



CITRUS APRIL FORECAST MATURITY TEST RESULTS AND FRUIT SIZE

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April 11, 2023

Florida All Orange Production Unchanged from March Forecast
Florida Non-Valencia Orange Unchanged
Florida Valencia Orange Production Unchanged
Florida All Grapefruit Production Up 6 Percent
Florida All Tangerine and Tangelo Unchanged

FORECAST DATES - 2022-2023 SEASON	
May 12, 2023	June 9, 2023
July 12, 2023	

Citrus Production by Type – States and United States

Crop and State	Production ¹		2022-2023 Forecasted Production ¹	
	2020-2021 (1,000 boxes)	2021-2022 (1,000 boxes)	March (1,000 boxes)	April (1,000 boxes)
Non-Valencia Oranges ²				
Florida	22,700	18,250	6,100	6,100
California	41,300	31,500	38,000	37,000
Texas	1,000	170	900	700
United States	65,000	49,920	45,000	43,800
Valencia Oranges				
Florida	30,250	22,950	10,000	10,000
California	7,700	7,600	8,100	8,100
Texas	50	30	250	350
United States	38,000	30,580	18,350	18,450
All Oranges				
Florida	52,950	41,200	16,100	16,100
California	49,000	39,100	46,100	45,100
Texas	1,050	200	1,150	1,050
United States	103,000	80,500	63,350	62,250
Grapefruit				
Florida-All	4,100	3,330	1,600	1,700
Red	3,480	2,830	1,440	1,520
White	620	500	160	180
California	4,200	4,100	4,300	4,200
Texas	2,400	1,700	2,200	2,400
United States	10,700	9,130	8,100	8,300
Lemons				
Arizona	750	1,250	1,500	1,700
California	20,100	25,200	22,000	23,000
United States	20,850	26,450	23,500	24,700
Tangerines and Tangelos				
Florida	890	750	500	500
California ³	28,800	17,500	22,000	21,000
United States	29,690	18,250	22,500	21,500

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 16.1 Million Boxes

The 2022-2023 Florida all orange forecast released today by the USDA Agricultural Statistics Board is unchanged at 16.1 million boxes. If realized, this will be 61 percent less than last season's revised production. The forecast consists of 6.10 million boxes of non-Valencia oranges (early, mid-season, and Navel varieties) and 10.0 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 6.10 Million Boxes

The forecast of non-Valencia orange production is unchanged at 6.10 million boxes. Non-Valencia harvest is over for the season. The Row Count survey conducted March 29-30, 2023, showed the relatively complete harvest of early & mid-season non-Valencia rows. The Navel forecast, included in the non-Valencia portion of the forecast, is 240,000 boxes.

Valencia Oranges 10.0 Million Boxes

The forecast of Valencia orange production is 10.0 million boxes, unchanged from the previous forecast. Final fruit size is below the minimum, requiring 294 pieces to fill a 90-pound box. Final droppage, measured at 70 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, 2023, showed 61 percent of the Valencia crop harvested.

All Grapefruit 1.70 Million Boxes

The forecast of all grapefruit production is increased 100,000 boxes to 1.70 million. The Row Count survey conducted March 29-30, 2023, indicated 95 percent of red and white grapefruit rows are harvested. Certified utilization is 1.60 million boxes.

Tangerines and Tangelos 500,000 Boxes

The forecast for tangerines and tangelos is unchanged at 500,000 boxes. Certified utilization is 448,000 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 3.7 percent. If you exclude the three abnormal production seasons (three hurricane seasons), the "Root Mean Square Error" is 3.9 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 3.7 percent including abnormal seasons, or 3.9 percent excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 6.3 percent including abnormal seasons, or 6.8 percent excluding abnormal seasons.

Changes between the April 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 3.10 million boxes (3.25 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 2023

[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	15,841	474	76	333
Navel.....	653	106	69	137
Valencia.....	27,465	323	70	294
GRAPEFRUIT				
Red.....	1,574	381	45	140
White.....	180	448	34	112

¹ Excludes Navels.

Maturity

Regular bloom fruit samples were collected from groves on established routes March 29-30, 2023, in Florida's five major citrus producing areas and tested March 31, 2023. Only Valencia oranges were collected and tested this month.

Unadjusted Maturity Tests – Florida: April 1, 2021-2022 and 2022-2023

[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.]

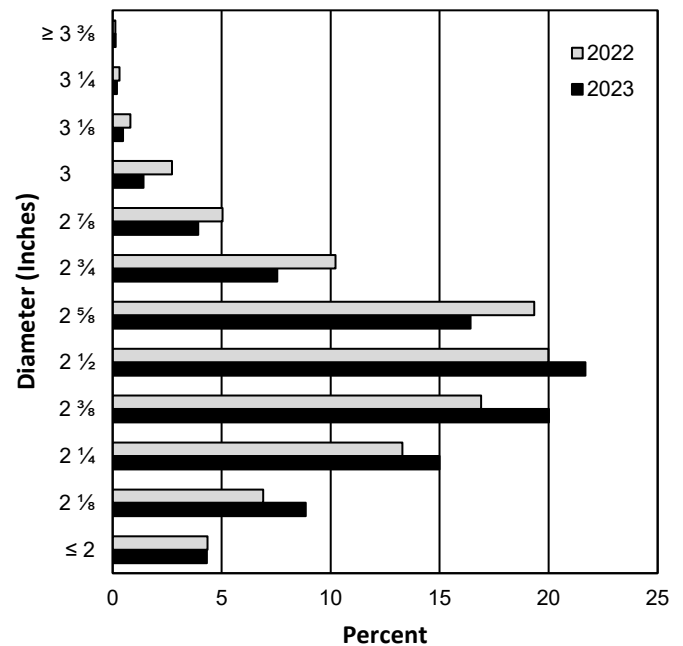
Fruit type (number of groves) test date	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2021-2022 (percent)	2022-2023 (percent)	2021-2022 (percent)	2022-2023 (percent)	2021-2022	2022-2023	2021-2022 (pounds)	2022-2023 (pounds)	2021-2022 (pounds)	2022-2023 (pounds)
Valencia Oranges (92-44)										
Oct 1	2.04	1.89	8.72	8.75	4.33	4.69	46.42	46.59	4.05	4.08
Nov 1	1.60	1.63	9.12	8.95	5.79	5.55	48.89	50.60	4.46	4.53
Dec 1	1.37	1.24	9.26	8.89	6.85	7.27	51.11	52.68	4.74	4.69
Jan 1	1.19	1.12	9.50	9.01	8.06	8.12	52.81	54.56	5.01	4.91
Feb 1	1.09	0.97	9.83	9.16	9.11	9.56	52.25	55.94	5.14	5.13
Mar 1	1.00	0.88	10.12	9.54	10.23	10.95	53.40	55.25	5.41	5.27
Apr 1	0.86	0.72	10.27	9.21	12.10	12.89	54.16	54.32	5.57	5.00

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 2022 compared to 2023. 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	2021	2022	2023
	(percent)	(percent)	(percent)
VALENCIA ORANGES			
64 or less	2.6	0.8	0.6
80.....	10.9	5.1	2.9
100.....	29.0	20.8	16.1
125.....	31.2	31.8	32.2
163 or more	26.3	41.5	48.2