Florida All Orange Production Down 1 Percent from March
Florida Non-Valencia Orange Production Down 2 Percent
Florida Valencia Orange Production Unchanged
Florida All Grapefruit Production Lowered 9 Percent
Florida All Tangerine and Tangelo Unchanged

Citrus Production by Type – States and United States

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1,000 boxes)</td>
<td>(1,000 boxes)</td>
<td>(1,000 boxes)</td>
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<tr>
<td>Non-Valencia Oranges 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>33,000</td>
<td>18,950</td>
<td>31,000</td>
</tr>
<tr>
<td>California</td>
<td>39,300</td>
<td>35,900</td>
<td>40,000</td>
</tr>
<tr>
<td>Texas</td>
<td>1,090</td>
<td>1,530</td>
<td>2,000</td>
</tr>
<tr>
<td>United States</td>
<td>73,390</td>
<td>56,380</td>
<td>73,000</td>
</tr>
<tr>
<td>Valencia Oranges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>35,850</td>
<td>* 26,100</td>
<td>46,000</td>
</tr>
<tr>
<td>California</td>
<td>9,000</td>
<td>9,500</td>
<td>9,500</td>
</tr>
<tr>
<td>Texas</td>
<td>280</td>
<td>350</td>
<td>600</td>
</tr>
<tr>
<td>United States</td>
<td>45,130</td>
<td>* 35,950</td>
<td>56,100</td>
</tr>
<tr>
<td>All Oranges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>68,850</td>
<td>* 45,050</td>
<td>77,000</td>
</tr>
<tr>
<td>California</td>
<td>48,300</td>
<td>45,400</td>
<td>49,500</td>
</tr>
<tr>
<td>Texas</td>
<td>1,370</td>
<td>1,880</td>
<td>2,600</td>
</tr>
<tr>
<td>United States</td>
<td>118,520</td>
<td>* 92,330</td>
<td>129,100</td>
</tr>
<tr>
<td>Grapefruit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida-All</td>
<td>7,760</td>
<td>3,880</td>
<td>5,400</td>
</tr>
<tr>
<td>Red</td>
<td>6,280</td>
<td>3,180</td>
<td>4,600</td>
</tr>
<tr>
<td>White</td>
<td>1,480</td>
<td>700</td>
<td>800</td>
</tr>
<tr>
<td>California</td>
<td>4,400</td>
<td>4,000</td>
<td>4,600</td>
</tr>
<tr>
<td>Texas</td>
<td>4,800</td>
<td>4,800</td>
<td>6,300</td>
</tr>
<tr>
<td>United States</td>
<td>16,960</td>
<td>12,680</td>
<td>15,700</td>
</tr>
<tr>
<td>Lemons</td>
<td></td>
<td></td>
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<tr>
<td>Arizona</td>
<td>1,550</td>
<td>1,000</td>
<td>1,400</td>
</tr>
<tr>
<td>California</td>
<td>20,500</td>
<td>21,200</td>
<td>21,000</td>
</tr>
<tr>
<td>United States</td>
<td>22,050</td>
<td>22,200</td>
<td>21,400</td>
</tr>
<tr>
<td>Tangerines and Tangelos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida-All 3</td>
<td>1,620</td>
<td>750</td>
<td>950</td>
</tr>
<tr>
<td>Early 4</td>
<td>600</td>
<td>(NA)</td>
<td>(NA)</td>
</tr>
<tr>
<td>Royal</td>
<td>210</td>
<td>(NA)</td>
<td>(NA)</td>
</tr>
<tr>
<td>Honey</td>
<td>530</td>
<td>(NA)</td>
<td>(NA)</td>
</tr>
<tr>
<td>Tangelos</td>
<td>280</td>
<td>(NA)</td>
<td>(NA)</td>
</tr>
<tr>
<td>California 5</td>
<td>23,800</td>
<td>19,200</td>
<td>23,000</td>
</tr>
<tr>
<td>United States</td>
<td>25,420</td>
<td>19,950</td>
<td>23,950</td>
</tr>
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</table>

* Revised.
NA Not available.
1 Net pounds per box: oranges in California-80, Florida-90, Texas-85; grapefruit in California and Texas-80, Florida-85; lemons-80; and tangerines and mandarins in California-80, Florida-95.
2 Navel and miscellaneous varieties in California. Early and midseason non-Valencia (including Navel) varieties in Florida and Texas.
3 In 2016-2017, includes Fallglo, Sunburst, Royal, and Honey tangerine varieties and tangelos. Beginning in 2017-2018, includes all certified varieties of tangerines and tangelos.
4 Fallglo and Sunburst varieties.
5 Includes tangelos and tangors in California.
All Oranges 76.5 Million Boxes
The 2018-2019 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 76.5 million boxes, down slightly from the March forecast. The total includes of 30.5 million boxes of non-Valencia oranges (early, midseason, and Navel varieties) and 46.0 million boxes of Valencia oranges.

Non-Valencia Oranges 30.5 Million Boxes
The forecast of non-Valencia production is 30.5 million boxes, down 500,000 boxes from the March forecast. The Row Count survey conducted March 27-28, 2019, showed 98 percent of the early-midseason rows are harvested. Estimated utilization for non-Valencia oranges to April 1, with an allocation for non-certified fruit, is 30.4 million boxes. The Navel forecast, included in the non-Valencia portion of the forecast, remains at 750 thousand boxes.

Valencia Oranges 46.0 Million Boxes
The forecast of Valencia production is unchanged at 46.0 million boxes. Final fruit size is below the minimum, requiring 265 pieces to fill a 90-pound box. Final droppage is above average. The Row Count survey conducted March 27-28, 2019 showed 27 percent of the Valencia rows are harvested. Estimated utilization for Valencia oranges to April 1, with an allocation for non-certified fruit, is 11.4 million boxes.

All Grapefruit 4.90 Million Boxes
The forecast of all grapefruit production is lowered 500 thousand boxes to 4.90 million boxes. The white grapefruit forecast is unchanged at 800 thousand boxes. The red grapefruit forecast is lowered 500 thousand boxes to 4.10 million boxes. Estimated utilization to April 1, with an allocation for non-certified use, of white grapefruit is 764 thousand boxes and of red grapefruit is 3.56 million boxes. The Row Count survey conducted March 27-28, 2019, indicated 94 percent of the red grapefruit rows and 93 percent of the white grapefruit rows are harvested.

Tangerines and Tangelos 950 Thousand Boxes
The forecast for the tangerine and tangelo production is unchanged at 950 thousand boxes. If realized, this production level will be 27 percent more than last season’s hurricane affected production of 750 thousand boxes. This forecast number includes all certified tangerine and tangelo varieties. Estimated utilization to April 1, with an allocation for non-certified use is 930 thousand boxes.

Reliability
To assist users in evaluating the reliability of the April 1 Florida production forecasts, the "Root Mean Square Error,” a statistical measure based on past performance, is computed. The deviation between the April 1 production forecast and the final estimate is expressed as a percentage of the final estimate. The average of squared percentage deviations for the latest 20-year period is computed. The square root of the average becomes statistically the "Root Mean Square Error.” Probability statements can be made concerning expected differences in the current forecast relative to the final end-of-season estimate, assuming that factors affecting this year’s forecast are not different from those influencing recent years.

The "Root Mean Square Error” for the April 1 Florida all orange production forecast is 2.9 percent. However, if you exclude the three abnormal production seasons (three hurricane seasons), the "Root Mean Square Error” is 3.0 percent. This means chances are 2 out of 3 that the current all orange production forecast will not be above or below the final estimates by more than 2.9 percent, or 3.0 percent excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 5.0 percent. The results are 5.3 percent when excluding abnormal seasons.

Changes between the April 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 3.12 million boxes (3.27 million, excluding abnormal seasons), ranging from 0.05 million boxes to 5.7 million boxes including abnormal seasons, (0.70 to 5.7 million boxes excluding abnormal seasons). The April 1 forecast for all oranges has been below the final estimate 9 times, above 11 times, (below 9 times, above 8 times, excluding abnormal seasons). The difference does not imply that the April 1 forecasts this year are likely to understate or overstate final production.

Forecast Components, by Type – Florida: April 2019
[Survey data is considered final in December for Navel, January for early-midseason oranges, February for grapefruit, and April for Valencia oranges]

<table>
<thead>
<tr>
<th>Type</th>
<th>Bearing trees</th>
<th>Fruit per tree</th>
<th>Droppage</th>
<th>Fruit per box</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1,000 trees)</td>
<td>(number)</td>
<td>(percent)</td>
<td>(number)</td>
</tr>
<tr>
<td><strong>ORANGES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Early-midseason non-Valencia . . . .</td>
<td>19,718</td>
<td>813</td>
<td>26</td>
<td>335</td>
</tr>
<tr>
<td>Navel . . . . . . . . . . . . . . .</td>
<td>951</td>
<td>213</td>
<td>26</td>
<td>142</td>
</tr>
<tr>
<td>Valencia . . . . . . . . . . . . . .</td>
<td>29,262</td>
<td>609</td>
<td>25</td>
<td>265</td>
</tr>
<tr>
<td><strong>GRAPEFRUIT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red . . . . . . . . . . . . . . .</td>
<td>2,573</td>
<td>369</td>
<td>34</td>
<td>137</td>
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<tr>
<td>White . . . . . . . . . . . . . . .</td>
<td>540</td>
<td>362</td>
<td>36</td>
<td>124</td>
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</table>
Maturity

Regular bloom fruit samples were collected from groves on established routes March 27-28, 2019 in Florida’s five major citrus producing areas and tested March 29, 2019. Only Valencia oranges were collected and tested this month. All comparisons are made to April 1, 2018. Acids are lower and solids (Brix) are higher, resulting in higher ratios. Unfinished juice per box and solids per box are higher.

Indian River comparisons are made to fruit from other areas for this test period. Indian River oranges have a higher acid level and a higher solids (Brix) with a lower ratio. Unfinished juice per box is lower and solids per box is higher for Valencia oranges in the Indian River District when compared to other areas.

Unadjusted Maturity Tests — Florida: April 1, 2017-2018 and 2018-2019

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Valencia Oranges (99-108)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct 1</td>
<td>1.84</td>
<td>1.91</td>
<td>8.74</td>
<td>8.55</td>
<td>4.83</td>
<td>4.52</td>
<td>48.81</td>
<td>46.48</td>
<td>4.26</td>
<td>3.98</td>
</tr>
<tr>
<td>Nov 1</td>
<td>1.57</td>
<td>1.52</td>
<td>8.80</td>
<td>9.11</td>
<td>5.66</td>
<td>6.09</td>
<td>51.34</td>
<td>50.45</td>
<td>4.52</td>
<td>4.60</td>
</tr>
<tr>
<td>Dec 1</td>
<td>1.27</td>
<td>1.26</td>
<td>9.19</td>
<td>9.63</td>
<td>7.31</td>
<td>7.71</td>
<td>53.43</td>
<td>52.18</td>
<td>4.91</td>
<td>5.03</td>
</tr>
<tr>
<td>Jan 1</td>
<td>1.06</td>
<td>1.06</td>
<td>10.06</td>
<td>10.57</td>
<td>9.62</td>
<td>10.09</td>
<td>54.36</td>
<td>52.83</td>
<td>5.47</td>
<td>5.58</td>
</tr>
<tr>
<td>Feb 1</td>
<td>1.01</td>
<td>1.00</td>
<td>10.63</td>
<td>11.05</td>
<td>10.65</td>
<td>11.08</td>
<td>54.61</td>
<td>52.65</td>
<td>5.80</td>
<td>5.81</td>
</tr>
<tr>
<td>Mar 1</td>
<td>0.87</td>
<td>0.85</td>
<td>11.11</td>
<td>11.50</td>
<td>12.86</td>
<td>13.59</td>
<td>55.19</td>
<td>53.64</td>
<td>6.13</td>
<td>6.16</td>
</tr>
<tr>
<td>Apr 1</td>
<td>0.85</td>
<td>0.80</td>
<td>11.36</td>
<td>11.67</td>
<td>13.58</td>
<td>14.70</td>
<td>54.70</td>
<td>54.89</td>
<td>6.22</td>
<td>6.40</td>
</tr>
</tbody>
</table>

Unadjusted Maturity Test Averages, by Areas — Florida: April 1, 2017-2018 and 2018-2019

|-------------------------------|----------------|----------------|-------------------------|-------------------------|----------------|----------------|---------------------------------|---------------------------------|                      |                      |
| Valencia Oranges              |                |                |                         |                         |                |                |                                 |                                 |                      |                      |
| Indian River (21-21)          | 0.91           | 0.85           | 12.09                   | 12.07                   | 13.42          | 14.36          | 54.54                           | 54.01                           | 6.59                 | 6.51                 |
| Other Areas (78-87)           | 0.83           | 0.79           | 11.17                   | 11.57                   | 13.62          | 14.78          | 54.74                           | 55.10                           | 6.12                 | 6.38                 |

Fruit Size Comparisons to Previous Seasons

Size frequency distributions from the March size survey are shown in the below table. The distributions are by percent of fruit falling within the size range of each 4/5-bushel container. These frequency distributions include fruit from regular bloom and exclude fruit from summer bloom.

The chart to the right shows the distribution of fruit sizes in 2018 compared to 2019. The diameter measurements shown are the minimum values of fruit measured, except for the smallest value.

Citrus Size Frequency Measurement Distributions, by Type – Florida: March

```
<table>
<thead>
<tr>
<th>Diameter (Inches)</th>
<th>2017 (percent)</th>
<th>2018 (percent)</th>
<th>2019 (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥3 ½</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>3</td>
<td>10%</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>2 ½</td>
<td>15%</td>
<td>18%</td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>10%</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>1 ½</td>
<td>5%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>1</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>≤ 1</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>
```

Fruit Size Frequency Measurements, Valencia Oranges, by Diameter – Florida: March