



CITRUS APRIL FORECAST MATURITY TEST RESULTS AND FRUIT SIZE

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Florida All Orange Production Down 7 Percent from March Forecast
Florida Non-Valencia Orange Production Up 1 Percent
Florida Valencia Orange Production Down 12 Percent
Florida All Grapefruit Production Down 7 Percent
Florida All Tangerine and Tangelo Down 10 Percent

FORECAST DATES - 2020-2021 SEASON	
May 12, 2021	June 10, 2021
July 12, 2021	

Citrus Production by Type – States and United States

Crop and State	Production ¹		2020-2021 Forecasted Production ¹	
	2018-2019 (1,000 boxes)	2019-2020 (1,000 boxes)	March (1,000 boxes)	April (1,000 boxes)
Non-Valencia Oranges ²				
Florida	30,400	29,650	22,500	22,700
California	42,000	43,300	42,000	42,000
Texas	2,210	1,150	1,300	1,000
United States	74,610	74,100	65,800	65,700
Valencia Oranges				
Florida	41,450	37,750	33,000	29,000
California	10,200	10,800	10,000	10,000
Texas	290	190	200	50
United States	51,940	48,740	43,200	39,050
All Oranges				
Florida	71,850	67,400	55,500	51,700
California	52,200	54,100	52,000	52,000
Texas	2,500	1,340	1,500	1,050
United States	126,550	122,840	109,000	104,750
Grapefruit				
Florida-All	4,510	4,850	4,600	4,300
Red	3,740	4,060	3,900	3,600
White	770	790	700	700
California ³	4,200	4,700	4,200	4,200
Texas	6,100	4,400	5,000	2,400
United States	14,810	13,950	13,800	10,900
Lemons				
Arizona	1,350	1,800	1,900	1,800
California	23,700	25,300	24,000	22,000
United States	25,050	27,100	25,900	23,800
Tangerines and Tangelos				
Florida	990	1,020	1,050	950
California	26,500	22,400	23,000	23,000
United States	27,490	23,420	24,050	23,950

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 Early non-Valencia (including Navel) and mid-season non-Valencia varieties in Florida; Navel and miscellaneous varieties in California; Early and mid-season varieties in Texas.

³ Includes pummelos in California.

All Oranges 51.7 Million Boxes

The 2020-2021 Florida all orange forecast released today by the USDA Agricultural Statistics Board is down 3.80 million boxes to 51.7 million boxes. If realized, this will be 23 percent less than last season's revised final production. The forecast consists of 22.7 million boxes of non-Valencia oranges (early, mid-season, and Navel varieties) and 29.0 million boxes of 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 22.7 Million Boxes

The forecast of non-Valencia orange production is up 200 thousand boxes and is final at 22.7 million boxes. Non-Valencia harvest is over for the season. The Row Count survey conducted March 29-30, 2021, showed relatively all the early & mid-season non-Valencia rows are harvested. The Navel forecast, included in the non-Valencia portion of the forecast, is 580 thousand boxes.

Valencia Oranges 29.0 Million Boxes

The forecast of Valencia orange production is lowered 4.0 million boxes from the previous forecast and is now 29.0 million boxes. Final fruit size is below average, requiring 246 pieces to fill a 90-pound box. Final droppage, measured at 41 percent, is above the maximum, and the highest in a series dating back to the 1960-1961 season. The Row Count survey conducted March 29-30, 2021 showed 48 percent of the Valencia crop is harvested. Estimated utilization for Valencia oranges to April 1, with an allocation for non-certified fruit, is 12.8 million boxes.

All Grapefruit 4.30 Million Boxes

The forecast of all grapefruit production is lowered 300 thousand boxes to 4.30 million boxes. The white grapefruit forecast is unchanged at 700 thousand boxes. The red grapefruit forecast is lowered 300 thousand boxes to 3.60 million boxes. The Row Count survey conducted March 29-30, 2021, indicated 98 percent of the red grapefruit rows and 99 percent of the white grapefruit rows are harvested.

Tangerines and Tangelos 950 Thousand Boxes

The forecast for tangerines and tangelos is lowered 100 thousand boxes to 950 thousand boxes. Utilization to April 1, with an allocation for non-certified fruit, is 900 thousand 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 3.3 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 3.3 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 5.7 percent including abnormal seasons, or 6.0 percent excluding abnormal seasons.

Changes between the April 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 3.03 million boxes (3.17 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 9 times, above 11 times, (below 8 times, above 9 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 2021

[Survey data is considered final in December for Navels, January for early & mid-season (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 & mid-season (Non-Valencia) ¹	19,050	590	43	277
Navel.....	902	194	37	132
Valencia.....	30,169	441	41	246
GRAPEFRUIT				
Red.....	1,983	372	32	116
White.....	376	409	32	123

¹ Excludes Navels.

Maturity

Regular bloom fruit samples were collected from groves on established routes March 29-30, 2021 in Florida's five major citrus producing areas and tested March 31, 2021. Only Valencia oranges were collected and tested this month. All comparisons are made to April 1, 2020. Acid percent is higher and solids (brix) is lower, resulting in lower ratios. Unfinished juice per box 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 higher solids per box (Brix) with a higher ratio. Unfinished juice per box 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, 2019-2020 and 2020-2021

[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	
	2019-2020 (percent)	2020-2021 (percent)	2019-2020 (percent)	2020-2021 (percent)	2019-2020	2020-2021	2019-2020 (pounds)	2020-2021 (pounds)	2019-2020 (pounds)	2020-2021 (pounds)
Valencia Oranges (77-83)										
Oct 1	2.02	1.81	9.14	8.79	4.60	4.91	47.34	48.35	4.33	4.26
Nov 1.....	1.55	1.50	9.57	8.91	6.27	6.02	51.23	50.90	4.90	4.54
Dec 1.....	1.32	1.22	9.50	9.15	7.40	7.57	53.88	52.08	5.12	4.77
Jan 1	1.07	1.09	10.16	9.67	9.59	8.96	54.05	53.36	5.49	5.16
Feb 1.....	0.94	1.03	10.64	10.20	11.50	9.98	55.25	53.88	5.88	5.50
Mar 1.....	0.84	0.88	10.91	10.61	13.15	12.28	55.09	53.88	6.01	5.72
Apr 1	0.72	0.77	11.29	10.82	15.77	14.13	56.16	54.29	6.35	5.87

Unadjusted Maturity Test Averages, by Areas – Florida: April 1, 2019-2020 and 2020-2021

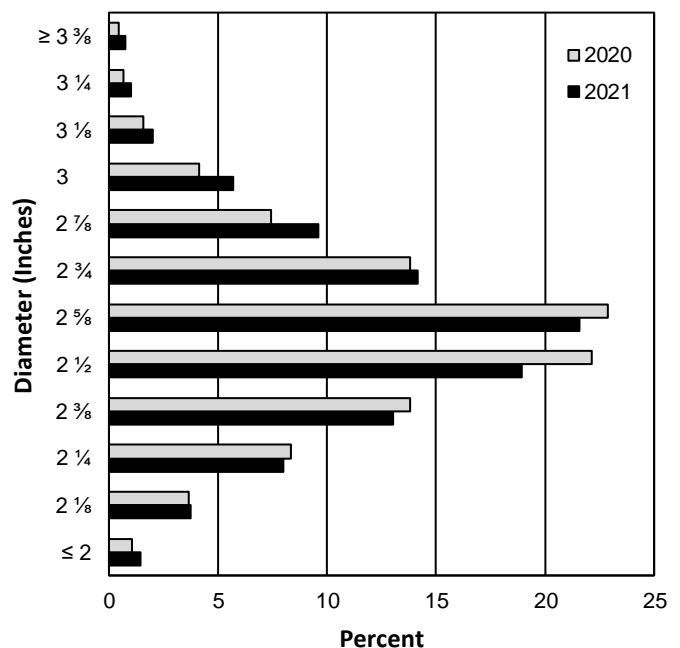
Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2019-2020 (percent)	2020-2021 (percent)	2019-2020 (percent)	2020-2021 (percent)	2019-2020	2020-2021	2019-2020 (pounds)	2020-2021 (pounds)	2019-2020 (pounds)	2020-2021 (pounds)
Valencia Oranges										
Indian River (24-22)	0.78	0.79	11.71	11.39	15.22	14.53	55.88	55.76	6.55	6.35
Other Areas (53-61).....	0.70	0.76	11.10	10.61	16.02	13.99	56.28	53.76	6.26	5.70

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 2020 compared to 2021. 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	2019 (percent)	2020 (percent)	2021 (percent)
VALENCIA ORANGES			
64 or less.....	1.2	1.8	2.6
80.....	7.3	8.3	10.9
100.....	23.5	27.6	29.0
125.....	32.7	35.3	31.2
163 or more.....	35.3	27.0	26.3