



# CITRUS MAY FORECAST MATURITY TEST RESULTS AND FRUIT SIZE

Cooperating with the Florida Department of Agriculture and Consumer Services  
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May 10, 2018

**Florida All Orange Production Down slightly from April**  
**Florida Non-Valencia Orange Production Down Slightly**  
**Florida Valencia Orange Production Unchanged**  
**Florida All Grapefruit Production Down 1 percent**  
**Florida All Tangerine and Tangelo Down 3 percent**

<b>FORECAST DATES - 2017-2018 SEASON</b>	
June 12, 2018	July 12, 2018

Crop and State	Production <sup>1</sup>		2017-2018 Forecasted Production <sup>1</sup>	
	2015-2016 (1,000 boxes)	2016-2017 (1,000 boxes)	April (1,000 boxes)	May (1,000 boxes)
<b>Non-Valencia Oranges <sup>2</sup></b>				
Florida.....	<b>36,100</b>	<b>33,000</b>	<b>19,000</b>	<b>18,950</b>
California <sup>3</sup> .....	47,200	39,300	35,000	35,000
Texas <sup>3</sup> .....	1,351	1,090	1,550	1,550
United States.....	84,651	73,390	55,550	55,500
<b>Valencia Oranges</b>				
Florida.....	<b>45,600</b>	<b>35,850</b>	<b>26,000</b>	<b>26,000</b>
California <sup>3</sup> .....	11,300	9,000	9,500	9,500
Texas <sup>3</sup> .....	340	280	560	560
United States.....	57,240	45,130	36,060	36,060
<b>All Oranges</b>				
Florida.....	<b>81,700</b>	<b>68,850</b>	<b>45,000</b>	<b>44,950</b>
California <sup>3</sup> .....	58,500	48,300	44,500	44,500
Texas <sup>3</sup> .....	1,691	1,370	2,110	2,110
United States.....	141,891	118,520	91,610	91,560
<b>Grapefruit</b>				
Florida-All.....	<b>10,800</b>	<b>7,760</b>	<b>4,000</b>	<b>3,950</b>
White.....	<b>2,490</b>	<b>1,480</b>	<b>750</b>	<b>700</b>
Red.....	<b>8,310</b>	<b>6,280</b>	<b>3,250</b>	<b>3,250</b>
California <sup>3</sup> .....	3,800	4,400	4,000	4,000
Texas <sup>3</sup> .....	4,800	4,800	5,700	5,700
United States.....	19,400	16,960	13,700	13,650
<b>Lemons <sup>3</sup></b>				
California.....	21,000	20,500	20,500	20,500
Arizona.....	1,600	1,650	1,300	1,300
United States.....	22,600	22,150	21,800	21,800
<b>Tangelos</b>				
Florida.....	<b>390</b>	<b>(NA)</b>	<b>(NA)</b>	<b>(NA)</b>
<b>Tangerines and Tangelos</b>				
Florida-All <sup>4</sup> .....	<b>1,415</b>	<b>1,620</b>	<b>770</b>	<b>750</b>
Early <sup>5</sup> .....	<b>785</b>	<b>600</b>	<b>(NA)</b>	<b>(NA)</b>
Royal <sup>6</sup> .....	<b>(NA)</b>	<b>210</b>	<b>(NA)</b>	<b>(NA)</b>
Honey.....	<b>630</b>	<b>530</b>	<b>(NA)</b>	<b>(NA)</b>
Tangelos.....	<b>(NA)</b>	<b>280</b>	<b>(NA)</b>	<b>(NA)</b>
California <sup>3,7</sup> .....	21,700	23,900	21,000	21,000
United States.....	23,115	25,520	21,770	21,750

NA Not available.

<sup>1</sup> Net pounds per box: oranges in California-80, Florida-90, Texas-85; grapefruit in California and Texas-80, Florida-85; lemons-80; tangelos-90 in Florida for 2015-2016, and tangerines and mandarins in California-80, Florida-95.

<sup>2</sup> Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas. Includes small quantities of Temples in Florida for 2015-2016.

<sup>3</sup> Estimates carried forward from April forecast.

<sup>4</sup> Prior to 2016-2017 includes Fallglo, Sunburst, and Honey tangerine varieties only. 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.

<sup>5</sup> Fallglo and Sunburst varieties.

<sup>6</sup> Beginning in 2016-2017, Temples have been reclassified as Royal tangerines.

<sup>7</sup> Includes tangelos and tangors in California.

## Regressions

Regression data used are from the 2007-2008 through 2016-2017 seasons. All references to “average”, “minimum”, and “maximum” refer to these 10 seasons unless noted.

### All Oranges 45.0 Million Boxes

The 2017-2018 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 45.0 million boxes, down slightly from the April forecast. The total includes of 19.0 million boxes of non-Valencia oranges (early, midseason, and Navel varieties) and 26.0 million boxes of Valencia oranges.

### Non-Valencia Oranges 19.0 Million Boxes

The forecast of non-Valencia production is finalized at 19.0 million boxes. Harvest is complete for the included varieties. The Navel forecast, included in the non-Valencia portion of the forecast, is 500,000 boxes, 3 percent of the non-Valencia total.

### Valencia Oranges 26.0 Million Boxes

The forecast of Valencia production is unchanged from the April forecast. Weekly certifications in April were between 2.4 million and 2.9 million boxes. The Row Count survey conducted April 30 to May 1, 2018 showed 89 percent of the Valencia rows are harvested. Estimated utilization to May 1, including an allocation for other use, is 21.2 million boxes. Processors were surveyed regarding fruit processed through April 30th and the estimated quantity remaining to be processed to the end of the season. Analysis of the Row Count Survey, estimated utilization to the first of the month, and the processors report support holding the Valencia orange forecast.

### All Grapefruit 3.95 Million Boxes

The forecast of all grapefruit production is lowered 50,000 boxes to 3.95 million boxes. The white grapefruit forecast is lowered 50,000 boxes to 700,000 boxes. The red grapefruit forecast is unchanged. Estimated utilization to May 1, with an allocation for non-certified use, of white grapefruit is 700,000 boxes and of red grapefruit is 3.25 million boxes. The Row Count survey conducted April 29 to May 1, 2018, indicated harvest is complete for these varieties.

### Tangerines and Tangelos 750,000 Boxes

The forecast for the tangerine and tangelo production is lowered 20,000 boxes to 750,000 boxes. If realized, this production level will be 54 percent less than last season’s production. Utilization is over for all tangerines and tangelos this season.

## Weather

Weather stations in the citrus growing region reported average or above average temperatures all month, reaching the lower to upper 80s on most days. Rainfall was above average in about two-thirds of the citrus growing region. Most of those that had less precipitation were in the southern half of the citrus growing region. Several stations in the Northern area reported between three and five inches of rainfall. According to the April 26, 2018 U.S. Drought Monitor, all citrus producing counties south of Lake Okeechobee were being affected by moderate to severe drought. In the Northern, Central and Indian River District citrus areas, moderate drought conditions continue in Orange, Osceola, Brevard, Indian River, St. Lucie, and Martin Counties. Several of the remaining citrus producing counties are abnormally dry.

## Reliability

To assist users in evaluating the reliability of the May 1 Florida production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the May 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 May 1 Florida all orange production forecast is 2.1 percent. However, if you exclude the two abnormal production seasons (two hurricane seasons), the "Root Mean Square Error" is 2.0 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 2.1 percent, or 2.0 percent excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 3.6 percent, or 3.5 percent excluding abnormal seasons.

Changes between the May 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 2.64 million boxes (2.56 million, excluding abnormal seasons), ranging from 0.50 million boxes to 5.60 million boxes regardless of exclusions. The May 1 forecast for all oranges has been below the final estimate 11 times, above 9 times, (below 11 times, above 7 times, excluding abnormal seasons). The difference does not imply that the May 1 forecasts this year are likely to understate or overstate final production.

## Maturity

Regular bloom fruit samples were collected from groves on established routes April 30 to May 1, 2018 in Florida's five major citrus producing areas and tested May 2, 2018. Only Valencia oranges were collected and tested this month. All comparisons are made to May 1, 2017. Acids and solids (Brix) are lower, resulting in higher ratios. Unfinished juice per box and solids per box are lower.

### Unadjusted Maturity Tests — Florida: May 1, 2016-2017 and 2017-2018

[Averages of regular bloom fruit from sample groves. Juice and solids per box are unadjusted and not comparable to juice processing plant test results. For 2016-2017 all samples were run through an FMC 091 machine using mechanical pressure only. This machine utilizes a .040 short strainer and standard 5/8 inch orifice tube on all cups. For 2017-2018, samples were run through an FMC 091B machine using pneumatic pressure. This machine utilizes a 0.025 short strainer and a 1.00 inch orifice tube for the 3 inch cup and a 1.25 inch orifice tube for the 4 inch and 5 inch cups]

Fruit type (number of groves) test date	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
<b>Valencia Oranges</b> (47-17)										
Oct 1 .....	2.01	1.85	8.81	8.86	4.49	4.88	46.91	49.61	4.13	4.41
Nov 1 .....	1.68	1.55	9.16	8.83	5.50	5.79	50.10	51.89	4.59	4.58
Dec 1 .....	1.42	1.23	10.00	9.18	7.11	7.57	52.84	53.15	5.28	4.89
Jan 1 .....	1.24	1.05	10.72	10.12	8.73	9.78	53.18	53.70	5.70	5.44
Feb 1 .....	1.09	0.99	11.31	10.76	10.45	10.95	56.74	55.21	6.42	5.93
Mar 1 .....	1.00	0.86	11.76	11.02	11.87	12.97	54.99	53.15	6.46	5.86
Apr 1 .....	0.88	0.84	12.07	11.47	13.84	13.85	55.37	54.68	6.69	6.26
May 1 .....	0.81	0.75	12.19	11.41	15.22	15.28	55.59	54.74	6.78	6.26

### Unadjusted Maturity Test Averages, by Areas — Florida: May 1, 2016-2017 and 2017-2018

Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
<b>Valencia Oranges</b>										
Indian River (5-3) .....	0.86	(D)	12.53	(D)	14.64	(D)	53.27	(D)	6.70	(D)
Other Areas (42-14) .....	0.80	0.75	12.15	11.49	15.29	15.51	55.86	54.60	6.79	6.29

D Withheld to avoid disclosing data for individual operations.