



CITRUS MATURITY TEST RESULTS AND FRUIT SIZE

DECEMBER FORECAST

Cooperating with the Florida Department and Agriculture and Consumer Services
2290 Lucien Way, Suite 300, Maitland, FL 32751-7058
(407) 648-6013 • (855) 271-9801 FAX • www.nass.usda.gov/fl

December 9, 2016

Florida All Orange Production Unchanged from November Forecast
Florida Non-Valencia Orange Production Unchanged
Florida Valencia Orange Production Unchanged
Florida All Grapefruit Production Down 3 percent
Florida All Tangerine and Tangelo Production Down 3 percent
FCOJ Yield at 1.44 Gallons per Box (42° Brix) Down 2 percent

FORECAST DATES		2016-2017 SEASON	
January 12, 2017		April 11, 2017	
February 9, 2017		May 10, 2017	
March 9, 2017		June 9, 2017	
		July 12, 2017	

Crop and State	Production ¹		2016-2017 Forecasted Production ¹	
	2014-2015 (1,000 boxes)	2015-2016 (1,000 boxes)	November (1,000 boxes)	December (1,000 boxes)
Non-Valencia Oranges ²				
Florida	47,400	36,100	36,000	36,000
California ³	39,000	45,500	42,000	42,000
Texas ³	1,170	1,351	1,000	1,000
United States.....	87,570	82,951	79,000	79,000
Valencia Oranges				
Florida	49,550	45,500	36,000	36,000
California ³	9,200	8,700	8,500	8,500
Texas ³	282	340	350	350
United States.....	59,032	54,540	44,850	44,850
All Oranges				
Florida	96,950	81,600	72,000	72,000
California ³	48,200	54,200	50,500	50,500
Texas ³	1,452	1,691	1,350	1,350
United States.....	146,602	137,491	123,850	123,850
Grapefruit				
Florida-All	12,900	10,800	9,600	9,300
White	3,250	2,490	2,100	2,000
Red	9,650	8,310	7,500	7,300
California ³	4,800	3,800	4,000	4,000
Texas ³	4,250	4,800	4,700	4,700
United States.....	21,950	19,400	18,300	18,000
Lemons ³				
California.....	20,600	20,500	21,000	21,000
Arizona.....	2,000	1,750	1,800	1,800
United States.....	22,600	22,250	22,800	22,800
Tangelos				
Florida	665	390	(NA)	(NA)
Tangerines and Tangelos ⁴				
Florida-All	2,265	1,415	1,550	1,500
Early ⁵	1,445	785	590	600
Royal ⁶	(NA)	(NA)	220	220
Honey	820	630	420	360
Tangelo	(NA)	(NA)	320	320
California ³	18,700	21,700	23,000	23,000
Arizona ⁷	170	(NA)	(NA)	(NA)
United States.....	21,135	23,115	24,550	24,500

NA Not available.

¹ Net pounds per box: oranges in California-80, Florida-90, Texas-85; grapefruit in California and Texas-80, Florida-85; lemons-80, tangelos-90; tangerines and mandarins in Arizona and California-80, Florida-95.

² Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas. Includes small quantities of Temples in Florida for 2014-2015 and 2015-2016.

³ Estimates carried forward from November.

⁴ Includes tangelos and tangors in California. Beginning in 2016-2017, includes tangelos in Florida.

⁵ Fallglo and Sunburst varieties.

⁶ Beginning in 2016-2017, Temples have been reclassified as Royal tangerines.

⁷ Estimates discontinued in 2015-2016.

All Oranges 72.0 Million Boxes

The 2016-2017 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 72.0 million boxes, unchanged from November. If realized, this forecast will be 12 percent less than last season's production and the least utilized since the 54.9 million box crop (excludes Temples) of the 1963-1964 season. The forecast consists of 36.0 million boxes of the non-Valencia oranges (early, midseason, and Navel varieties) and 36.0 million boxes of the Valencia oranges. Regression data used are from the 2006-2007 through 2015-2016 seasons. For those previous 10 seasons, the December forecast has deviated from final production by an average of 6 percent, with 8 seasons above and 2 below, and with differences ranging from 15 percent below to 16 percent above. All references to "average", "minimum", and "maximum" refer to the previous 10 seasons unless noted.

Non-Valencia Oranges 36.0 Million Boxes

The forecast of non-Valencia production is unchanged at 36.0 million boxes. Current fruit size continues below the minimum and is projected to be below minimum until harvest. Current droppage is below the maximum. Final droppage is now projected at 25 percent, above the average but below last season's record of 32 percent. The Navel forecast, included in the non-Valencia forecast, is unchanged at 1.00 million boxes. If realized, this utilization will be the lowest in the series which began in 1979-1980. Final Navel size is below the minimum and final droppage, at 27 percent, surpasses the record set in 2012-2013.

Valencia Oranges 36.0 Million Boxes

The forecast of Valencia production is held at 36.0 million boxes. Current fruit size is below the average and is projected at harvest to be below average. Current droppage is near the maximum and projected to be below the maximum at harvest.

All Grapefruit 9.30 Million Boxes

The forecast of all grapefruit production is lowered 300,000 boxes to 9.30 million boxes. The white grapefruit forecast is lowered 100,000 boxes to 2.00 million boxes. The red grapefruit forecast is lowered 200,000 boxes to 7.30 million boxes. Current fruit size of white grapefruit is slightly below the minimum while droppage is slightly above the maximum. Current fruit size of red grapefruit is below the minimum while droppage is slightly above the maximum.

Tangerines and Tangelos 1.50 Million Boxes

The forecast of tangerine and tangelo production is lowered 50,000 boxes to 1.50 million boxes. The early tangerine forecast (Fallglo and Sunburst varieties) is now 600,000 boxes, consisting of 220,000 boxes of Fallglo tangerines and 380,000 boxes of Sunburst tangerines. Harvest of Fallglo tangerines is relatively over for the season; Sunburst tangerine harvest is well underway. Final fruit size for Sunburst tangerines is close to the minimum, requiring 425 pieces to fill a 1 3/5 bushel box. Droppage is final at 33 percent. The Royal tangerine forecast is held at 220,000 boxes. The forecast of the later maturing Honey variety is lowered to 360,000 boxes. Current Honey size is below the minimum and is projected to be at the minimum at harvest. Projected Honey droppage at 43 percent is above average.

The forecast of tangelo production is unchanged at 320,000 boxes. Tangelo final fruit size is below average requiring 299 pieces of fruit to fill a 90-pound box. Droppage is projected to be above average at 20 percent.

FCOJ Yield 1.44 Gallons per Box

The projection for frozen concentrated orange juice (FCOJ) is 1.44 gallons per box of 42° Brix concentrate, down 2 percent from 1.47 gallons per box in November. Last season's final yield for all oranges was 1.405527 gallons per box, as reported by the Florida Department of Citrus. Yield projections for the early-midseason and late components will be published in January.

Forecast Components, by Type – Florida: December 2016

[Survey data is considered final in December for Navels, January for early-midseason 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-midseason.....	20,872	766	25	310
Navel.....	1,005	219	27	144
Valencia.....	28,925	450	28	233
GRAPEFRUIT				
White.....	832	410	32	126
Red.....	3,092	393	33	130

Maturity

Regular bloom fruit samples were collected on November 28-29, 2016, from groves on established routes in Florida's five major citrus producing areas, and tested November 30 to December 2, 2016. All comparisons are made to December 1, 2015. Acid levels are higher on all varieties. Solids are higher on all varieties except midseason oranges. Resulting ratios of solids to acid are lower on all varieties this season. Unfinished juice per box is higher on grapefruit and lower on all orange varieties, while solids per box is higher on grapefruit and early oranges. All Indian River comparisons are made to fruit from the other areas for this test period. Indian River fruit has higher acid levels only on late oranges and white grapefruit, but higher solids (Brix) on all varieties. Ratios for the early oranges and red grapefruit are higher in fruit from the Indian River.

Citrus Unadjusted Maturity Tests – Florida: 2015-2016 and 2016-2017

[Averages of regular bloom fruit from sample groves. Juice and solids per box are unadjusted and not comparable to juice processing plant test results. All samples were run through an FMC 091 machine using mechanical pressure only. This machine utilizes a .040 short strainer and standard 5/8 inch orifice tube. The beam settings are also identical to past tests and no restrictors are used]

Fruit type (number of groves) test date	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
ORANGES										
Early (119-118)										
Sep 1.....	1.26	1.39	9.14	9.27	7.33	6.79	44.84	41.38	4.09	3.83
Oct 1.....	0.91	0.98	9.43	9.52	10.51	9.88	52.37	47.18	4.93	4.49
Nov 1.....	0.75	0.81	10.30	9.90	13.88	12.47	50.42	49.69	5.19	4.92
Dec 1.....	0.65	0.75	10.68	10.93	16.59	14.83	51.20	50.77	5.47	5.55
Midseason (55-55)										
Sep 1.....	1.42	1.55	9.08	9.19	6.51	5.99	45.82	41.67	4.16	3.83
Oct 1.....	1.06	1.13	9.21	9.38	8.93	8.46	49.59	47.72	4.57	4.48
Nov 1.....	0.89	0.91	10.37	9.95	11.89	11.16	51.35	50.07	5.33	4.98
Dec 1.....	0.75	0.85	10.89	10.87	14.92	12.84	52.26	51.17	5.69	5.56
Late (150-148)										
Sep 1.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Oct 1.....	1.91	1.99	8.57	8.83	4.55	4.52	48.46	46.01	4.15	4.07
Nov 1.....	1.60	1.67	9.35	9.16	5.91	5.57	52.44	49.97	4.90	4.58
Dec 1.....	1.31	1.42	9.75	10.07	7.52	7.18	54.53	52.34	5.31	5.27
GRAPEFRUIT										
White Seedless (49-49)										
Sep 1.....	1.65	1.77	9.75	10.23	5.91	5.77	34.89	32.06	3.40	3.28
Oct 1.....	1.48	1.52	9.49	9.91	6.45	6.54	38.94	36.77	3.69	3.64
Nov 1.....	1.36	1.41	9.79	9.83	7.23	6.97	41.39	41.90	4.05	4.12
Dec 1.....	1.25	1.44	9.50	10.11	7.68	7.07	44.44	45.18	4.23	4.57
Red Seedless (48-44)										
Sep 1.....	1.58	1.71	9.76	10.14	6.19	5.94	35.24	33.09	3.44	3.35
Oct 1.....	1.37	1.44	9.58	9.90	7.02	6.87	42.44	36.66	4.06	3.63
Nov 1.....	1.29	1.28	9.96	9.73	7.75	7.62	42.48	43.27	4.23	4.21
Dec 1.....	1.19	1.32	9.91	10.12	8.37	7.72	44.63	46.23	4.42	4.68

NA Not available.

Citrus Maturity Test Averages, by Areas – Florida: December 1, 2015-2016 and 2016-2017

Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
ORANGES										
Early										
Indian River (9-9).....	0.66	0.72	11.21	11.03	17.35	15.27	50.48	51.44	5.66	5.69
Other Areas (110-109).....	0.65	0.75	10.64	10.92	16.53	14.79	51.26	50.71	5.45	5.53
Midseason										
Indian River (8-4).....	0.83	(D)	11.14	(D)	13.91	(D)	49.45	(D)	5.50	(D)
Other Areas (47-51).....	0.73	0.86	10.85	10.82	15.09	12.74	52.74	50.86	5.72	5.50
Late										
Indian River (29-29).....	1.37	1.46	10.07	10.25	7.44	7.12	52.40	51.99	5.28	5.33
Other Areas (121-119).....	1.30	1.41	9.67	10.02	7.54	7.19	55.04	52.43	5.32	5.25
GRAPEFRUIT										
White Seedless										
Indian River (38-38).....	1.28	1.45	9.69	10.22	7.69	7.06	44.44	44.88	4.31	4.59
Other Areas (11-11).....	1.17	1.38	8.85	9.75	7.66	7.11	44.46	46.21	3.94	4.50
Red Seedless										
Indian River (40-38).....	1.19	1.31	9.97	10.16	8.39	7.82	44.33	46.78	4.42	4.75
Other Areas (8-6).....	1.16	1.41	9.59	9.88	8.27	7.07	46.12	42.80	4.43	4.27

D Withheld to avoid disclosing data for individual operations.

Citrus Size Frequency Measurement Distributions, by Type – Florida: November

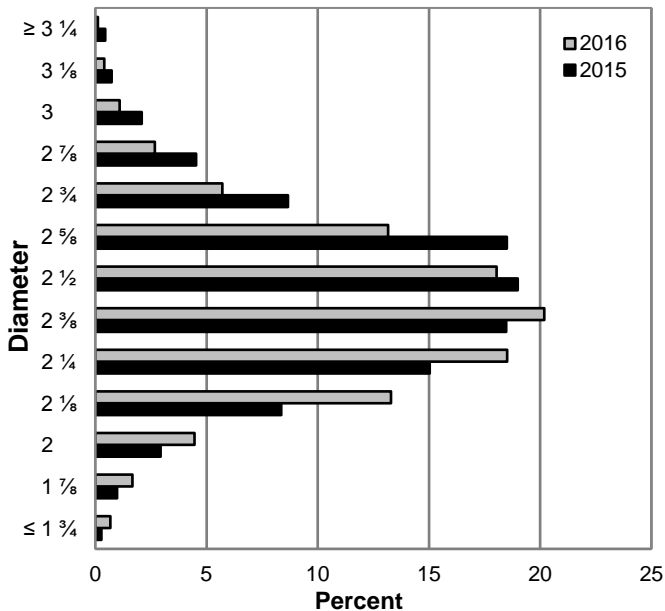
Type and number of fruit per 4/5 bushel containers	2014	2015	2016	Type and number of fruit per 4/5 bushel containers	2014	2015	2016
	(percent)	(percent)	(percent)		(percent)	(percent)	(percent)
NON-VALENCIA ORANGES ¹				WHITE GRAPEFRUIT ²			
64 or less	0.5	0.8	0.3	32 or less	2.2	0.9	1.1
80	4.0	4.4	2.5	36	7.6	5.1	3.9
100	15.4	18.3	12.3	40	10.5	7.8	8.5
125	32.0	30.5	26.1	48	15.0	13.0	10.3
163 or more	48.1	46.0	58.8	56	13.9	14.1	12.0
				63 or more	50.8	59.1	64.2
NAVEL ORANGES				RED GRAPEFRUIT			
64 or less	40.7	45.0	34.5	32 or less	2.1	1.2	0.6
80	30.5	26.8	25.6	36	6.1	3.7	4.5
100	19.5	17.5	21.0	40	10.8	7.9	7.5
125	6.9	7.5	13.7	48	15.4	13.6	13.4
163 or more	2.4	3.2	5.2	56	14.5	13.3	12.9
				63 or more	51.1	60.3	61.1
VALENCIA ORANGES				HONEY TANGERINES			
64 or less	0.6	1.3	1.8	80 or less	3.8	2.4	0.7
80	5.9	8.8	7.2	100	13.7	12.7	8.7
100	22.9	27.0	21.6	120	20.1	21.9	19.6
125	35.6	34.0	31.7	176	12.5	17.1	16.9
163 or more	35.0	28.9	37.7	210 or more	49.9	45.9	54.1
TANGELOS				SUNBURST TANGERINES			
80 or less	23.3	25.6	20.3	100 or less	10.6	22.1	8.8
100	26.5	22.3	18.8	120	15.9	20.3	11.7
120	18.3	20.6	24.1	176	15.4	19.7	19.0
156 or more	31.9	31.5	36.8	210 or more	58.1	37.9	60.5

¹ Excludes Navel and Temple varieties.

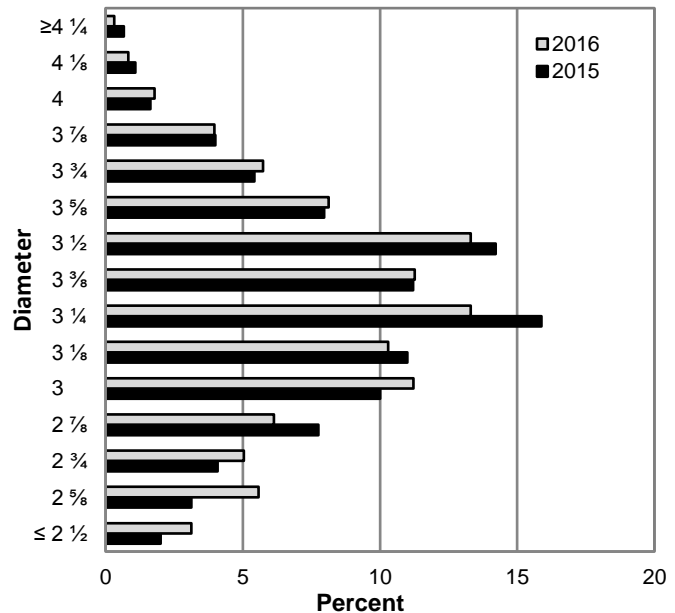
² Excludes seedy.

The charts below show the distribution of fruit sizes in 2016 compared to 2015. The diameter measurements shown are the minimum values of each eighth inch range, except for the smallest values.

Fruit Size Frequency Measurements, Non-Valencia Oranges ¹, by Diameter - Florida: November



Fruit Size Frequency Measurements, Red Grapefruit, by Diameter - Florida: November



¹ Excludes Navel varieties.