2014....	515	338	87%	247	224	215	-4%	4%
2014-2015....	646	373	92%	102	256	252	-2%	2%
2015-2016....	498	391	90%	204	226	234	4%	4%
2016-2017....	430	358	90%	214	222	225	2%	2%
2017-2018....	753	393	91%	184	246	248	1%	1%
2018-2019....	564	446	82%	36	259	253	-2%	2%
2019-2020....	783	411	94%	95	261	269	3%	3%
2020-2021....	568	511	85%	96	258	261	1%	1%
2021-2022....	639	505	76%	95 <sup>ha</sup>	(X)	252	(X)	(X)

Sources: Fundecitrus (2015-2016 crop to 2021-2022 crop), CitrusBr (2008-2009 crop to 2014-2015 crop), Somar Meteorologia and Climatempo.

(X) Not applicable.

ha Historical average (quarter after fruit stripping).

The result of the equation used in the crop estimate is corrected by the application of a correction factor. That is necessary because of variables not considered in the calculations, such as harvested fruits that wind up not being used, diverse planting densities that are not included in the stratification of groves, and losses of trees throughout the crop season caused by eradication, abandonments or deaths. The correction factor of 0.10 applied in this crop is the same used since the 2017-2018 crop and represents the average of the indexes of the 2015-2016 and 2016-2017 crops estimated by Fundecitrus.

### 3 – TABLES OF DATA

The following tables present the 2021-2022 orange crop forecast per sector, age, bloom and variety. In tables 18 to 22, the number of fruits per tree at stripping is presented separately for the 12 regions. If the estimate were made per region, the number of stripped trees would be statistically insufficient. Hence, the maximum detail on the estimate is per sector. Still, the margin of error of the production estimate per sector is higher than the production estimate for the citrus belt as a whole.

Possible subsequent variations in fruit size and fruit drop rate may change the forecast and will be accounted for throughout the crop season by ongoing field monitoring for production estimate updates. Calculations made used whole numbers and all decimal points. Occasional divergences between figures on tables result from rounding numbers.

**Table 7 – 2021-2022 Orange crop forecast by sector**

Sector	Mature groves area	Average density <sup>1</sup> of mature groves	Bearing trees	Fruit per tree at stripping <sup>2</sup>	2021-2022 Orange crop forecast		
					Per tree	Per hectare	Total
(hectares)	(trees/hectare)	(1,000 trees)	(number)	(boxes/tree)	(boxes/hectare)	(1,000,000 boxes)	
North.....	83,983	478	39,665	688	1.90	899	75.46
Northwest.....	34,003	477	15,971	559	1.54	725	24.65
Central.....	97,099	487	46,479	617	1.70	816	79.20
South.....	65,597	493	31,254	595	1.64	781	51.22
Southwest.....	65,441	518	33,191	694	1.92	972	63.64
<b>Total.....</b>	<b>346,123</b>	<b>491</b>	<b>166,560</b>	<b>639</b>	<b>1.77</b>	<b>850</b>	<b>294.17</b>

<sup>1</sup> Calculation considers the total number of trees in the plot, that is, bearing and non-bearing trees (2019 and 2020 resets).

<sup>2</sup> Weighted average per total stratum fruit.

**Table 8 – 2021-2022 Orange crop forecast by tree age group (continues below)**

Age of plots	Mature groves area	Average density <sup>1</sup> of mature groves	Bearing trees by age group				Fruit per tree at stripping by age group of trees <sup>2</sup>			
			3 – 5 years	6 – 10 years	Over 10 years	Total	3 – 5 years	6 – 10 years	Over 10 years	Total
(hectares)	(trees/hectare)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(fruit/tree)	(fruit/tree)	(fruit/tree)	(fruit/tree)
3 – 5 years.....	36,225	641	22,530	-	-	22,530	285	-	-	285
6 – 10 years.....	75,567	596	1,403	42,587	-	43,990	132	542	-	529
Over 10 years.....	234,331	434	2,789	5,767	91,484	100,040	144	320	815	768
<b>Total.....</b>	<b>346,123</b>	<b>491</b>	<b>26,722</b>	<b>48,354</b>	<b>91,484</b>	<b>166,560</b>	<b>262</b>	<b>516</b>	<b>815</b>	<b>639</b>

<sup>1</sup> Calculation considers the total number of trees in the plot, that is, bearing and non-bearing trees (2019 and 2020 resets).

<sup>2</sup> Weighted average per total stratum fruit.

**Table 8 – 2021-2022 Orange crop forecast by tree age group (continued)**

Plots age	2021-2022 Orange crop forecast by tree age group				2021-2022 Orange crop forecast by tree age group			
	3 – 5 years	6 – 10 years	Over 10 years	Total	3 – 5 years	6 – 10 years	Over 10 years	Total
(boxes/tree)	(boxes/tree)	(boxes/tree)	(boxes/tree)	(boxes/tree)	(1,000,000 boxes)	(1,000,000 boxes)	(1,000,000 boxes)	(1,000,000 boxes)
3 – 5 years.....	0.78	-	-	0.78	<b>17.67</b>	-	-	17.67
6 – 10 years.....	0.37	1.50	-	1.46	0.52	<b>63.79</b>	-	64.31
Over 10 years.....	0.39	0.88	2.25	2.12	1.09	5.06	<b>206.04</b>	212.19
<b>Total.....</b>	<b>0.72</b>	<b>1.42</b>	<b>2.25</b>	<b>1.77</b>	<b>19.28</b>	<b>68.85</b>	<b>206.04</b>	<b>294.17</b>

<sup>1</sup> Calculation considers the total number of trees in the plot, that is, bearing and non-bearing trees (2019 and 2020 resets).

**Table 9 – 2021-2022 Orange crop forecast by bloom**

Bloom	2021-2022 Orange crop forecast	Percentage of the orange crop forecast by bloom
	(1,000,000 boxes)	(percentage)
1 <sup>st</sup> .....	86.88	29.6%
2 <sup>nd</sup> .....	136.28	46.3%
3 <sup>rd</sup> .....	58.93	20.0%
4 <sup>th</sup> .....	12.08	4.1%
<b>Total.....</b>	<b>294.17</b>	<b>100.00%</b>

**Table 10 – 2021-2022 Orange crop forecast in percentage of bloom by region**

Bloom	North <sup>1</sup>				Northwest <sup>2</sup>				Central <sup>3</sup>				South <sup>4</sup>			Southwest <sup>5</sup>			Total
	TMG	BEB	ALT	AVE <sup>6</sup>	VOT	SJO	AVE <sup>6</sup>	MAT	DUA	BRO	AVE <sup>6</sup>	PFE	LIM	AVE <sup>6</sup>	AVA	ITG	AVE <sup>6</sup>		
1 <sup>st</sup> .....	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
32.0	37.1	5.2	<b>29.8</b>	46.2	32.5	<b>37.3</b>	29.2	23.1	12.4	<b>23.4</b>	19.4	21.7	<b>20.6</b>	35.8	56.7	<b>41.6</b>	<b>29.6</b>		
2 <sup>nd</sup> .....	60.6	39.9	85.8	<b>55.1</b>	16.6	43.6	<b>34.0</b>	48.5	38.4	65.7	<b>45.7</b>	57.7	50.8	<b>54.2</b>	38.3	23.3	<b>34.1</b>	<b>46.3</b>	
3 <sup>rd</sup> .....	5.7	15.3	7.7	<b>10.7</b>	25.4	15.8	<b>19.2</b>	17.9	36.1	15.6	<b>27.3</b>	19.8	24.7	<b>22.3</b>	22.6	16.8	<b>20.9</b>	<b>20.0</b>	
4 <sup>th</sup> .....	1.7	7.6	1.3	<b>4.4</b>	11.8	8.1	<b>9.4</b>	4.4	2.4	6.3	<b>3.6</b>	3.1	2.8	<b>2.9</b>	3.3	3.3	<b>3.3</b>	<b>4.1</b>	

<sup>1</sup> North: TMG – Triângulo Mineiro, BEB – Bebedouro, ALT – Altinópolis.<sup>2</sup> Northwest: VOT – Votuporanga, SJO – São José do Rio Preto.<sup>3</sup> Central: MAT – Matão, DUA – Duartina, BRO – Brotas.<sup>4</sup> South: PFE – Porto Ferreira, LIM – Limeira.<sup>5</sup> Southwest: AVA – Avaré, ITG – Itapetininga.<sup>6</sup> AVE – Weighted average per total stratum fruit.**Table 11 – 2021-2022 Orange crop forecast and its components by variety group**

Variety group	Mature groves area	Average density <sup>1</sup> of mature groves	Components of May/2021 forecast				2021-2022 Orange crop forecast		
			Bearing trees	Fruit per tree at stripping <sup>2</sup>	Fruit estimated per box	Estimated drop rate	Per tree	Per hectare	Total
<b>Early:</b>	(hectares)	(trees/hectare)	(1,000 trees)	(number)	(number)	(%)	(boxes/tree)	(boxes/hectare)	(1,000,000 boxes)
Hamlin, Westin and Rubi.....	57,598	450	25,410	780	305	12.00	2.02	892	51.37
<b>Other early:</b>									
Valencia Americana, Seleta, Pineapple.....	18,467	499	9,003	614	259	12.00	2.88	914	16.87
<b>Mid-season:</b>									
Pera Rio.....	114,531	529	59,147	531	260	22.00	1.43	739	84.66
<b>Late:</b>									
Valencia and VFolha Murcha <sup>3</sup>	115,222	477	54,121	696	240	24.00	1.98	929	107.07
Natal.....	40,305	477	18,878	638	243	23.20	1.81	849	34.20
<b>Total.....</b>	<b>346,123</b>	<b>491</b>	<b>166,560</b>	<b>639</b>	<b>259</b>	<b>20.50</b>	<b>1.77</b>	<b>850</b>	<b>294.17</b>

(X) Not applicable.

<sup>1</sup> Calculation considers the total number of trees in the plot, that is, bearing and non-bearing trees (2019 and 2020 resets).<sup>2</sup> Weighted average per total stratum fruit.<sup>3</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 12 – 2021-2022 Orange crop forecast by variety group and sector**

Variety group	2021-2022 Orange crop forecast					
	Sector					
	North	Northwest	Central	South	Southwest	Total
(1,000,000 boxes)	(1,000,000 boxes)	(1,000,000 boxes)	(1,000,000 boxes)	(1,000,000 boxes)	(1,000,000 boxes)	(1,000,000 boxes)
<b>Early:</b>						
Hamlin, Westin and Rubi.....	14.17	3.22	14.47	8.16	11.35	51.37
<b>Other early:</b>						
Valencia Americana, Seleta, Pineapple.....	4.91	2.59	5.45	1.28	2.64	16.87
<b>Mid-season:</b>						
Pera Rio.....	18.93	10.88	23.08	16.20	15.57	84.66
<b>Late:</b>						
Valencia and V.Folha Murcha <sup>3</sup>	29.68	5.89	26.99	21.19	23.32	107.07
Natal.....	7.77	2.07	9.21	4.39	10.76	34.20
<b>Average.....</b>	<b>75.46</b>	<b>24.65</b>	<b>79.20</b>	<b>51.22</b>	<b>63.64</b>	<b>294.17</b>

**Table 13 – 2021-2022 Orange crop forecast by variety group – North Sector**

Variety group	Mature groves area	Average density <sup>1</sup> of mature groves	Bearing trees	Fruit per tree at stripping <sup>2</sup>	2021-2022 Orange crop forecast		
					Per tree	Per hectare	Total
	(hectares)	(trees/hectare)	(1,000 trees)	(number)	(boxes/tree)	(boxes/hectare)	(1,000,000 boxes)
<b>Early:</b>							
Hamlin, Westin and Rubi.....	16,092	418	6,620	826	2.14	881	14.17
<b>Other early:</b>							
Valencia Americana, Seleta, Pineapple.....	4,225	511	2,088	770	2.35	1,162	4.91
<b>Mid-season:</b>							
Pera Rio.....	23,918	552	13,007	540	1.46	791	18.93
<b>Late:</b>							
Valencia and V.Folha Murcha <sup>3</sup>	30,194	456	13,637	765	2.18	983	29.68
Natal.....	9,554	454	4,313	635	1.80	813	7.77
<b>Average.....</b>	<b>(X)</b>	<b>478</b>	<b>(X)</b>	<b>688</b>	<b>1.90</b>	<b>899</b>	<b>(X)</b>
<b>Total.....</b>	<b>83,983</b>	<b>(X)</b>	<b>39,665</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>	<b>75.46</b>

**Table 14 – 2021-2022 Orange crop forecast by variety group – Northwest Sector**

Variety group	Mature groves area	Average density <sup>1</sup> of mature groves	Bearing trees	Fruit per tree at stripping <sup>2</sup>	2021-2022 Orange crop forecast		
					Per tree	Per hectare	Total
	(hectares)	(trees/hectare)	(1,000 trees)	(number)	(boxes/tree)	(boxes/hectare)	(1,000,000 boxes)
<b>Early:</b>							
Hamlin, Westin and Rubi.....	4,941	461	2,245	553	1.43	652	3.22
<b>Other early:</b>							
Valencia Americana, Seleta, Pineapple.....	3,413	508	1,661	512	1.56	759	2.59
<b>Mid-season:</b>							
Pera Rio.....	14,577	466	6,697	604	1.62	746	10.88
<b>Late:</b>							
Valencia and V.Folha Murcha <sup>3</sup>	7,387	490	3,597	575	1.64	797	5.89
Natal.....	3,685	484	1,771	411	1.17	562	2.07
<b>Average.....</b>	<b>(X)</b>	<b>477</b>	<b>(X)</b>	<b>559</b>	<b>1.54</b>	<b>725</b>	<b>(X)</b>
<b>Total.....</b>	<b>34,003</b>	<b>(X)</b>	<b>15,971</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>	<b>24.65</b>

(X) Not applicable.

<sup>1</sup> Calculation considers the total number of trees in the plot, that is, bearing and non-bearing trees (2019 and 2020 resets).

<sup>2</sup> Weighted average per total stratum fruit.

<sup>3</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 15 – 2021-2022 Orange crop forecast by variety group – Central Sector**

Variety group	Mature groves area	Average density <sup>1</sup> of mature groves	Bearing trees	Fruit per tree at stripping <sup>2</sup>	2021-2022 Orange crop forecast		
					Per tree	Per hectare	Total
<b>Early:</b>							
Hamlin, Westin and Rubi.....	15,631	459	7,062	791	2.05	926	14.47
<b>Other early:</b>							
Valencia Americana, Seleta, Pineapple.....	6,922	464	3,169	563	1.72	787	5.45
<b>Mid-season:</b>							
Pera Rio.....	33,935	531	17,647	485	1.31	680	23.08
<b>Late:</b>							
Valencia and V.Folha Murcha <sup>3</sup>	30,086	472	13,967	680	1.93	897	26.99
Natal.....	10,525	447	4,634	701	1.99	875	9.21
<b>Average.....</b>	<b>(X)</b>	<b>487</b>	<b>(X)</b>	<b>617</b>	<b>1.70</b>	<b>816</b>	<b>(X)</b>
<b>Total.....</b>	<b>97,099</b>	<b>(X)</b>	<b>46,479</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>	<b>79.20</b>

**Table 16 – 2021-2022 Orange crop forecast by variety group – South Sector**

Variety group	Mature groves area	Average density <sup>1</sup> of mature groves	Bearing trees	Fruit per tree at stripping <sup>2</sup>	2021-2022 Orange crop forecast		
					Per tree	Per hectare	Total
<b>Early:</b>							
Hamlin, Westin and Rubi.....	10,185	467	4,590	687	1.78	801	8.16
<b>Other early:</b>							
Valencia Americana, Seleta, Pineapple.....	1,113	446	494	850	2.59	1,150	1.28
<b>Mid-season:</b>							
Pera Rio.....	24,224	530	12,310	488	1.32	669	16.20
<b>Late:</b>							
Valencia and V.Folha Murcha <sup>3</sup>	24,490	466	11,123	670	1.91	865	21.19
Natal.....	5,585	508	2,738	565	1.60	786	4.39
<b>Average.....</b>	<b>(X)</b>	<b>493</b>	<b>(X)</b>	<b>595</b>	<b>1.64</b>	<b>781</b>	<b>(X)</b>
<b>Total.....</b>	<b>65,597</b>	<b>(X)</b>	<b>31,255</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>	<b>51.22</b>

**Table 17 – 2021-2022 Orange crop forecast by variety group – Southwest Sector**

Variety group	Mature groves area	Average density <sup>1</sup> of mature groves	Bearing trees	Fruit per tree at stripping <sup>2</sup>	2021-2022 Orange crop forecast		
					Per tree	Per hectare	Total
<b>Early:</b>							
Hamlin, Westin and Rubi.....	10,749	465	4,894	895	2.32	1,056	11.35
<b>Other early:</b>							
Valencia Americana, Seleta, Pineapple.....	2,794	582	1,591	544	1.66	945	2.64
<b>Mid-season:</b>							
Pera Rio.....	17,877	543	9,486	609	1.64	871	15.57
<b>Late:</b>							
Valencia and V.Folha Murcha <sup>3</sup>	23,065	521	11,796	695	1.98	1,011	23.32
Natal.....	10,956	509	5,422	699	1.98	982	10.76
<b>Average.....</b>	<b>(X)</b>	<b>518</b>	<b>(X)</b>	<b>694</b>	<b>1.92</b>	<b>972</b>	<b>(X)</b>
<b>Total.....</b>	<b>65,441</b>	<b>(X)</b>	<b>33,189</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>	<b>63.64</b>

(X) Not applicable.

<sup>1</sup> Calculation considers the total number of trees in the plot, that is, bearing and non-bearing trees (2019 and 2020 resets).<sup>2</sup> Weighted average per total stratum fruit.<sup>3</sup> V.Folha Murcha – Valencia Folha Murcha.

**Table 18 – Fruit per tree at stripping<sup>1</sup> by age group, region and variety – North Sector [April 2021 stripping]**

Region and variety groups	Plots 3 – 5 years	Plots 6 – 10 years			Plots over 10 years			Average
	Trees 3 – 5 years	Trees 3 – 5 years	Average	Trees 3 – 5 years	Trees 6 – 10 years	Average		
	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)
<b>TMG<sup>2</sup></b>								
<b>Early:</b>								
Hamlin, Westin and Rubi.....	152	129	359	357	205	169	1,230	1,191
Other early varieties <sup>3</sup> .....	51	4	845	840	18	284	749	746
<b>Mid-season:</b>								
Pera Rio.....	523	78	548	545	47	144	568	556
<b>Late:</b>								
Valencia and V.Folha Murcha <sup>4</sup> ....	126	249	738	736	379	264	1,092	1,074
Natal.....	229	222	606	605	149	421	891	880
<b>Average<sup>1</sup></b> .....	<b>450</b>	<b>142</b>	<b>613</b>	<b>610</b>	<b>209</b>	<b>229</b>	<b>974</b>	<b>954</b>
<b>BEB<sup>5</sup></b>								
<b>Early:</b>								
Hamlin, Westin and Rubi.....	179	86	696	657	12	367	813	764
Other early varieties <sup>3</sup> .....	411	237	791	761	159	157	886	812
<b>Mid-season:</b>								
Pera Rio.....	198	90	490	482	33	266	588	561
<b>Late:</b>								
Valencia and V.Folha Murcha <sup>4</sup> ....	390	302	534	523	49	193	707	661
Natal.....	242	116	441	435	29	156	667	621
<b>Average<sup>1</sup></b> .....	<b>261</b>	<b>190</b>	<b>533</b>	<b>522</b>	<b>48</b>	<b>230</b>	<b>715</b>	<b>671</b>
<b>ALT<sup>6</sup></b>								
<b>Early:</b>								
Hamlin, Westin and Rubi.....	75	95	565	463	77	208	1,187	1,030
Other early varieties <sup>3</sup> .....	NA	139	903	834	138	199	1,049	931
<b>Mid-season:</b>								
Pera Rio.....	242	155	455	437	160	449	1,073	988
<b>Late:</b>								
Valencia and V.Folha Murcha <sup>4</sup> ....	204	64	756	656	62	352	1,170	1,091
Natal.....	284	48	755	684	121	824	969	934
<b>Average<sup>1</sup></b> .....	<b>225</b>	<b>106</b>	<b>578</b>	<b>527</b>	<b>102</b>	<b>383</b>	<b>1,132</b>	<b>1,040</b>
<b>Average sector</b> .....	<b>297</b>	<b>173</b>	<b>569</b>	<b>559</b>	<b>76</b>	<b>269</b>	<b>857</b>	<b>811</b>
<b>688</b>								

NA Not Available

<sup>1</sup> Weighted average per total stratum fruit.

<sup>2</sup> TMG – Triângulo Mineiro.

<sup>3</sup> Valencia Americana, Seleta and Pineapple.

<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>5</sup> BEB – Bebedouro.

<sup>6</sup> ALT – Altinópolis.

**Table 19 – Fruit per tree at stripping<sup>1</sup> by age group, region and variety – Northwest Sector [April 2021 stripping]**

Region and variety groups	Plots 3 – 5 years	Plots 6 – 10 years			Plots over 10 years				Average
	Trees 3 – 5 years	Trees 3 – 5 years	Trees 6 – 10 years	Average	Trees 3 – 5 years	Trees 6 – 10 years	Trees over 10 years	Average	
	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)
<b>VOT<sup>2</sup></b>									
<b>Early:</b>									
Hamlin, Westin and Rubi.....	423	15	715	700	41	253	511	491	554
Other early varieties <sup>3</sup> .....	126	52	582	569	157	423	843	815	502
<b>Mid-season:</b>									
Pera Rio.....	282	147	487	481	64	143	730	648	518
<b>Late:</b>									
Valencia and V.Folha Murcha <sup>4</sup> ....	200	63	538	531	39	395	835	827	596
Natal.....	292	106	272	269	154	225	699	691	407
<b>Average<sup>1</sup>.....</b>	<b>243</b>	<b>75</b>	<b>524</b>	<b>516</b>	<b>70</b>	<b>213</b>	<b>715</b>	<b>681</b>	<b>528</b>
<b>SJO<sup>5</sup></b>									
<b>Early:</b>									
Hamlin, Westin and Rubi.....	203	512	674	671	41	141	429	414	543
Other early varieties <sup>3</sup> .....	NA	52	521	458	157	423	833	811	656
<b>Mid-season:</b>									
Pera Rio.....	375	67	657	647	40	340	774	758	660
<b>Late:</b>									
Valencia and V.Folha Murcha <sup>4</sup> ....	200	135	774	765	39	131	400	397	451
Natal.....	303	NA	445	445	47	161	511	491	454
<b>Average<sup>1</sup>.....</b>	<b>366</b>	<b>96</b>	<b>658</b>	<b>647</b>	<b>50</b>	<b>313</b>	<b>693</b>	<b>680</b>	<b>627</b>
<b>Average sector.....</b>	<b>271</b>	<b>82</b>	<b>563</b>	<b>554</b>	<b>69</b>	<b>250</b>	<b>707</b>	<b>681</b>	<b>559</b>

<sup>1</sup> Weighted average per total stratum fruit.<sup>2</sup> VOT – Votuporanga.<sup>3</sup> Valencia Americana, Seleta and Pineapple.<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.<sup>5</sup> SJO - São José do Rio Preto.

**Table 20 – Fruit per tree at stripping<sup>1</sup> by age group, region and variety – Central Sector [April 2021 stripping]**

Region and variety groups	Plots 3 – 5 years	Plots 6 – 10 years			Plots over 10 years			Average
	Trees 3 – 5 years	Trees 3 – 5 years	Trees 6 – 10 years	Average	Trees 3 – 5 years	Trees 6 – 10 years	Trees over 10 years	
	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)
<b>MAT<sup>2</sup></b>								
<b>Early:</b>								
Hamlin, Westin and Rubi.....	256	154	1,115	1,046	91	176	619	590
Other early varieties <sup>3</sup> .....	211	60	1,099	1,065	110	360	769	746
<b>Mid-season:</b>								
Pera Rio.....	147	114	339	336	174	383	562	540
<b>Late:</b>								
Valencia and V.Folha Murcha <sup>4</sup> ....	62	102	410	406	77	302	1,131	1,023
Natal.....	560	252	435	432	177	629	734	718
<b>Average<sup>1</sup></b> .....	<b>218</b>	<b>122</b>	<b>472</b>	<b>464</b>	<b>115</b>	<b>349</b>	<b>762</b>	<b>720</b>
<b>DUA<sup>6</sup></b>								
<b>Early:</b>								
Hamlin, Westin and Rubi.....	309	115	667	644	341	359	1,509	1,316
Other early varieties <sup>3</sup> .....	315	196	487	465	110	239	328	317
<b>Mid-season:</b>								
Pera Rio.....	204	66	529	514	168	491	725	693
<b>Late:</b>								
Valencia and V.Folha Murcha <sup>4</sup> ....	300	82	542	526	151	372	833	782
Natal.....	409	262	707	692	177	244	946	881
<b>Average<sup>1</sup></b> .....	<b>273</b>	<b>113</b>	<b>563</b>	<b>546</b>	<b>211</b>	<b>382</b>	<b>879</b>	<b>823</b>
<b>BRO<sup>7</sup></b>								
<b>Early:</b>								
Hamlin, Westin and Rubi.....	461	170	1,258	1,140	217	457	534	521
Other early varieties <sup>3</sup> .....	422	319	485	477	110	305	689	658
<b>Mid-season:</b>								
Pera Rio.....	368	54	307	295	103	271	938	849
<b>Late:</b>								
Valencia and V.Folha Murcha <sup>4</sup> ....	200	171	362	355	45	360	992	922
Natal.....	191	107	671	661	128	360	648	621
<b>Average<sup>1</sup></b> .....	<b>296</b>	<b>121</b>	<b>448</b>	<b>432</b>	<b>102</b>	<b>365</b>	<b>853</b>	<b>793</b>
<b>Average sector.....</b>	<b>251</b>	<b>117</b>	<b>507</b>	<b>495</b>	<b>177</b>	<b>369</b>	<b>841</b>	<b>788</b>
								<b>617</b>

<sup>1</sup> Weighted average per total stratum fruit.

<sup>2</sup> MAT – Matão.

<sup>3</sup> V.Americana – Valencia Americana, Seleta and Pineapple.

<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.

<sup>6</sup> DUA – Duartina.

<sup>7</sup> BRO – Brotas.

**Table 21 – Fruit per tree at stripping<sup>1</sup> by age group, region and variety – South Sector [April 2021 stripping]**

Region and variety groups	Plots 3 – 5 years	Plots 6 – 10 years				Plots over 10 years			Average
	Trees 3 – 5 years	Trees 3 – 5 years	Average	Trees 3 – 5 years	Trees 6 – 10 years	Average	Trees 3 – 5 years	Trees 6 – 10 years	
	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)
<b>PFE<sup>2</sup></b>									
<b>Early:</b>									
Hamlin, Westin and Rubi.....	216	67	811	761	144	620	656	633	609
Other early varieties <sup>3</sup> .....	393	268	546	537	157	339	1,276	1,226	1,144
<b>Mid-season:</b>									
Pera Rio.....	410	90	410	400	123	120	686	630	506
<b>Late:</b>									
Valencia and V.Folha Murcha <sup>4</sup> ....	240	68	353	346	229	348	800	742	591
Natal.....	159	173	370	362	291	346	943	899	564
<b>Average<sup>1</sup></b> .....	<b>325</b>	<b>94</b>	<b>427</b>	<b>416</b>	<b>178</b>	<b>373</b>	<b>767</b>	<b>714</b>	<b>567</b>
<b>LIM<sup>5</sup></b>									
<b>Early:</b>									
Hamlin, Westin and Rubi.....	470	18	695	667	144	380	886	801	755
Other early varieties <sup>3</sup> .....	393	251	462	459	157	339	349	344	359
<b>Mid-season:</b>									
Pera Rio.....	399	122	361	348	143	290	591	550	468
<b>Late:</b>									
Valencia and V.Folha Murcha <sup>4</sup> ....	151	93	822	765	126	358	886	814	751
Natal.....	155	76	496	477	55	117	864	756	566
<b>Average<sup>1</sup></b> .....	<b>313</b>	<b>101</b>	<b>525</b>	<b>500</b>	<b>133</b>	<b>313</b>	<b>781</b>	<b>716</b>	<b>624</b>
<b>Average sector</b> .....	<b>320</b>	<b>98</b>	<b>467</b>	<b>451</b>	<b>149</b>	<b>345</b>	<b>775</b>	<b>715</b>	<b>595</b>

NA Not Available

<sup>1</sup> Weighted average per total stratum fruit.<sup>2</sup> PFE – Porto Ferreira.<sup>3</sup> V.Americana – Valencia Americana, Seleta and Pineapple<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.<sup>5</sup> LIM – Limeira.

**Table 22 – Fruit per tree at stripping<sup>1</sup> by age group, region and variety – Southwest Sector [April 2021 stripping]**

Region and variety groups	Plots 3 – 5 years	Plots 6 – 10 years			Plots over 10 years			Average
	Trees 3 – 5 years	Trees 3 – 5 years	Average	Trees 3 – 5 years	Trees 6 – 10 years	Average		
	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)
<b>AVA<sup>2</sup></b>								
<b>Early:</b>								
Hamlin, Westin and Rubi.....	281	78	541	511	415	408	1,149	1,054
Other early varieties <sup>3</sup> .....	185	278	607	590	204	644	971	919
<b>Mid-season:</b>								
Pera Rio.....	248	324	588	575	126	116	675	638
<b>Late:</b>								
Valencia and V.Folha Murcha <sup>4</sup> ....	231	277	564	546	44	245	828	779
Natal.....	395	74	421	359	40	247	706	660
<b>Average<sup>1</sup>.....</b>	<b>252</b>	<b>186</b>	<b>549</b>	<b>520</b>	<b>179</b>	<b>264</b>	<b>822</b>	<b>773</b>
<b>ITG<sup>5</sup></b>								
<b>Early:</b>								
Hamlin, Westin and Rubi.....	434	472	1,346	1,344	415	408	531	530
Other early varieties <sup>3</sup> .....	180	132	683	679	153	227	587	543
<b>Mid-season:</b>								
Pera Rio.....	289	150	703	700	102	364	903	897
<b>Late:</b>								
Valencia and V.Folha Murcha <sup>4</sup> ....	330	175	932	929	60	189	610	607
Natal.....	692	45	652	642	40	455	957	954
<b>Average<sup>1</sup>.....</b>	<b>333</b>	<b>131</b>	<b>817</b>	<b>812</b>	<b>99</b>	<b>290</b>	<b>762</b>	<b>758</b>
<b>Average sector.....</b>	<b>309</b>	<b>183</b>	<b>671</b>	<b>648</b>	<b>177</b>	<b>264</b>	<b>810</b>	<b>770</b>
								<b>694</b>

NA Not Available

<sup>1</sup> Weighted average per total stratum fruit.<sup>2</sup> AVA – Avaré.<sup>3</sup> V.Americana – Valencia Americana, Seleta and Pineapple<sup>4</sup> V.Folha Murcha – Valencia Folha Murcha.<sup>5</sup> ITG – Itapetininga.







