United States Department of Agriculture
National Agricultural Statistics Service

CITRUS

JANUARY FORECAST
MATURITY TEST RESULTS AND FRUIT SIZE

Cooperating with the Florida Department of Agriculture and Consumer Services
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January 12, 2022

Florida All Orange Production Down 3 Percent
Florida Non-Valencia Orange Production Down 3 Percent
Florida Valencia Orange Production Down 4 Percent
Florida All Grapefruit Production Unchanged
Florida All Tangerine and Tangelo Production Down 11 Percent

FORECAST DATES - 2021-2022 SEASON	
February 9, 2022	May 12, 2022
March 9, 2022	June 10, 2022
April 8, 2022	July 12, 2022

Citrus Production by Type – States and United States

Crop and State	Production [1]		2021-2022 Forecasted Production [1]	
	2019-2020	2020-2021	December	January
	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)
Non-Valencia Oranges [2]				
Florida	**29,650**	**22,700**	**18,000**	**17,500**
California	43,300	40,600	35,000	39,000
Texas	1,150	1,000	450	300
United States	74,100	64,300	53,450	56,800
Valencia Oranges				
Florida	**37,750**	**30,100**	**28,000**	**27,000**
California	10,800	9,500	8,500	8,600
Texas	190	50	100	100
United States	48,740	39,650	36,600	35,700
All Oranges				
Florida	**67,400**	**52,800**	**46,000**	**44,500**
California	54,100	50,100	43,500	47,600
Texas	1,340	1,050	550	400
United States	122,840	103,950	90,050	92,500
Grapefruit				
Florida-All	**4,850**	**4,100**	**4,100**	**4,100**
Red	**4,060**	**3,480**	**3,300**	**3,300**
White	**790**	**620**	**800**	**800**
California	4,700	3,900	3,900	3,500
Texas	4,400	2,400	3,100	1,600
United States	13,950	10,400	11,100	9,200
Lemons				
Arizona	1,800	800	1,300	1,400
California	25,300	21,300	21,000	23,000
United States	27,100	22,100	22,300	24,400
Tangerines and Tangelos				
Florida	**1,020**	**890**	**900**	**800**
California [3]	22,400	28,100	21,000	21,000
United States	23,420	28,990	21,900	21,800

[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 44.5 Million Boxes

The 2021-2022 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 44.5 million boxes, down 1.50 million boxes from the December forecast. If realized, this will be 16 percent less than last season's final production. The forecast consists of 17.5 million boxes of non-Valencia oranges (early, mid-season, and Navel varieties) and 27.0 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 17.5 Million Boxes

The forecast of non-Valencia production is lowered 500,000 boxes to 17.5 million boxes. Final fruit size is close to the minimum, requiring 326 pieces to fill a 90-pound box. Final droppage of non-Valencia oranges (excluding Navels) at 39 percent is close to the maximum. The Navel forecast, included in the non-Valencia forecast, is unchanged at 450,000 boxes, and is 3 percent of the non-Valencia total.

Valencia Oranges 27.0 Million Boxes

The forecast of Valencia production is lowered 1.00 million boxes from the December forecast to 27.0 million boxes. Current fruit size is close to the minimum and is projected to be close to the minimum at harvest. Current droppage is above average and projected to be above average at harvest.

All Grapefruit 4.10 Million Boxes

The forecast of all grapefruit production is unchanged from December at 4.10 million boxes. If realized, this will be equal to last season's final production. The red grapefruit forecast is held at 3.30 million boxes. Fruit size of red grapefruit at harvest is projected to be average, and droppage is projected to be average. The white grapefruit forecast is unchanged at 800,000 boxes. Projected fruit size of white grapefruit at harvest is above average. White grapefruit droppage is projected to be below average.

Tangerines and Tangelos 800,000 Boxes

The forecast for tangerines and tangelos is reduced 100,000 boxes from December and is now 800,000 boxes, 10 percent less than last season's utilization of 890,000 boxes. This forecast number includes all certified tangerine and tangelo varieties.

Reliability

To assist users in evaluating the reliability of the January 1 Florida production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the January 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 January 1 Florida all orange production forecast is 6.3 percent. If you exclude the three abnormal production seasons (three hurricane seasons) chances are still 6.3 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 6.3 percent, including or excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 10.9 percent including abnormal seasons, or 11.0 percent excluding abnormal seasons.

Changes between the January 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 5.34 million boxes (4.90 million, excluding abnormal seasons), ranging from 0.30 million boxes to 12.7 million boxes (including and excluding abnormal seasons). The January 1 forecast for all oranges has been below the final estimate 5 times, above 15 times, (below 5 times, above 12 times, excluding abnormal seasons). The difference does not imply that the January 1 forecasts this year are likely to understate or overstate final production.

Forecast Components, by Type – Florida: January 2022

[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	Fruit per tree	Droppage	Fruit per box
	(1,000 trees)	(number)	(percent)	(number)
ORANGES				
Early-midseason (Non-Valencia) [1]	18,171	571	39	326
Navel	864	150	28	137
Valencia	30,349	394	30	263
GRAPEFRUIT				
Red	1,776	393	29	122
White	314	481	25	105

[1] Excludes Navels.

Maturity

Regular bloom fruit samples were collected on December 27-28, 2021 from groves on established routes in Florida's five major citrus producing areas, and tested December 29-30, 2021. All comparisons in the first table are made to January 1, 2021. Ratios are lower on all varieties of oranges. Unfinished juice per box is lower on Valencia oranges, and solids per box are lower on all varieties.

All Indian River comparisons are made to fruit from other areas for this test period. Ratios on Valencia oranges tested from the Indian River are lower. Unfinished juice per box and solids per box is lower on early non-Valencia oranges.

Unadjusted Maturity Tests — Florida: January 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	2021-2022	2020-2021	2021-2022	2020-2021	2021-2022	2020-2021	2021-2022	2020-2021	2021-2022
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
ORANGES										
Early N-V (73-66)										
Sep 1	1.23	1.19	8.81	9.20	7.26	7.79	44.36	43.18	3.91	3.97
Oct 1	0.90	0.91	9.21	9.03	10.43	10.02	49.63	48.07	4.57	4.34
Nov 1	0.67	0.71	9.47	9.65	14.28	13.63	50.94	50.08	4.82	4.83
Dec 1	0.59	0.66	9.77	9.65	16.57	14.67	51.80	51.85	5.06	5.00
Jan 1	0.58	0.62	10.41	10.00	18.17	16.21	50.83	51.84	5.29	5.18
Midseason N-V (35-38)										
Sep 1	1.31	1.34	8.56	8.69	6.66	6.61	45.35	44.70	3.89	3.89
Oct 1	0.97	1.03	9.04	8.85	9.49	8.72	49.72	48.35	4.50	4.28
Nov 1	0.79	0.80	9.29	9.26	11.92	11.78	51.32	50.84	4.77	4.71
Dec 1	0.66	0.74	9.67	9.24	14.86	12.65	53.50	52.28	5.17	4.84
Jan 1	0.60	0.65	9.91	9.67	16.63	15.02	51.69	51.99	5.12	5.03
Valencia (150-150)										
Sep 1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Oct 1	1.79	2.00	8.75	8.66	4.95	4.37	48.55	46.41	4.25	4.02
Nov 1	1.48	1.57	8.84	9.07	6.06	5.88	50.65	48.98	4.48	4.44
Dec 1	1.22	1.35	9.17	9.25	7.63	6.91	52.88	51.36	4.85	4.75
Jan 1	1.08	1.18	9.61	9.49	8.97	8.11	53.59	52.79	5.15	5.01

(N-V) Non-Valencia

(NA) Not available.

Unadjusted Maturity Test Averages, by Areas — Florida: January 1, 2020-2021 and 2021-2022

Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2020-2021	2021-2022	2020-2021	2021-2022	2020-2021	2021-2022	2020-2021	2021-2022	2020-2021	2021-2022
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
ORANGES										
Early N-V										
Indian River (6-7)	0.57	0.60	10.79	10.19	19.14	17.03	53.25	49.51	5.75	5.06
Other Areas (67-59)	0.58	0.63	10.37	9.98	18.08	16.12	50.61	52.12	5.25	5.20
Midseason N-V										
Indian River (2-2)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other Areas (33-36)	0.60	0.65	9.88	9.65	16.51	15.06	51.54	52.17	5.10	5.04
Valencia										
Indian River (29-29)	1.09	1.25	9.91	9.96	9.17	8.03	54.19	52.86	5.37	5.26
Other Areas (121-121)	1.08	1.16	9.54	9.37	8.93	8.13	53.45	52.77	5.10	4.95

(N-V) Non-Valencia

(D) Withheld to avoid disclosing data for individual operations.

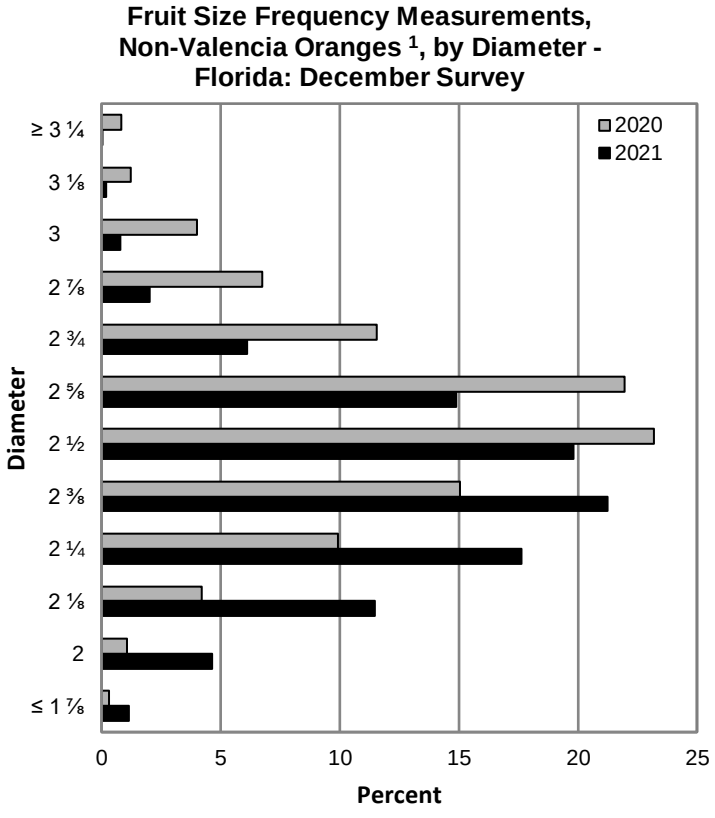
Size Frequency Measurement Distributions, by Type — Florida: December Survey

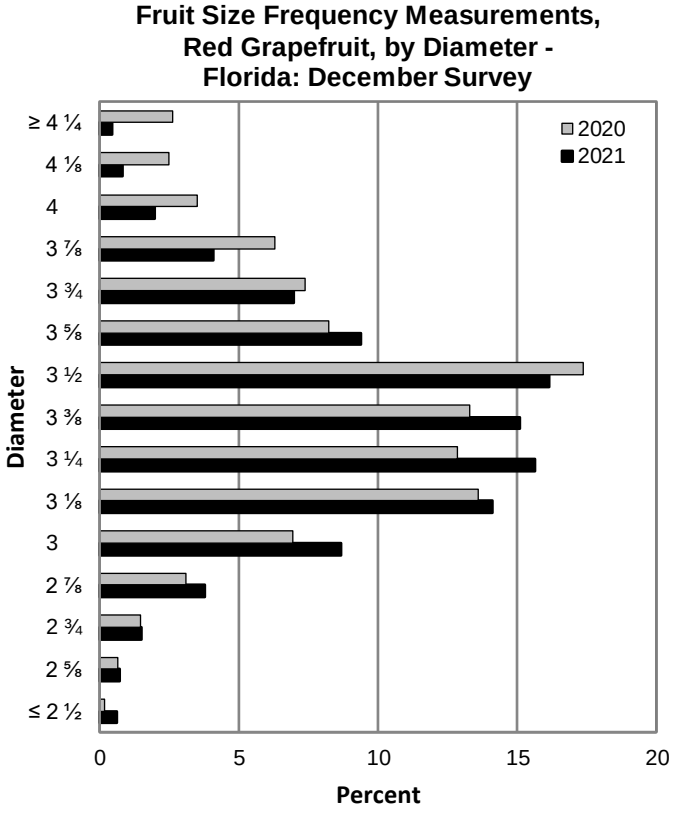
[Size frequency distributions from the December size survey are shown in the following table. The distributions are by percent of fruit falling within the size range of each 4/5-bushel container. These frequency distributions include fruit from regular bloom and exclude fruit from summer bloom]

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)
NON-VALENCIA ORANGES [1]				**RED GRAPEFRUIT**			
64 or less	0.2	1.2	0.1	32 or less	2.3	3.6	0.8
80	2.1	7.5	1.6	36	7.7	8.3	4.6
100	14.2	24.3	12.6	40	12.2	10.4	8.9
125	31.9	36.5	29.5	48	16.8	13.4	14.4
163 or more	51.6	30.5	56.2	56	16.3	17.4	17.0
				63 or more	44.7	46.9	54.3
VALENCIA ORANGES				**WHITE GRAPEFRUIT [2]**			
64 or less	0.6	1.5	0.6	32 or less	7.1	2.9	7.0
80	6.2	8.7	4.1	36	9.6	10.3	16.3
100	26.0	27.5	18.4	40	16.6	16.1	16.8
125	35.4	33.7	31.8	48	17.9	15.5	20.5
163 or more	31.8	28.6	45.1	56	12.3	17.7	14.2
				63 or more	36.5	37.5	25.2

[1] Excludes Navels.
[2] 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 values.





[1] Excludes Navel varieties.