United States Department of Agriculture
National Agricultural Statistics Service

CITRUS

OCTOBER FORECAST
MATURITY TEST RESULTS AND FRUIT SIZE

Cooperating with the Florida Department of Agriculture & Consumer Services
2290 Lucien Way, Suite 300, Maitland, FL 32751
(407) 648-6013 · (407) 648-6029 FAX · www.nass.usda.gov/fl

October 11, 2012

All Orange Production Up 5 Percent from Last Season
Non-Valencia Orange Production Down Slightly
Valencia Orange Production Up 10 Percent
All Grapefruit Production Up 8 Percent
All Tangerine Production Up 3 Percent
Tangelo Production Up 4 Percent

2012-2013 SEASON FORECAST DATES

November 9, 2012 December 11, 2012

Citrus Production by Type and State – United States

Crop and State	Production [1]			Forecasted Production
	2009-2010	2010-2011	2011-2012	2012-2013
	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)
Non-Valencia Oranges [2]				
Florida	**68,600**	**70,300**	**74,200**	**74,000**
California	42,500	48,000	45,500	46,500
Texas	1,360	1,700	1,108	1,130
United States	112,460	120,000	120,808	121,630
Valencia Oranges				
Florida	**65,100**	**70,200**	**72,400**	**80,000**
California	15,000	14,500	13,500	13,000
Texas	275	249	311	286
United States	80,375	84,949	86,211	93,286
All Oranges				
Florida	**133,700**	**140,500**	**146,600**	**154,000**
California	57,500	62,500	59,000	59,500
Texas	1,635	1,949	1,419	1,416
United States	192,835	204,949	207,019	214,916
Grapefruit				
Florida-All	**20,300**	**19,750**	**18,850**	**20,300**
White	**6,000**	**5,850**	**5,350**	**5,800**
Colored	**14,300**	**13,900**	**13,500**	**14,500**
California	4,500	4,310	4,400	4,000
Texas	5,600	6,300	4,800	5,280
United States	30,400	30,360	28,050	29,580
Lemons				
California	21,000	20,500	20,500	20,500
Arizona	2,200	2,500	750	1,700
United States	23,200	23,000	21,250	22,200
Tangelos				
Florida	**900**	**1,150**	**1,150**	**1,200**
Tangerines				
Florida-All	**4,450**	**4,650**	**4,290**	**4,400**
Early [3]	**2,250**	**2,600**	**2,330**	**2,400**
Honey	**2,200**	**2,050**	**1,960**	**2,000**
California [4]	9,900	10,600	10,900	11,800
Arizona [4]	350	300	200	200
United States	14,700	15,500	15,390	16,400

[1] Net pounds per box: oranges in California-80 (75 prior to the 2010-2011 crop year), Florida-90, Texas-85; grapefruit in California-80 (67 prior to the 2010-2011 crop year), Florida-85, Texas-80; lemons-80 (76 prior to the 2010-2011 crop year), tangelos-90; tangerines and mandarins in Arizona and California-80 (75 prior to the 2010-2011 crop year), Florida-95.
[2] Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas. Includes small quantities of tangerines in Texas and Temples in Florida.
[3] Fallglo and Sunburst varieties.
[4] Includes tangelos and tangors.

All Oranges 154.0 Million Boxes

The 2012-2013 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 154.0 million boxes, 5 percent more than last season's production. The total is comprised of 74.0 million boxes of non-Valencia oranges (early, midseason, Navel, and Temple varieties) and 80.0 million boxes of Valencia oranges. The Navel orange forecast is 2.2 million boxes, 3 percent of the non-Valencia total.

The hurricane seasons of 2004-2005 and 2005-2006 have been excluded from the usual 10-year regression analysis and from comparisons of the current season to previous seasons. For those previous 8 seasons, average actual production is 166.3 million boxes. The October forecast has deviated from final production by an average of 3 percent with 6 seasons above and 2 below, with differences ranging from 4 percent below to 5 percent above.

The estimated number of bearing trees for all oranges is 56.8 million, down 1 percent from the previous season. Trees planted in 2009 and earlier are considered bearing this season. Field work for the latest Commercial Citrus Inventory was completed in July 2012. Attrition rates were applied to the results to determine the number of bearing trees which are used to weight and expand objective count data in the forecast model.

The estimated fruit per tree for all oranges is 811, an increase of 14 percent from last season. Average fruit per tree includes regular bloom and the first late bloom. Limb Count survey records indicate 2 fruit per tree considered first late bloom. Second late bloom fruit is measured to be 2 fruit per tree this season and is not included in the forecast.

Weather patterns during early 2012 were characterized by extreme drought conditions across the citrus producing region. Heavy and widespread citrus bloom covered the majority of the citrus region in March. Steady irrigation during the spring months helped maintain adequate soil moisture prior to the start of the hurricane season. Tropical Storms Debby in June and Isaac in August produced torrential rainfall, which ended Florida's drought situation. Trees and fruit are in good condition in well managed groves.

The procedures used in this forecast are the same as used in past seasons. The methodology is described on page 5 of this report. All references to "average," "minimum," and "maximum" refer to the previous 8 non-hurricane seasons.

Non-Valencia Oranges 74.0 Million Boxes

The **non-Valencia** forecast of 74.0 million boxes is slightly lower than last season's production. The estimated number of bearing trees (excluding Navels) is 23.7 million, down 1 percent from the previous season. The estimated fruit per tree for early-midseason oranges is 1,032, an increase of 12 percent from last season. Projected fruit size is below average, requiring an estimated 258 pieces of fruit to fill a 90-pound box. Projected droppage is above average at 12 percent.

The prorated forecast shows a decrease of 100 thousand boxes in the Southern area compared to last season. The Indian River area shows a decrease of 400 thousand boxes and all other areas show a combined increase of 300 thousand boxes when compared to 2011-2012.

The **Navel** forecast of 2.2 million boxes is 17 percent lower than last season's production. If realized, this will be the lowest production since the 1985-1986 season. The estimated number of bearing trees is 1.0 million, down 3 percent from the previous season. The estimated fruit per tree is 409, a decrease of 15 percent from last season. Projected fruit size is below average, requiring an estimated 137 pieces of fruit to fill a 90-pound box. Projected droppage is above average at 16 percent.

Valencia Oranges 80.0 Million Boxes

The **Valencia** forecast of 80.0 million boxes is 10 percent higher than last season's production. The estimated number of bearing trees is 32.0 million, down 2 percent from the previous season. The estimated fruit per tree is 661, an increase of 17 percent from last season. Projected fruit size is below average, requiring an estimated 214 pieces of fruit to fill a 90-pound box. Projected droppage is above average at 17 percent.

The prorated forecast shows an increase in production across all production areas compared to last year. The Southern area shows the largest increase of 4.6 million boxes, a 21 percent increase from last season. The Indian River area shows an increase of 1.1 million boxes and all other areas show a combined increase of 1.9 million boxes when compared to 2011-2012.

FCOJ Yield 1.61 Gallons per Box

The projection for frozen concentrated orange juice (FCOJ) is 1.61 gallons per box of 42° Brix concentrate. Last season's final yield for all oranges was 1.628480 gallons per box, as reported by the Florida Department of Citrus. Projections for the components will be published in January. Record yields are 1.597195 gallons per box for the early-midseason category in 2008-2009, and 1.790343 gallons per box for Valencias which occurred in 2007-2008. The record yield for all oranges is 1.672737, set in 2007-2008. All projections of yield assume the processing relationships this season will be similar to those of the past several seasons.

Forecast Components, by Type — Florida: October 2012

[Survey data is considered final in December for Navels, January for early-midseason oranges, February for grapefruit, and April for Valencias]

Type	Bearing trees	Fruit per tree	Droppage	Fruit per box
	(1,000 trees)	(number)	(percent)	(number)
ORANGES				
Early-midseason	23,741	1,032	12	258
Navel	1,013	409	16	137
Valencia	32,049	661	17	214
GRAPEFRUIT				
White	1,314	550	18	103
Colored	3,581	492	15	111

Citrus Production and Prorated Forecast, by Production Area — 2011-2012 and 2012-2013

[Forecasts based on fruit populations. The possible differences between growing areas, concerning average fruit size, loss from droppage, and harvest patterns, can alter the prorated estimates]

Production Area	Oranges				Grapefruit			
	Non-Valencia		Valencia		White		Colored	
	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013
	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)
Indian River	2,500	2,100	3,100	4,200	4,000	4,400	9,100	10,100
Southern	17,900	17,800	21,700	26,300	300	500	1,700	2,000
Other	53,800	54,100	47,600	49,500	1,050	900	2,700	2,400
Florida Total	74,200	74,000	72,400	80,000	5,350	5,800	13,500	14,500

Distribution of Estimated Fruit Population, by Type, Area, and Age Groups — Florida: September

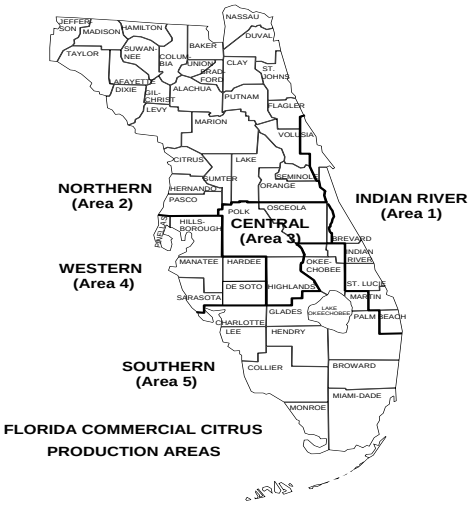
[Distribution of fruit population in September as determined by multiplying average fruit per tree from the Limb Count Survey by bearing age trees]

Areas and age groups	Oranges				Grapefruit			
	Non-Valencia		Valencia		White		Colored	
	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013
	(percent)	(percent)	(percent)	(percent)	(percent)	(percent)	(percent)	(percent)
Indian River	3	3	5	5	80	76	73	70
Northern	7	7	2	3	1	(Z)	2	3
Central	33	30	36	35	12	13	11	10
Western	33	36	24	24	1	2	2	3
Southern	24	24	33	33	6	8	12	14
3 - 5 years	3	3	2	2	(Z)	(Z)	2	3
6 - 8 years	5	5	4	4	2	1	4	4
9 - 13 years	14	13	15	14	5	5	5	6
14 - 23 years	41	37	52	48	49	47	44	36
24 yrs & over	37	42	27	32	43	47	45	51

(Z) Less than half of the unit shown.

Expected Gift Fruit Shipments Under the 6-R Program and Non-Certified Usage, by Type — Florida: 2012-2013

Type	1,000 boxes
Non-Valencia Oranges	1,000
Valencia Oranges	500
White Grapefruit	200
Colored Grapefruit	500
Tangelos	100
Tangerines	300



Maturity

Regular bloom fruit samples were collected from groves on established routes in Florida's five major citrus producing areas and tested in the Florida Agricultural Statistics Service (FASS) laboratory September 26-28, 2012. The orange sample size is 325 and the grapefruit sample size is 100. Compared to October of last season, acid levels are higher while solids (Brix), ratios, unfinished juice and solids per box are lower for all fruit types.

Citrus Unadjusted Maturity Tests — Florida: 2011-2012 and 2012-2013

[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	
	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
ORANGES										
Early (120-120)										
Sep 1	1.38	1.24	9.58	9.38	7.02	7.70	44.96	46.39	4.31	4.35
Oct 1	0.97	0.98	9.91	9.50	10.35	9.89	49.56	47.46	4.91	4.51
Midseason (55-55)										
Sep 1	1.54	1.41	9.38	9.35	6.21	6.77	45.85	45.84	4.30	4.28
Oct 1	1.11	1.19	9.84	9.57	9.00	8.24	49.90	48.79	4.91	4.67
Late (150-150)										
Sep 1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Oct 1	2.09	2.16	8.92	8.81	4.32	4.17	48.57	45.00	4.33	3.97
GRAPEFRUIT										
White Seedless (50-50)										
Sep 1	1.64	1.52	10.17	9.91	6.27	6.52	33.91	35.04	3.45	3.47
Oct 1	1.36	1.44	9.90	9.81	7.30	6.85	38.68	36.63	3.83	3.59
Colored Seedless (50-50)										
Sep 1	1.62	1.52	10.17	10.15	6.29	6.70	35.68	35.51	3.63	3.61
Oct 1	1.38	1.41	10.16	10.05	7.41	7.14	39.26	37.66	3.99	3.78

(NA) Not available.

Citrus Maturity Test Averages, by Areas — Florida: October, 2011-2012 and 2012-2013

Fruit type (number of groves) test date	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
ORANGES										
Early										
Indian River (9-9)	1.02	0.99	10.08	9.23	9.93	9.46	51.17	46.77	5.16	4.32
Other Areas (111-111)	0.97	0.98	9.89	9.52	10.39	9.93	49.43	47.52	4.89	4.52
Midseason										
Indian River (11-11)	1.20	1.19	10.02	9.52	8.38	8.06	50.10	46.98	5.02	4.47
Other Areas (44-44)	1.09	1.18	9.80	9.58	9.16	8.28	49.85	49.24	4.88	4.72
Late										
Indian River (27-27)	2.25	2.31	9.10	8.94	4.07	3.96	48.60	43.85	4.42	3.91
Other Areas (123-123)	2.06	2.13	8.88	8.78	4.37	4.22	48.56	45.25	4.31	3.98
GRAPEFRUIT										
White Seedless										
Indian River (38-38)	1.39	1.46	10.00	9.93	7.22	6.81	39.09	36.21	3.91	3.59
Other Areas (12-12)	1.27	1.36	9.59	9.44	7.58	6.98	37.40	37.94	3.58	3.58
Colored Seedless										
Indian River (40-40)	1.39	1.42	10.26	10.03	7.41	7.08	39.34	37.60	4.04	3.77
Other Areas (10-10)	1.32	1.38	9.77	10.14	7.41	7.37	38.97	37.92	3.81	3.84

All Grapefruit 20.3 Million Boxes

The forecast of grapefruit production is 20.3 million boxes, 8 percent higher than last season's production. The total is comprised of 5.8 million boxes of white grapefruit and 14.5 million boxes of colored grapefruit. All grapefruit bearing trees are estimated to be 4.9 million, down 1 percent from the previous season.

The **white** grapefruit forecast of 5.8 million boxes is 8 percent higher than last season's production. The estimated number of bearing trees is down 5 percent from the previous season. The estimated fruit per tree is 550, an increase of 24 percent from last season. Projected fruit size is above the minimum, requiring an estimated 103 pieces of fruit to fill an 85-pound box. Current droppage is above the maximum and projected droppage is above average at 18 percent.

The **colored** grapefruit forecast of 14.5 million boxes is 7 percent higher than last season's final production. The estimated number of bearing trees is up 1 percent from the previous season. The estimated fruit per tree is 492, an increase of 15 percent from last season. Projected fruit size is below average, requiring an estimated 111 pieces of fruit to fill an 85-pound box. Projected droppage is above average at 15 percent.

All Tangerines 4.4 Million Boxes

The forecast of all tangerines is 4.4 million boxes, 3 percent higher than last season's production. The total is comprised of 2.4 million boxes of the early varieties (Fallglo and Sunburst) and 2.0 million boxes of the later maturing Honey variety. All tangerine bearing trees are estimated to be 1.75 million, down 4 percent from last season.

The **Fallglo** tangerine forecast of 600 thousand boxes is 5 percent higher last season's final production. The estimated number of bearing trees is down 5 percent from the previous season. The estimated fruit per tree is 863, an increase of 2 percent from last season. Projected fruit size is below average, requiring an estimated 300 pieces of fruit to fill a 95-pound box. Projected droppage is below average at 14 percent.

The **Sunburst** tangerine forecast of 1.80 million boxes is 2 percent higher than last season's final production. The estimated number of bearing trees is down 4 percent from the previous season. The estimated fruit per tree is 981, a 9 percent increase from last season. Projected fruit size is average, requiring an estimated 315 pieces of fruit to fill a 95-pound box. Projected droppage is above average at 15 percent.

The **Honey** tangerine forecast of 2.0 million boxes is 2 percent higher than last season's final production. The estimated number of bearing trees is down 3 percent from last season. The estimated fruit per tree is 1,088, a decrease of only 5 pieces of fruit from last season. Projected fruit size is average, requiring an estimated 267 pieces of fruit to fill a 95-pound box. Projected droppage is above average at 40 percent.

Tangelos 1.2 Million Boxes

The tangelo forecast of 1.2 million boxes is 4 percent higher than last season's final production. The estimated number of bearing trees is down 5 percent from the previous season. The estimated fruit per tree is 875, an increase of 27 percent from last season. Projected fruit size is below average, requiring an estimated 264 pieces of fruit to fill a 90-pound box. Current droppage is the highest since 1975, and the projected droppage is above the maximum at 10 percent.

Forecast Procedures

All citrus forecasts are based on actual fruit counts and measurements. The objective count method uses four components:

(1) bearing age trees provided from the latest Commercial Citrus Inventory;
(2) average fruit per tree obtained from the Limb Count survey using randomly selected trees and limbs;
(3) fruit size from the fruit measurement survey and
(4) fruit loss from the drop survey.

These measurements are used in the forecast models, which use data from the 2002-2003 through 2011-2012 seasons, excluding the hurricane seasons of 2004-2005 and 2005-2006.

The latest tree inventory is used to determine estimated tree numbers. All trees planted in 2009 and earlier are included for the current season. An attrition factor was applied to these tree numbers (by age and area) to account for losses since the inventory period.

Statistically valid procedures are used to provide unbiased estimates of fruit count. Samples are drawn with known probabilities from the Commercial Citrus Inventory, taking into account the variability in fruit per tree. Limbs are randomly selected from sample trees. Fruit on these limbs are counted in the mid-July to mid-September period.

Fruit size and loss surveys were conducted in August and September. Results of these surveys are used in the models to project the fruit size at harvest and the fruit population expected to be available for harvest.

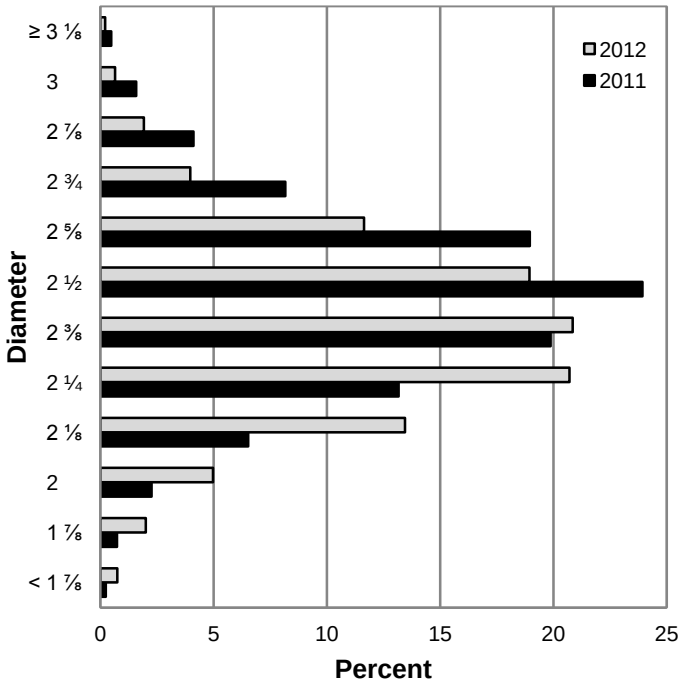
Citrus Size Frequency Measurement Distributions, by Type — Florida: September

Type and number of fruit per 4/5 – bushel containers	2010	2011	2012
	(percent)	(percent)	(percent)
NON-VALENCIA ORANGES [1]			
64 or less	-	0.3	0.1
80	0.6	3.5	1.5
100	5.8	18.1	9.2
125	21.5	35.3	26.5
163 or more	72.1	42.8	62.7
NAVEL ORANGES			
64 or less	7.8	16.0	17.4
80	22.5	36.2	28.4
100	37.3	33.5	30.2
125	23.0	10.0	14.6
163 or more	9.4	4.3	9.4
VALENCIA ORANGES			
64 or less	0.1	0.2	0.2
80	0.8	2.3	1.8
100	5.7	15.1	10.3
125	20.5	32.7	28.4
163 or more	72.9	49.7	59.3
TANGELOS			
80 or less	0.2	2.2	2.0
100	2.4	16.1	7.6
120	7.8	26.7	18.7
156 or more	89.6	55.0	71.7

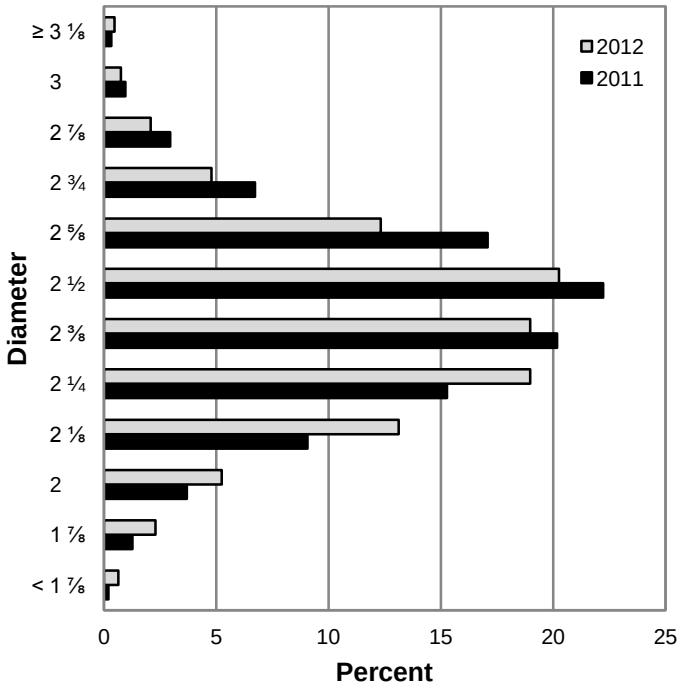
Type and number of fruit per 4/5 – bushel containers	2010	2011	2012
	(percent)	(percent)	(percent)
WHITE GRAPEFRUIT [2]			
32 or less	0.8	2.0	0.8
36	2.3	6.0	3.6
40	5.1	11.4	7.8
48	13.4	16.5	10.1
56	14.1	13.6	11.4
63 or more	64.3	50.5	66.3
COLORED GRAPEFRUIT			
32 or less	0.2	2.1	0.1
36	0.7	6.2	1.7
40	3.5	11.9	5.3
48	11.8	15.6	8.8
56	11.4	14.4	10.0
63 or more	72.4	49.8	74.1
FALLGLO TANGERINES			
80 or less	-	15.0	17.5
100	30.0	28.0	7.5
120	26.7	41.0	18.8
176	11.7	8.0	13.7
210 or more	31.6	8.0	42.5
SUNBURST TANGERINES			
100 or less	1.9	2.6	2.3
120	1.3	9.8	8.3
176	4.4	12.6	9.7
210 or more	92.4	75.0	79.7

- Represents zero.
[1] Excludes Navel and Temple varieties.
[2] Excludes seedy variety.

Fruit Size Frequency Measurements, Non-Valencia Oranges [1], by Diameter - Florida: September



Fruit Size Frequency Measurements, Valencia Oranges, by Diameter - Florida: September



[1] Excludes Navel and Temple varieties.