



CITRUS MARCH FORECAST MATURITY TEST RESULTS AND FRUIT SIZE

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Florida All Orange Production is Down 1 Percent from the February Forecast
Florida Non-Valencia Orange Production Up 2 Percent
Florida Valencia Orange Production Down 3 Percent
Florida All Grapefruit Production Unchanged
Florida All Tangerine and Tangelo Production Unchanged

FORECAST DATES - 2020-2021 SEASON	
April 9, 2021	June 10, 2021
May 12, 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)	February (1,000 boxes)	March (1,000 boxes)
Non-Valencia Oranges ²				
Florida	30,400	29,650	22,000	22,500
California ³	42,000	44,300	42,000	42,000
Texas ³	2,210	1,150	1,300	1,300
United States.....	74,610	75,100	65,300	65,800
Valencia Oranges				
Florida	41,450	37,650	34,000	33,000
California	10,200	9,000	9,000	10,000
Texas ³	290	190	200	200
United States.....	51,940	46,840	43,200	43,200
All Oranges				
Florida	71,850	67,300	56,000	55,500
California	52,200	53,300	51,000	52,000
Texas ³	2,500	1,340	1,500	1,500
United States.....	126,550	121,940	108,500	109,000
Grapefruit				
Florida-All	4,510	4,850	4,600	4,600
Red	3,740	4,060	3,900	3,900
White	770	790	700	700
California ^{3,4}	4,200	3,800	4,200	4,200
Texas ³	6,100	4,400	5,000	5,000
United States.....	14,810	13,050	13,800	13,800
Lemons ³				
Arizona.....	1,350	1,800	1,900	1,900
California.....	23,700	25,700	24,000	24,000
United States.....	25,050	27,500	25,900	25,900
Tangerines and Tangelos				
Florida	990	1,020	1,050	1,050
California ³	26,500	22,000	23,000	23,000
United States.....	27,490	23,020	24,050	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 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 Estimates carried forward from February.

⁴ Includes pummelos in California.

All Oranges 55.5 Million Boxes

The 2020-2021 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 55.5 million boxes, down 500 thousand boxes from the February forecast. If realized, this will be 18 percent less than last season's final production. The forecast consists of 22.5 million boxes of non-Valencia oranges (early, mid-season, and Navel varieties) and 33.0 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 22.5 Million Boxes

The forecast of non-Valencia production is raised 500 thousand boxes to 22.5 million boxes. The Row Count survey conducted February 24-25, 2021, showed 97 percent of the early and mid-season non-Valencia rows, excluding Navels, are harvested. Estimated utilization for non-Valencia oranges (including Navels) to February 1, with an allocation for non-certified fruit, is 22.5 million boxes. The Navel forecast, included in the non-Valencia portion of the forecast is 600 thousand boxes.

Valencia Oranges 33.0 Million Boxes

The forecast of Valencia production is lowered 1.0 million boxes from the February forecast and is now 33.0 million boxes. Current fruit size is below average and is projected to be below average at harvest, requiring 245 pieces to fill a 90 pound box. Current droppage is above the maximum and projected to be above the maximum at harvest. Harvest of Valencia oranges is still in the early stages.

All Grapefruit 4.60 Million Boxes

The forecast of all grapefruit production is unchanged from February. The red grapefruit forecast is unchanged at 3.90 million boxes. The white grapefruit forecast is unchanged at 700 thousand boxes. The Row Count survey conducted February 24-25, 2021, indicated 81 percent of grapefruit rows are harvested. Estimated utilization for white grapefruit to March 1, with an allocation for non-certified fruit is 506 thousand boxes and for red grapefruit is 2.86 million boxes.

Tangerines and Tangelos 1.05 Million Boxes

The forecast for tangerines and tangelos is unchanged from the February forecast and is 1.05 million boxes, 3 percent more than last season's utilization of 1.02 million boxes. This forecast number includes all certified tangerine and tangelo varieties.

Reliability

To assist users in evaluating the reliability of the March 1 Florida production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the March 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 March 1 Florida all orange production forecast is 4.7 percent. If you exclude the three abnormal production seasons (three hurricane seasons), the "Root Mean Square Error" is 4.9 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 4.7 percent, including abnormal seasons, or 4.9 excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 8.1 percent including abnormal seasons or 8.6 percent excluding abnormal seasons.

Changes between the March 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 3.81 million boxes (3.92 million, excluding abnormal seasons), ranging from 0.05 million boxes to 10.7 million boxes including abnormal seasons, (0.30 to 10.7 million boxes excluding abnormal seasons). The March 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 March 1 forecasts this year are likely to understate or overstate final production.

Forecast Components, by Type – Florida: March 2021

[Survey data is considered final in December for Navels, January for early and 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	34	245
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 February 24-25, 2021 in Florida's five major citrus producing areas and tested February 26, 2021. In the first table, all comparisons are made to the previous season. Acids are higher on Valencia oranges. Ratios, unfinished juice per box, and solids per box are lower on Valencia oranges.

In the second table, results from tests on Indian River fruit and from other areas for this period are displayed.

Unadjusted Maturity Tests — Florida: March 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	2020-2021	2019-2020	2020-2021	2019-2020	2020-2021	2019-2020	2020-2021	2019-2020	2020-2021
Valencia Oranges (144-140)	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
Sep 1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Oct 1	1.98	1.79	9.09	8.76	4.65	4.96	47.46	48.54	4.31	4.25
Nov 1	1.48	1.47	9.48	8.84	6.51	6.06	51.66	50.70	4.89	4.48
Dec 1	1.24	1.23	9.49	9.18	7.84	7.58	53.73	53.00	5.10	4.87
Jan 1	1.04	1.08	10.14	9.61	9.85	8.96	54.59	53.67	5.53	5.16
Feb 1	0.91	1.00	10.58	10.14	11.71	10.27	55.20	53.98	5.84	5.47
Mar 1	0.83	0.87	10.96	10.48	13.36	12.24	55.50	53.99	6.08	5.66

NA Not available.

Unadjusted Maturity Test Averages, by Areas — Florida: March 1, 2019-2020 and 2020-2021

Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2019-2020	2020-2021	2019-2020	2020-2021	2019-2020	2020-2021	2019-2020	2020-2021	2019-2020	2020-2021
Valencia Oranges	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
Indian River (29-28)	0.87	0.92	11.07	11.22	12.79	12.36	55.47	53.90	6.15	6.06
Other Areas (115-112)	0.82	0.85	10.94	10.30	13.50	12.21	55.51	54.01	6.07	5.57

Size Frequency Measurement Distributions, by Type — Florida: February Survey

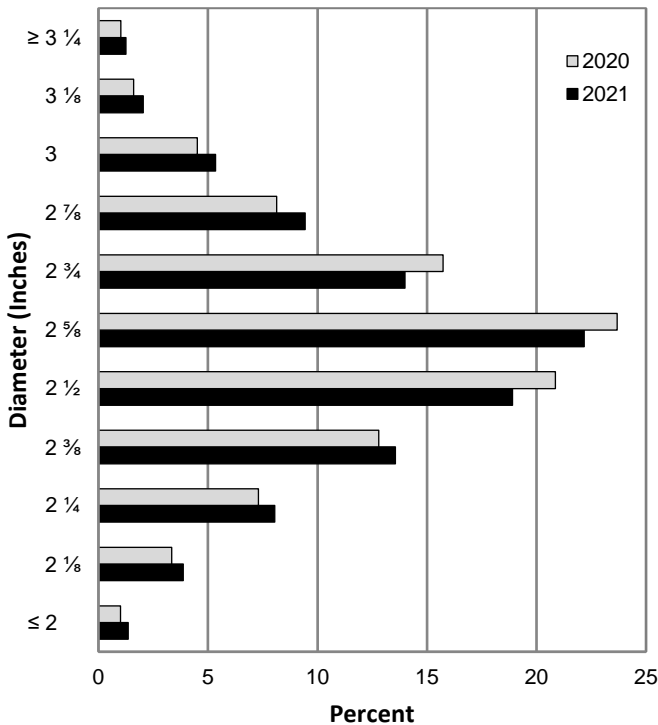
[Size frequency distributions from the February size survey are shown in the following table. The distributions are by percent of fruit falling within the size range of each 4/5-bushel container. These frequency distributions include fruit from regular bloom and exclude fruit from summer bloom]

Type and number of fruit per 4/5 – bushel containers	2019	2020	2021	Type and number of fruit per 4/5 – bushel containers	2019	2020	2021
	(percent)	(percent)	(percent)		(percent)	(percent)	(percent)
VALENCIA ORANGES				WHITE GRAPEFRUIT ¹			
64 or less	0.8	1.6	2.1	32 or less	5.6	2.2	3.8
80	5.9	9.0	10.7	36	6.4	5.7	4.1
100	22.7	30.7	28.4	40	7.5	11.1	13.8
125	32.4	34.3	32.0	48	8.6	13.9	20.6
163 or more	38.2	24.4	26.8	56	15.0	13.9	19.7
RED GRAPEFRUIT ¹				63 or more	56.9	53.2	38.0
32 or less	1.3	7.5	1.5				
36	3.6	11.1	5.6				
40	7.5	13.4	9.5				
48	13.2	17.2	15.3				
56	16.8	14.9	17.4				
63 or more	57.6	35.9	50.7				

¹ Excludes seedy.

The charts below show the distribution of fruit sizes in 2020 compared to 2021. The diameter measurements shown are the minimum values of each eighth inch range, except for the smallest value.

Fruit Size Frequency Measurements, Valencia Oranges, by Diameter - Florida: February Survey



Fruit Size Frequency Measurements, Red Seedless Grapefruit, by Diameter - Florida: February Survey

