



CITRUS APRIL FORECAST MATURITY TEST RESULTS AND FRUIT SIZE

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Florida All Orange Production is Down 1 Percent from the March Forecast
Florida Non-Valencia Orange Production Unchanged
Florida Valencia Orange Production Down 2 Percent
Florida All Grapefruit Production Down 4 Percent
Florida All Tangerine and Tangelo Production Unchanged

FORECAST DATES - 2019-2020 SEASON	
May 12, 2020	June 11, 2020
July 10, 2020	

Citrus Production by Type – States and United States

Crop and State	Production ¹		2019-2020 Forecasted Production ¹	
	2017-2018 (1,000 boxes)	2018-2019 (1,000 boxes)	March (1,000 boxes)	April (1,000 boxes)
Non-Valencia Oranges ²				
Florida	18,950	30,400	30,000	30,000
California	35,900	42,000	40,000	40,000
Texas	1,530	2,210	1,950	1,800
United States.....	56,380	74,610	71,950	71,800
Valencia Oranges				
Florida	26,100	41,450	41,000	40,000
California	8,300	9,400	8,500	8,500
Texas	350	290	610	500
United States.....	34,750	51,140	50,110	49,000
All Oranges				
Florida	45,050	71,850	71,000	70,000
California	44,200	51,400	48,500	48,500
Texas	1,880	2,500	2,560	2,300
United States.....	91,130	125,750	122,060	120,800
Grapefruit				
Florida-All	3,880	4,510	5,400	5,200
Red	3,180	3,740	4,500	4,300
White	700	770	900	900
California	3,800	4,100	4,100	4,300
Texas	4,800	6,100	6,200	5,800
United States.....	12,480	14,710	15,700	15,300
Lemons				
Arizona	1,000	1,350	1,400	1,900
California	21,200	23,700	19,000	21,000
United States.....	22,200	25,050	20,400	22,900
Tangerines and Tangelos				
Florida ³	750	990	1,050	1,050
California ⁴	19,200	26,500	22,000	23,000
United States.....	19,950	27,490	23,050	24,050

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 non-Valencia (including Navel) and midseason non-Valencia varieties in Florida and Texas.

³ Includes all certified varieties of tangerines and tangelos.

⁴ Includes tangelos and tangors.

All Oranges 70.0 Million Boxes

The 2019-2020 Florida all orange forecast released today by the USDA Agricultural Statistics Board is lowered 1.00 million boxes to 70.0 million boxes. If realized, this will be 3 percent less than last season's revised final production. The forecast consists of 30.0 million boxes of the non-Valencia oranges (early, midseason, and Navel varieties) and 40.0 million boxes of the Valencia oranges. A 9-year regression has been used for comparison purposes. All references to "average", "minimum", and "maximum" refer to the previous 10 seasons, excluding the 2017-2018 season, which was affected by Hurricane Irma. Average fruit per tree includes both regular and first late bloom.

Non-Valencia Oranges 30.0 Million Boxes

The forecast of non-Valencia orange production is unchanged at 30.0 million boxes. Non-Valencia harvest is about over for the season. The Row Count survey conducted March 30-31, 2020, showed relatively all of the early-midseason rows are harvested. The Navel forecast, included in the non-Valencia portion of the forecast, remains at 800,000 boxes.

Valencia Oranges 40.0 Million Boxes

The forecast of Valencia orange production is lowered 1.00 million boxes from the previous forecast to 40.0 million boxes. Final fruit size is below average, requiring 252 pieces to fill a 90-pound box. Final droppage, at 30 percent, is close to the maximum. The Row Count survey conducted March 30-31, 2020 showed 44 percent of the Valencia rows are harvested. Estimated utilization for Valencia oranges to April 1, with an allocation for non-certified fruit, is 15.6 million boxes.

All Grapefruit 5.20 Million Boxes

The forecast of all grapefruit production is lowered 200,000 boxes to 5.20 million boxes. The white grapefruit forecast is unchanged at 900,000 boxes. The red grapefruit forecast is lowered 200,000 boxes to 4.30 million boxes. The Row Count survey conducted March 30-31, 2020, indicated 98 percent of the red grapefruit rows and 98 percent of the white grapefruit rows are harvested.

Tangerines and Tangelos 1.05 Million Boxes

The forecast for tangerines and tangelos is unchanged at 1.05 million boxes. Utilization to April 1, with an allocation for non-certified fruit, is 1.02 million boxes. This forecast number includes all certified tangerine and tangelo varieties.

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 3.2 percent. If you exclude the three abnormal production seasons (three hurricane seasons), the "Root Mean Square Error" is 3.4 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 3.2 percent, including abnormal seasons or 3.4 percent excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 5.6 percent including abnormal seasons, or 5.9 percent excluding abnormal seasons.

Changes between the April 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 3.16 million boxes (3.31 million, excluding abnormal seasons), ranging from 0.05 million boxes to 5.7 million boxes including abnormal seasons, (0.7 to 5.7 million boxes excluding abnormal seasons). The April 1 forecast for all oranges has been below the final estimate 10 times, above 10 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 2020

[Survey data is considered final in December for Navels, January for early-midseason (non-Valencia) oranges, February for grapefruit, and April for Valencia oranges]

Type	Bearing trees (1,000 trees)	Fruit per tree (number)	Droppage (percent)	Fruit per box (number)
ORANGES				
Early-midseason (Non-Valencia) ¹	19,529	775	28	316
Navel.....	932	236	26	139
Valencia.....	29,615	536	30	252
GRAPEFRUIT				
Red.....	2,150	415	30	117
White.....	356	453	30	108

¹ Excludes Navels.

Maturity

Regular bloom fruit samples were collected from groves on established routes March 30-31, 2020 in Florida's five major citrus producing areas and tested April 1, 2020. Only Valencia oranges were collected and tested this month. All comparisons are made to April 1, 2019. Acids and solids (Brix) are lower; ratios are higher. Unfinished juice per box is higher and solids per box are lower.

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 are higher for Valencia oranges in the Indian River District when compared to other areas.

Unadjusted Maturity Tests – Florida: April 1, 2018-2019 and 2019-2020

[Averages of regular bloom fruit from sample groves. Juice and solids per box are unadjusted and not comparable to juice processing plant test results. 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	
	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
Valencia Oranges (108-77)										
Oct 1	1.91	2.02	8.55	9.14	4.52	4.60	46.48	47.34	3.98	4.33
Nov 1	1.52	1.55	9.11	9.57	6.09	6.27	50.45	51.23	4.60	4.90
Dec 1	1.26	1.32	9.63	9.50	7.71	7.40	52.18	53.88	5.03	5.12
Jan 1	1.06	1.07	10.57	10.16	10.09	9.59	52.83	54.05	5.58	5.49
Feb 1	1.00	0.94	11.05	10.64	11.08	11.50	52.65	55.25	5.81	5.88
Mar 1	0.85	0.84	11.50	10.91	13.59	13.15	53.64	55.09	6.16	6.01
Apr 1	0.80	0.72	11.67	11.29	14.70	15.77	54.89	56.16	6.40	6.35

Unadjusted Maturity Test Averages, by Areas – Florida: April 1, 2018-2019 and 2019-2020

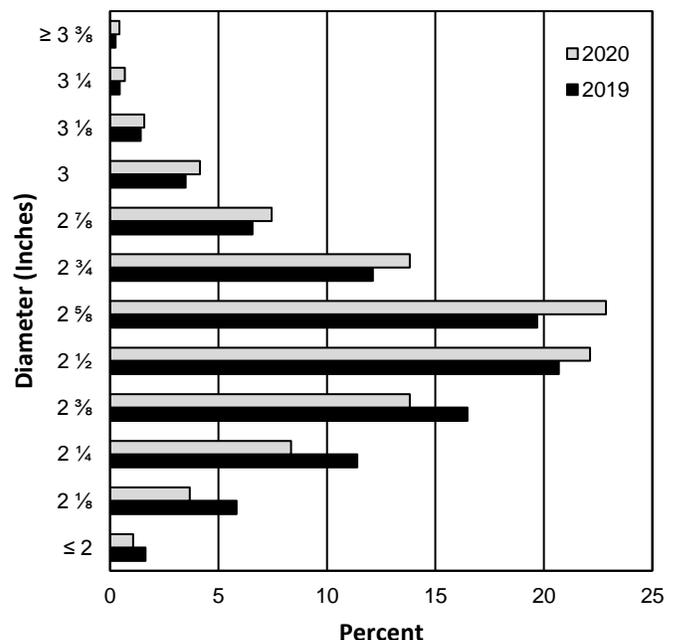
Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
Valencia Oranges										
Indian River (21-24)	0.85	0.78	12.07	11.71	14.36	15.22	54.01	55.88	6.51	6.55
Other Areas (87-53)	0.79	0.70	11.57	11.10	14.78	16.02	55.10	56.28	6.38	6.26

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 2019 compared to 2020. The diameter measurements shown are the minimum values of fruit measured, except for the smallest value.

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



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

Type and number of fruit per 4/5 – bushel containers	2018	2019	2020
	(percent)	(percent)	(percent)
VALENCIA ORANGES			
64 or less	3.8	1.2	1.8
80.....	13.8	7.3	8.3
100.....	30.4	23.5	27.6
125.....	30.4	32.7	35.3
163 or more	21.6	35.3	27.0