



# 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](http://www.nass.usda.gov/fl)

October 8, 2010

**All Orange Production Up 9 Percent**  
**Non-Valencia Orange Production Up 1 Percent**  
**Valencia Orange Production Up 18 Percent**  
**All Grapefruit Production Down 1 Percent**  
**All Tangerine Production Up 1 Percent**  
**Tangelo Production Up 22 Percent**

**2010 FORECAST DATES**  
**2010-2011 SEASON**  
November 9, 2010  
December 10, 2010

## Citrus Production by Type and State – United States

Crop and State	Production			Forecasted Production
	2007-2008 (1,000 boxes)	2008-2009 (1,000 boxes)	2009-2010 (1,000 boxes)	2010-2011 (1,000 boxes)
<b>Non-Valencia Oranges <sup>1</sup></b>				
Florida .....	83,500	84,600	68,600	69,000
California .....	45,000	34,500	42,500	46,500
Texas .....	1,600	1,300	1,360	1,400
Arizona <sup>2</sup> .....	230	150		
United States.....	130,330	120,550	112,460	116,900
<b>Valencia Oranges</b>				
Florida .....	86,700	77,900	65,000	77,000
California .....	17,000	12,000	14,000	14,000
Texas .....	196	159	275	290
Arizona <sup>2</sup> .....	150	100		
United States.....	104,046	90,159	79,275	91,290
<b>All Oranges</b>				
Florida .....	170,200	162,500	133,600	146,000
California .....	62,000	46,500	56,500	60,500
Texas .....	1,796	1,459	1,635	1,690
Arizona <sup>2</sup> .....	380	250		
United States.....	234,376	210,709	191,735	208,190
<b>Grapefruit</b>				
Florida-All .....	26,600	21,700	20,300	20,000
White.....	9,000	6,600	6,000	6,000
Colored.....	17,600	15,100	14,300	14,000
California .....	5,200	4,800	4,200	3,800
Texas .....	6,000	5,500	5,600	5,500
Arizona <sup>2</sup> .....	100	25		
United States.....	37,900	32,025	30,100	29,300
<b>Lemons</b>				
California .....	14,800	21,000	20,500	21,000
Arizona .....	1,500	3,000	2,200	2,700
United States.....	16,300	24,000	22,700	23,700
<b>Tangelos</b>				
Florida .....	1,500	1,150	900	1,100
<b>Tangerines</b>				
Florida-All .....	5,500	3,850	4,450	4,500
Early <sup>3</sup> .....	2,600	2,550	2,250	2,700
Honey .....	2,900	1,300	2,200	1,800
California <sup>4</sup> .....	6,700	6,700	9,900	10,000
Arizona <sup>4</sup> .....	400	250	350	300
United States.....	12,600	10,800	14,700	14,800

<sup>1</sup> Early, midseason, Navel, and Temple varieties.

<sup>3</sup> Fallglo and Sunburst varieties.

<sup>2</sup> Estimates discontinued beginning with the 2009-2010 crop year.

<sup>4</sup> Includes tangelos and tangors.

## **All Oranges 146.0 Million Boxes**

The 2010-2011 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 146.0 million boxes, 9 percent more than last season's production. The total is comprised of 69.0 million boxes of non-Valencia oranges (early, midseason, Navel, and Temple varieties) and 77.0 million boxes of Valencia oranges. The Navel orange forecast is 2.8 million boxes, 4 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 187.4 million boxes. The October forecast has deviated from final production by an average of 4 percent with 6 seasons above and 2 below, with differences ranging from 3 percent below to 8 percent above.

The estimated number of bearing trees for all oranges is 58.3 million, down 2 percent from the previous season. Trees planted in 2007 and earlier are considered bearing this season. Field work for the latest Commercial Citrus Inventory was completed in July 2010. 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 734, an increase of 15 percent from last season. Average fruit per tree includes regular bloom and the first late bloom. Limb Count survey records indicate negligible amounts considered first late bloom. Second late bloom fruit is also negligible this season and is never included in the forecast.

Weather conditions during early 2010 were characterized by extremely cold temperatures and above average rainfall. Subfreezing temperatures were experienced for eight days during the first half of January, prompting heavy irrigation and accelerated harvesting. The start of the 2010-2011 crop began in the south in late February with a heavy bloom. Adequate rainfall kept most of the citrus region drought free, with only the Indian River area experiencing drought conditions towards the end of the summer.

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" refer to the average of the previous 8 non-hurricane seasons.

## **Non-Valencia Oranges 69.0 Million Boxes**

The **non-Valencia** forecast of 69.0 million boxes is 1 percent higher than last season's production. The estimated number of bearing trees (excluding Navels) is 24.1 million, down 2 percent from the previous season. The estimated fruit per tree for early-midseason oranges is 934, an increase of 8 percent from last season. Projected fruit size is well below average, requiring an estimated 268 pieces of fruit to fill a 90-pound box. Projected droppage is below average at 7 percent.

The prorated forecast shows an increase of 1.2 million boxes in the Southern area compared to last year. The Indian River area shows a decrease of 100 thousand boxes and all other areas show a combined decrease of 700 thousand boxes when compared to 2009-2010.

The **Navel** forecast of 2.8 million boxes is 22 percent higher than last season's production. The estimated number of bearing trees is 1.1 million, down 7 percent from the previous season. The estimated fruit per tree is 491, an increase of 34 percent from last season. Projected fruit size is the smallest on record, requiring an estimated 140 pieces of fruit to fill a 90-pound box. Projected droppage is below average at 9 percent.

## **Valencia Oranges 77.0 Million Boxes**

The **Valencia** forecast of 77.0 million boxes is 18 percent higher than last season's production. The estimated number of bearing trees is 33.1 million, down 2 percent from the previous season. The estimated fruit per tree is 598, an increase of 25 percent from last season. Projected fruit size is below average, requiring an estimated 218 pieces of fruit to fill a 90-pound box. Projected droppage is below average at 13 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 7.8 million boxes, a 46 percent increase from last season. The Indian River area shows an increase of 100 thousand boxes and all other areas show a combined increase of 4.1 million boxes when compared to 2009-2010.

## **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 1.559667 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 variety 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.

## Forecast Components, by Variety — Florida: October 2010

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

Type	Bearing trees (1,000 trees)	Fruit per tree (number)	Droppage (percent)	Fruit per box (number)
<b>ORANGES</b>				
Early-midseason.....	24,093	934	7	268
Navel.....	1,057	491	9	140
Valencia.....	33,122	598	13	218
<b>GRAPEFRUIT</b>				
White.....	1,316	479	10	98
Colored.....	3,517	449	12	108

## Citrus Production and Prorated Forecast, by Production Area – 2009-2010 and 2010-2011

[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				Seedless Grapefruit			
	Non-Valencia		Valencia		White		Colored	
	2009-2010 (1,000 boxes)	2010-2011 (1,000 boxes)						
Indian River.....	2,500	2,400	4,300	4,400	4,500	4,400	10,000	9,600
Southern.....	16,700	17,900	16,900	24,700	400	400	2,000	2,000
Other.....	49,400	48,700	43,800	47,900	1,100	1,200	2,300	2,400
Florida Total.....	68,600	69,000	65,000	77,000	6,000	6,000	14,300	14,000

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

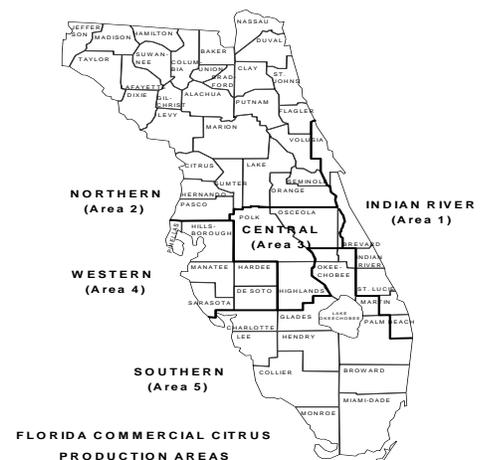
[Distribution of fruit population in September as determined by multiplying average fruit per tree from the Limb Count Survey by bearing age trees]

Areas and age groups	Oranges				Seedless Grapefruit			
	Non-Valencia		Valencia		White		Colored	
	2009-2010 (percent)	2010-2011 (percent)	2009-2010 (percent)	2010-2011 (percent)	2009-2010 (percent)	2010-2011 (percent)	2009-2010 (percent)	2010-2011 (percent)
Indian River.....	4	4	6	6	75	74	70	69
Northern.....	7	7	3	3	1	1	2	4
Central.....	32	33	36	36	15	17	11	11
Western.....	33	30	25	23	2	2	3	2
Southern.....	24	26	30	32	7	6	14	14
3 - 5 years.....	3	2	3	2	(Z)	(Z)	2	2
6 - 8 years.....	6	5	6	4	2	3	3	3
9 - 13 years.....	10	11	15	16	7	4	4	5
14 - 23 years.....	53	50	55	55	48	49	51	48
24 yrs & over.....	28	32	21	23	43	44	40	42

(Z) Less than half of the unit shown.

## Expected Gift Fruit Shipments Under the 6-R Program and Non-Certified Usage, by Type — Florida: 2010-2011

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 September 22-24. The orange sample size is 325 and the grapefruit sample size is 100, which have remained relatively constant for the past several seasons. Acid levels and Brix are higher for all fruit types resulting in lower ratios when compared to October of last season. Unfinished juice per box is down for all fruit types except late oranges. Solids per box have increased for all fruit types except midseason oranges compared to last year. Ratios for early and late oranges are the lowest since 2005 and the lowest since 1993 for midseason oranges. Indian River acid levels for white and colored grapefruit are higher while ratios are lower than last season.

### Citrus Unadjusted Maturity Tests — Florida: 2009-2010 and 2010-2011

[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	
	2009-2010 (percent)	2010-2011 (percent)	2009-2010 (percent)	2010-2011 (percent)	2009-2010	2010-2011	2009-2010 (pounds)	2010-2011 (pounds)	2009-2010 (pounds)	2010-2011 (pounds)
<b>ORANGES</b>										
Early (120-120)										
Sep 1.....	1.54	1.67	9.25	9.19	6.11	5.55	42.04	41.62	3.89	3.82
Oct 1.....	1.14	1.25	9.31	9.51	8.34	7.70	46.11	46.02	4.29	4.37
Midseason (55-55)										
Sep 1.....	1.72	1.99	9.23	9.34	5.45	4.91	42.79	40.86	3.95	3.81
Oct 1.....	1.31	1.57	9.24	9.42	7.23	6.11	47.16	45.81	4.36	4.32
Late (150-150)										
Sep 1.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Oct 1.....	2.41	2.56	8.86	8.95	3.73	3.52	43.46	43.91	3.85	3.93
<b>GRAPEFRUIT</b>										
White Seedless (50-50)										
Sep 1.....	1.75	1.88	9.79	10.19	5.60	5.45	31.48	31.82	3.08	3.24
Oct 1.....	1.53	1.72	9.76	10.38	6.39	6.05	36.53	35.51	3.56	3.68
Colored Seedless (50-50)										
Sep 1.....	1.75	1.82	10.06	10.33	5.78	5.80	31.49	31.99	3.17	3.30
Oct 1.....	1.54	1.68	10.23	10.54	6.69	6.32	36.60	36.31	3.74	3.83

(NA) Not available.

### Citrus Maturity Test Averages, by Areas — Florida: October, 2009-2010 and 2010-2011

Fruit type (number of groves) test date	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2009-2010 (percent)	2010-2011 (percent)	2009-2010 (percent)	2010-2011 (percent)	2009-2010	2010-2011	2009-2010 (pounds)	2010-2011 (pounds)	2009-2010 (pounds)	2010-2011 (pounds)
<b>ORANGES</b>										
Early										
Indian River (9-9).....	1.19	1.26	9.52	9.83	8.07	7.89	48.67	43.16	4.64	4.24
Other Areas (111-111).....	1.14	1.25	9.30	9.48	8.36	7.68	45.90	46.25	4.26	4.38
Midseason										
Indian River (11-11).....	1.43	1.73	9.37	9.65	6.69	5.63	47.12	41.77	4.42	4.04
Other Areas (44-44).....	1.27	1.53	9.20	9.37	7.36	6.23	47.17	46.81	4.34	4.39
Late										
Indian River (27-27).....	2.56	2.79	9.00	9.53	3.54	3.44	44.58	42.58	4.01	4.05
Other Areas (123-123).....	2.37	2.51	8.83	8.83	3.77	3.54	43.21	44.20	3.81	3.90
<b>GRAPEFRUIT</b>										
White Seedless										
Indian River (38-38).....	1.56	1.76	9.88	10.53	6.35	6.01	37.04	34.64	3.66	3.65
Other Areas (12-12).....	1.45	1.61	9.35	9.89	6.50	6.15	34.90	38.27	3.27	3.79
Colored Seedless										
Indian River (40-40).....	1.55	1.70	10.27	10.60	6.66	6.26	36.72	35.99	3.77	3.81
Other Areas (10-10).....	1.49	1.59	10.08	10.34	6.83	6.54	36.12	37.61	3.64	3.89

## All Grapefruit 20.0 Million Boxes

The forecast of grapefruit production is 20.0 million boxes, 1 percent less than last season's production. The total is comprised of 6.0 million boxes of white grapefruit and 14.0 million boxes of colored grapefruit. All grapefruit bearing trees are estimated to be 4.8 million, down 8 percent from last season.

The **white** grapefruit forecast of 6.0 million boxes is equal to last season's production. The estimated number of bearing trees is down 11 percent from the previous season. The estimated fruit per tree is 479, an increase of 11 percent from last season. Projected fruit size is below average, requiring an estimated 98 pieces of fruit to fill an 85-pound box. Projected droppage is below average at 10 percent.

The **colored** grapefruit forecast of 14.0 million boxes is 2 percent lower than last season's final production. The estimated number of bearing trees is down 6 percent from the previous season. The estimated fruit per tree is 449, an increase of 9 percent from last season. Projected fruit size is below average, requiring an estimated 108 pieces of fruit to fill an 85-pound box. Projected droppage is above average at 12 percent.

## All Tangerines 4.5 Million Boxes

The forecast of all tangerines is 4.5 million boxes, 1 percent more than last season's production. The total is comprised of 2.7 million boxes of the early varieties (Fallglo and Sunburst) and 1.8 million boxes of the late maturing Honey variety. All tangerine bearing trees are estimated to be 1.8 million, down 8 percent from last season.

The **Fallglo** tangerine forecast of 650 thousand boxes is 8 percent higher than last season's final production. The estimated number of bearing trees is down 6 percent from the previous season. The estimated fruit per tree is 956, just below the record high of 962 in 2007. Projected fruit size is below average, requiring an estimated 274 pieces of fruit to fill a 95-pound box. Projected droppage is below average at 9 percent.

The **Sunburst** tangerine forecast of 2.05 million boxes is 24 percent higher than last season's final production. The estimated number of bearing trees is down 6 percent from the previous season. The estimated fruit per tree is 1,152, a record high if realized. Projected fruit size is the lowest on record, requiring an estimated 347 pieces of fruit to fill a 95-pound box. Projected droppage is above average at 12 percent.

The **Honey** tangerine forecast of 1.8 million boxes is 18 percent lower than last season's final production. The estimated number of bearing trees is down 10 percent from last season. The estimated fruit per tree is 948, a decrease of 9 percent from last season. Projected fruit size is below average, requiring an estimated 269 pieces of fruit to fill a 95-pound box. Projected droppage is below average at 35 percent.

## Tangelos 1.1 Million Boxes

The tangelo forecast of 1.1 million boxes is 22 percent higher than last season's final production. The estimated number of bearing trees is down 9 percent from the previous season. The estimated fruit per tree is 802, an increase of 48 percent from last season. Projected fruit size is below average, requiring an estimated 289 pieces of fruit to fill a 90-pound box. Projected droppage is below average at 7 percent.

## Forecast Procedures

All citrus forecasts are based on actual fruit counts and measurements. The objective count method uses three 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 and loss from the fruit measurement and drop surveys.

These measurements are used in the forecast models, which use data from the 2000-2001 through 2009-2010 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 2007 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

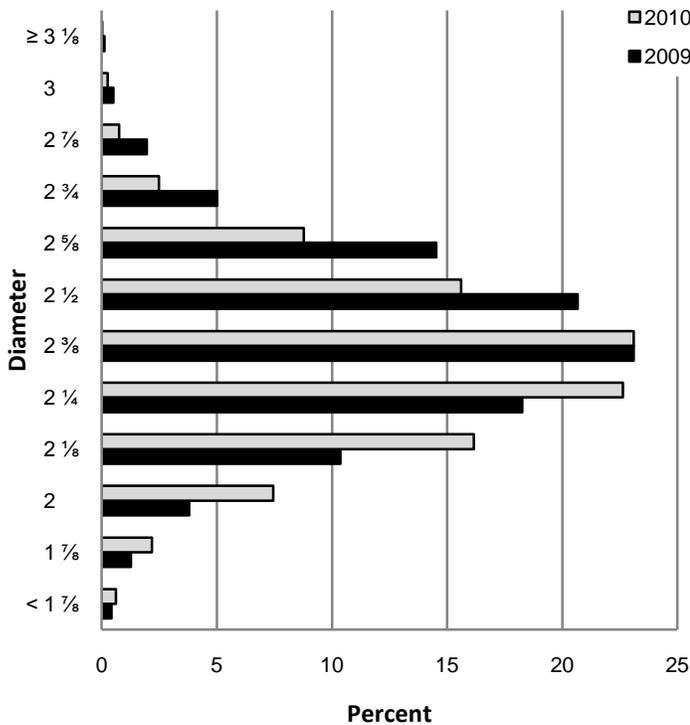
Type and number of fruit per 4/5 – bushel containers	2008	2009	2010	Type and number of fruit per 4/5 – bushel containers	2008	2009	2010
	(percent)	(percent)	(percent)		(percent)	(percent)	(percent)
<b>EARLY AND MIDSEASON ORANGES <sup>1</sup></b>				<b>WHITE GRAPEFRUIT <sup>2</sup></b>			
64 or less	0.3	0.1	-	32 or less	3.7	2.7	0.8
80	1.8	1.2	0.6	36	11.6	5.2	2.3
100	11.7	11.4	5.8	40	15.7	8.6	5.1
125	31.6	30.1	21.5	48	20.5	18.4	13.4
163 or more	54.6	57.2	72.1	56	14.4	16.3	14.1
				63 or more	34.1	48.8	64.3
<b>NAVEL ORANGES</b>				<b>COLORED GRAPEFRUIT</b>			
64 or less	16.6	14.2	7.8	32 or less	2.6	0.6	0.2
80	29.5	30.5	22.5	36	5.1	2.7	0.7
100	37.1	36.4	37.3	40	10.5	5.7	3.5
125	12.3	14.0	23.0	48	17.1	9.6	11.8
163 or more	4.5	4.9	9.4	56	14.7	11.7	11.4
				63 or more	50.0	69.7	72.4
<b>VALENCIA ORANGES</b>				<b>FALLGLO TANGERINES</b>			
64 or less	-	-	0.1	80 or less	37.5	2.5	-
80	1.4	0.7	0.8	100	32.5	30.0	30.0
100	12.7	8.5	5.7	120	16.2	22.5	26.7
125	34.5	27.4	20.5	176	5.0	17.5	11.7
163 or more	51.4	63.4	72.9	210 or more	8.8	27.5	31.6
<b>TANGELOS</b>				<b>SUNBURST TANGERINES</b>			
80 or less	3.0	0.6	0.2	100 or less	2.2	0.3	1.9
100	10.6	6.6	2.4	120	7.2	2.2	1.3
120	24.8	20.4	7.8	176	10.6	8.3	4.4
156 or more	61.6	72.4	89.6	210 or more	80.0	89.2	92.4

- Represents zero.

<sup>1</sup> Excludes Navels and Temples.

<sup>2</sup> Excludes seedy.

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



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

