



CITRUS APRIL FORECAST MATURITY TEST RESULTS AND FRUIT SIZE

Cooperating with the Florida Department of Agriculture and Consumer Services
851 Trafalgar Ct, Suite 310E, Maitland, FL 32751-4132
(407) 648-6013 · (855) 271-9801 FAX · www.nass.usda.gov/fl

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Florida All Orange Production Down 7 Percent from March Forecast
Florida Non-Valencia Orange Unchanged
Florida Valencia Orange Production Down 13 Percent
Florida All Grapefruit Production Down 8 Percent
Florida All Tangerine and Tangelo Unchanged

FORECAST DATES - 2021-2022 SEASON	
May 12, 2022	June 10, 2022
July 12, 2022	

Citrus Production by Type – States and United States

Crop and State	Production ¹		2021-2022 Forecasted Production ¹	
	2019-2020 (1,000 boxes)	2020-2021 (1,000 boxes)	March (1,000 boxes)	April (1,000 boxes)
Non-Valencia Oranges ²				
Florida	29,650	22,700	18,200	18,200
California.....	43,300	*41,300	39,000	43,000
Texas.....	1,150	1,000	300	250
United States.....	74,100	*65,000	57,500	61,450
Valencia Oranges				
Florida	37,750	*30,250	23,000	20,000
California.....	10,800	*7,700	8,600	8,300
Texas.....	190	50	100	100
United States.....	48,740	*38,000	31,700	28,400
All Oranges				
Florida	67,400	*52,950	41,200	38,200
California.....	54,100	*49,000	47,600	51,300
Texas.....	1,340	1,050	400	350
United States.....	122,840	*103,000	89,200	89,850
Grapefruit				
Florida-All	4,850	4,100	3,900	3,600
Red	4,060	3,480	3,200	3,000
White	790	620	700	600
California.....	4,700	*4,200	3,500	4,100
Texas.....	4,400	2,400	1,600	2,000
United States.....	13,950	*10,700	9,000	9,700
Lemons				
Arizona.....	1,800	*750	1,400	1,500
California.....	25,300	*20,100	23,000	23,000
United States.....	27,100	*20,850	24,400	24,500
Tangerines and Tangelos				
Florida	1,020	890	800	800
California ³	22,400	*28,800	21,000	21,000
United States.....	23,420	*29,690	21,800	21,800

* Revised

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 (including Navel) and midseason varieties in Florida and Texas.

³ Includes tangors.

All Oranges 38.2 Million Boxes

The 2021-2022 Florida all orange forecast released today by the USDA Agricultural Statistics Board is lowered 3.0 million boxes to 38.2 million boxes. If realized, this will be 28 percent less than last season's revised final production. The forecast consists of 18.2 million boxes of non-Valencia oranges (early, mid-season, and Navel varieties) and 20.0 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 18.2 Million Boxes

The forecast of non-Valencia orange production is unchanged at 18.2 million boxes. Non-Valencia harvest is over for the season. The Row Count survey conducted March 28-29, 2022, showed 99 percent of the early & mid-season non-Valencia rows are harvested. The Navel forecast, included in the non-Valencia portion of the forecast, is 490 thousand boxes.

Valencia Oranges 20.0 Million Boxes

The forecast of Valencia orange production is lowered 3.0 million boxes from the previous forecast and is now 20.0 million boxes. Final fruit size is below the minimum, requiring 273 pieces to fill a 90-pound box. Final droppage, measured at 51 percent, is above the maximum and the highest in a series, excluding hurricane seasons, dating back to the 1960-1961 season. The Row Count survey conducted March 28-29, 2022, 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 10.8 million boxes.

All Grapefruit 3.60 Million Boxes

The forecast of all grapefruit production is lowered 300,000 boxes to 3.60 million boxes. The Row Count survey conducted March 28-29, 2022, indicated 93 percent of the red grapefruit rows and 95 percent of the white grapefruit rows are harvested.

Tangerines and Tangelos 800,000 Boxes

The forecast for tangerines and tangelos is unchanged at 800,000 boxes. Utilization to April 1, with an allocation for non-certified fruit, is 757,000 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 3.5 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 3.5 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 6.1 percent excluding abnormal seasons.

Changes between the April 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 3.06 million boxes (3.20 million, excluding abnormal seasons), ranging from 0.05 million boxes to 5.7 million boxes including abnormal seasons, (1.3 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 2022

[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	18,171	571	39	326
Navel.....	864	150	28	137
Valencia.....	30,349	394	51	273
GRAPEFRUIT				
Red.....	1,776	393	28	127
White.....	314	481	15	104

¹ Excludes Navels.

Maturity

Regular bloom fruit samples were collected from groves on established routes March 28-29, 2022, in Florida's five major citrus producing areas and tested March 30, 2022. Only Valencia oranges were collected and tested this month. All comparisons are made to April 1, 2021. Acid percent is higher and solids (Brix) are lower, resulting in a lower ratio. 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 lower ratio. Unfinished juice per box is lower, while solids per box are higher.

Unadjusted Maturity Tests – Florida: April 1, 2020-2021 and 2021-2022

[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	
	2020-2021 (percent)	2021-2022 (percent)	2020-2021 (percent)	2021-2022 (percent)	2020-2021	2021-2022	2020-2021 (pounds)	2021-2022 (pounds)	2020-2021 (pounds)	2021-2022 (pounds)
Valencia Oranges (83-92)										
Oct 1	1.81	2.04	8.79	8.72	4.91	4.33	48.35	46.42	4.26	4.05
Nov 1.....	1.50	1.60	8.91	9.12	6.02	5.79	50.90	48.89	4.54	4.46
Dec 1.....	1.22	1.37	9.15	9.26	7.57	6.85	52.08	51.11	4.77	4.74
Jan 1.....	1.09	1.19	9.67	9.50	8.96	8.06	53.36	52.81	5.16	5.01
Feb 1.....	1.03	1.09	10.20	9.83	9.98	9.11	53.88	52.25	5.50	5.14
Mar 1.....	0.88	1.00	10.61	10.12	12.28	10.23	53.88	53.40	5.72	5.41
Apr 1.....	0.77	0.86	10.82	10.27	14.13	12.10	54.29	54.16	5.87	5.57

Unadjusted Maturity Test Averages, by Areas – Florida: April 1, 2020-2021 and 2021-2022

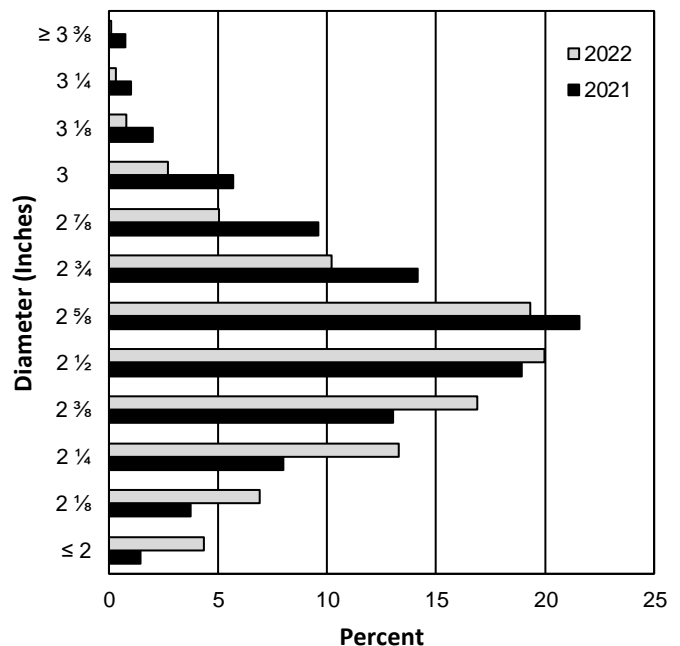
Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2020-2021 (percent)	2021-2022 (percent)	2020-2021 (percent)	2021-2022 (percent)	2020-2021	2021-2022	2020-2021 (pounds)	2021-2022 (pounds)	2020-2021 (pounds)	2021-2022 (pounds)
Valencia Oranges										
Indian River (22-26).....	0.79	0.93	11.39	10.73	14.53	11.68	55.76	53.60	6.35	5.75
Other Areas (61-66).....	0.76	0.84	10.61	10.09	13.99	12.26	53.76	54.38	5.70	5.49

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 2021 compared to 2022. 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	2020 (percent)	2021 (percent)	2022 (percent)
VALENCIA ORANGES			
64 or less.....	1.8	2.6	0.8
80.....	8.3	10.9	5.1
100.....	27.6	29.0	20.8
125.....	35.3	31.2	31.8
163 or more.....	27.0	26.3	41.5