United States Department of Agriculture
National Agricultural Statistics Service

CITRUS

FEBRUARY FORECAST
MATURITY TEST RESULTS AND FRUIT SIZE

Cooperating with the Florida Department of Agriculture and Consumer Services
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February 11, 2020

Florida All Orange Production is Down 3 Percent from the January Forecast
Florida Non-Valencia Orange Production Down 3 Percent
Florida Valencia Orange Production Down 2 Percent
Florida All Grapefruit Production Up 9 Percent
Florida All Tangerine and Tangelo Production Unchanged

FORECAST DATES - 2019-2020 SEASON	
March 10, 2020	May 12, 2020
April 9, 2020	June 11, 2020
July 10, 2020	

Citrus Production by Type – States and United States

Crop and State	Production [1]		2019-2020 Forecasted Production [1]	
	2017-2018	2018-2019	January	February
	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)
Non-Valencia Oranges [2]				
Florida	**18,950**	**30,400**	**32,000**	**31,000**
California [3]	35,900	40,800	40,000	40,000
Texas [3]	1,530	2,210	1,950	1,950
United States	56,380	73,410	73,950	72,950
Valencia Oranges				
Florida	**26,100**	**41,350**	**42,000**	**41,000**
California [3]	8,300	9,000	9,000	9,000
Texas [3]	350	290	610	610
United States	34,750	50,640	51,610	50,610
All Oranges				
Florida	**45,050**	**71,750**	**74,000**	**72,000**
California [3]	44,200	49,800	49,000	49,000
Texas [3]	1,880	2,500	2,560	2,560
United States	91,130	124,050	125,560	123,560
Grapefruit				
Florida-All	**3,880**	**4,510**	**5,400**	**5,900**
Red	**3,180**	**3,740**	**4,500**	**5,000**
White	**700**	**770**	**900**	**900**
California [3]	3,800	3,200	4,100	4,100
Texas [3]	4,800	6,100	6,200	6,200
United States	12,480	13,810	15,700	16,200
Lemons [3]				
Arizona	1,000	1,350	1,400	1,400
California	21,200	22,800	19,000	19,000
United States	22,200	24,150	20,400	20,400
Tangerines and Tangelos				
Florida [4]	**750**	**990**	**1,050**	**1,050**
California [3] [5]	19,200	26,000	22,000	22,000
United States	19,950	26,990	23,050	23,050

[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] Navel and miscellaneous varieties in California. Early non-Valencia (including Navel) and midseason non-Valencia varieties in Florida and Texas.
[3] Estimates carried forward from January.
[4] Includes all certified varieties of tangerines and tangelos.
[5] Includes tangelos and tangors.

All Oranges 72.0 Million Boxes

The 2019-2020 Florida all orange forecast released today by the USDA Agricultural Statistics Board is lowered 2.00 million boxes to 72.0 million boxes. If realized, this will be up slightly from last season's final production. The forecast consists of 31.0 million boxes of the non-Valencia oranges (early, midseason, and Navel varieties) and 41.0 million boxes of the 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 31.0 Million Boxes

The forecast of non-Valencia production is lowered 1.00 million boxes to 31.0 million boxes. Size and drop components were final last month. The Row Count survey conducted January 28-29, 2020, showed 76 percent of the early-midseason non-Valencia rows, excluding Navels, are harvested. Estimated utilization for non-Valencia oranges to February 1, with an allocation for non-certified fruit, is 24.4 million boxes. The Navel forecast, included in the non-Valencia portion of the forecast, remains at 800,000 boxes.

Valencia Oranges 41.0 Million Boxes

The forecast of Valencia production is lowered 1.00 million boxes from the previous forecast to 41.0 million boxes. Current fruit size is below average and is projected to be below average at harvest. Current droppage is above average and projected to be above average at harvest.

All Grapefruit 5.90 Million Boxes

The forecast of all grapefruit production is up 500,000 boxes at 5.90 million boxes. The white grapefruit forecast is unchanged at 900,000 boxes. The red grapefruit forecast is 5.00 million boxes up 500,000. Fruit size and drop are final in this report. White and red grapefruit size are above average. Drop for white and red grapefruit is above average. Estimated utilization for white grapefruit to February 1, with an allocation for non-certified fruit, is 331,000 boxes and for red grapefruit is 2.11 million boxes.

Tangerines and Tangelos 1.05 Million Boxes

The forecast for tangerine and tangelos is unchanged from the January forecast at 1.05 million boxes, but 6 percent more than last season's utilization of 990,000 boxes. This forecast number includes all certified tangerine and tangelo varieties.

Reliability

To assist users in evaluating the reliability of the February 1 Florida production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the February 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 February 1 Florida all orange production forecast is 6.0 percent. If you exclude the three abnormal production seasons (three hurricane seasons), the "Root Mean Square Error" is 6.0 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 6.0 percent, including or excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 10.4 percent including abnormal seasons, or 10.5 percent excluding abnormal seasons.

Changes between the February 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 5.87 million boxes (5.57 million, excluding abnormal seasons), ranging from 0.05 million boxes to 14.0 million boxes including abnormal seasons, (0.30 to 14.0 million boxes excluding abnormal seasons). The February 1 forecast for all oranges has been below the final estimate 11 times, above 9 times, (below 10 times, above 7 times, excluding abnormal seasons). The difference does not imply that the February 1 forecasts this year are likely to understate or overstate final production.

Forecast Components, by Type – Florida: February 2020

[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]	19,529	775	28	316
Navel	932	236	26	139
Valencia	29,615	536	29	247
GRAPEFRUIT				
Red	2,150	415	30	117
White	356	453	30	108

[1] Excludes Navels.

Maturity

Regular bloom fruit samples were collected from groves on established routes January 28-29, 2020 in Florida's five major citrus producing areas and tested January 30-31, 2020. In the first table, all comparisons are made to the previous season. Ratios are higher on early non-Valencia oranges and Valencia oranges. Unfinished juice per box is higher on all orange varieties. Solids per box are higher on midseason non-Valencia oranges and 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: February 1, 2018-2019 and 2019-2020

[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	
	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
ORANGES										
Early N-V (26-23)										
Sep 1	1.26	1.20	8.95	9.03	7.21	7.62	42.88	43.92	3.84	3.97
Oct 1	0.92	0.86	9.23	9.39	10.29	11.10	48.38	48.98	4.46	4.59
Nov 1	0.71	0.66	9.76	10.17	14.05	15.52	50.80	52.14	4.95	5.30
Dec 1	0.63	0.60	10.12	10.48	16.21	17.77	51.74	52.31	5.24	5.48
Jan 1	0.58	0.56	10.81	10.62	18.83	19.17	50.25	51.90	5.44	5.52
Feb 1	0.61	0.54	11.27	10.99	18.78	20.28	49.38	49.62	5.57	5.47
Midseason N-V (14-11)										
Sep 1	1.33	1.54	8.95	9.00	6.80	6.02	43.97	45.27	3.93	4.07
Oct 1	0.93	1.06	9.26	9.89	10.21	9.64	46.78	50.81	4.34	5.02
Nov 1	0.85	0.80	9.95	10.12	12.40	12.77	46.67	51.09	4.63	5.17
Dec 1	0.68	0.65	9.93	10.60	15.28	16.42	51.25	53.51	5.09	5.66
Jan 1	0.65	0.71	10.86	10.89	17.10	15.82	51.79	52.18	5.63	5.67
Feb 1	0.67	0.70	11.13	10.85	17.24	15.73	48.92	54.59	5.44	5.91
Valencia (149-150)										
Sep 1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Oct 1	1.91	1.97	8.56	9.08	4.54	4.68	46.28	47.73	3.96	4.33
Nov 1	1.52	1.47	9.15	9.48	6.10	6.57	49.82	51.73	4.56	4.90
Dec 1	1.26	1.24	9.59	9.48	7.68	7.88	52.16	53.82	5.01	5.11
Jan 1	1.05	1.04	10.54	10.14	10.18	9.88	52.78	54.50	5.56	5.53
Feb 1	1.00	0.91	11.12	10.58	11.18	11.78	52.24	55.16	5.80	5.84

(N-V) Non-Valencia
(NA) Not available.

Unadjusted Maturity Test Averages, by Areas — Florida: February 1, 2018-2019 and 2019-2020

Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020	2018-2019	2019-2020
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
Valencia Oranges										
Indian River (29-29)	1.08	0.98	11.78	10.67	11.01	10.98	51.23	54.03	6.03	5.77
Other Areas (120-121)	0.98	0.89	10.96	10.56	11.23	11.97	52.48	55.43	5.75	5.85

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

[Size frequency distributions from the January 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	2018	2019	2020	Type and number of fruit per 4/5 – bushel containers	2018	2019	2020
	(percent)	(percent)	(percent)		(percent)	(percent)	(percent)
VALENCIA ORANGES				**RED GRAPEFRUIT**			
64 or less	3.0	0.6	1.3	32 or less	8.2	0.4	4.5
80	12.5	5.2	8.2	36	12.6	2.7	8.8
100	29.7	20.8	28.2	40	14.0	5.0	14.7
125	32.2	31.6	34.1	48	16.2	11.9	15.9
163 or more	22.6	41.8	28.2	56	13.5	15.2	17.7
				63 or more	35.5	64.8	38.4
HONEY TANGERINES				**WHITE GRAPEFRUIT** [1]			
80 or less	5.2	1.6	7.5	32 or less	6.7	4.6	6.6
100	15.0	15.2	21.8	36	10.0	8.1	11.1
120	31.4	25.2	28.0	40	14.3	7.2	14.3
176	18.7	17.1	17.9	48	15.3	12.6	16.6
210 or more	29.7	40.9	24.8	56	15.3	14.2	13.0
				63 or more	38.4	53.3	38.4

[1] Excludes seedy.

The charts below show the distribution of fruit sizes in 2019 compared to 2020. The diameter measurements shown are the minimum values of each eighth inch range, except for the smallest value.