



# CITRUS

## OCTOBER FORECAST

### MATURITY TEST RESULTS AND FRUIT SIZE

National Agricultural  
Statistics Service

In Cooperation with the Florida Department of Agriculture & Consumer Services

Florida Field Office

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#### ALL ORANGES 135.0 MILLION BOXES

The 2006-07 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 135.0 million boxes. This is nine percent less than the final utilization of last season. The total is divided into the early-midseason-Navel forecast of 72.0 million boxes, including Temples for the first time, and the late season (Valencia) forecast of 63.0 million boxes. All forecasts are based on tree inventory, fruit counts, and fruit measurements made by the National Agricultural Statistics Service (NASS), Florida Field Office. Analysis of these factors project the quantity of fruit to be utilized during the season, including slightly over one percent for non-certified use.

Excluding the 2004-05 and 2005-06 hurricane-affected seasons, the past 10 seasons October all orange forecast has differed from final utilization by an average of 3.9 percent, with five seasons above and five below final production. Seasonal differences range from 9.4 percent below in 1999-00 to 7.5 percent above in 2000-01.

Weather conditions have been atypical this year, with amounts of rainfall well below average, in conjunction with many hot days over the past few months. Growers are irrigating on a regular basis in order to keep trees and fruit quality in overall good condition.

**CITRUS PRODUCTION: OCTOBER 1, 2006**  
Forecasts by varieties and states, with comparisons

Crop and State	Production			Forecast
	2003-04	2004-05	2005-06	2006-07
- - - 1,000 boxes - - -				
<b>EARLY, MIDSEASON, AND NAVAL ORANGES:</b>				
<b>FLORIDA<sup>1/</sup></b>	<b>126,000</b>	<b>79,100</b>	<b>75,000</b>	<b>72,000</b>
California	39,500	44,000	45,500	33,000
Texas	1,420	1,500	1,400	1,540
Arizona	300	240	250	200
Total Above Varieties	167,220	124,840	122,150	106,740
<b>VALENCIAS:</b>				
<b>FLORIDA</b>	<b>116,000</b>	<b>70,700</b>	<b>72,900</b>	<b>63,000</b>
California	11,000	20,500	12,000	13,000
Texas	230	270	200	240
Arizona	170	190	200	150
Total Valencias	127,400	91,660	85,300	76,390
<b>ALL ORANGES:</b>				
<b>FLORIDA</b>	<b>242,000</b>	<b>149,800</b>	<b>147,900</b>	<b>135,000</b>
California	50,500	64,500	57,500	46,000
Texas	1,650	1,770	1,600	1,780
Arizona	470	430	450	350
Total All Oranges	294,620	216,500	207,450	183,130

<sup>1/</sup> Includes Temples beginning in 2006-07. Historic Temple production listed on page 5.

**FORECAST DATES**  
**2006-07 SEASON**  
November 9, 2006    December 11, 2006

Non-regular bloom fruit counted during the limb count survey averaged slightly over 1.5 per tree. Of the non-regular bloom, July or later bloom fruit averaged less than one per tree, and is not used for expansion purposes in determining the forecast.

The biennial *Commercial Citrus Inventory* released in September reported bearing tree numbers for the 2005-06 season. To estimate 2006-07 bearing trees, plantings in 2003 were added and attrition rates were applied. This season, 65.8 million orange trees, slightly less than last season, are used to expand fruit counts and measurements.

Current fruit sizes of oranges are slightly less than the 10-season average, with the exception of Navels. The average fruit per tree, from the summer limb count survey, is the lowest on record for Valencia and midseason oranges reflecting the light bloom period in the spring of this year. Cold temperatures in mid-February interrupted and adversely affected the bloom cycle, especially in the Southern growing area. Stress to trees and root systems from last year's hurricane may have contributed to the low fruit set.

The fruit population is 28 percent less than last season as a result of the fruit per tree and bearing trees. A shift among age groups brings the majority of the Valencia orange fruit population into age group 4 (14-23 years old), 56 percent this season compared to 49 percent last season.

#### FCOJ YIELD 1.58 GALLONS PER BOX

The initial all orange FCOJ yield projection is 1.58 gallons per box of 42° Brix concentrate. The average final yield over the last 10 seasons is 1.58 gallons per box. Last season's final yield was 1.63 gallons per box, slightly less than the record high yield in the 1998-99 season.

## EARLY-MIDSEASON-NAVEL 72.0 MILLION BOXES

The early-midseason-Navel forecast is 72.0 million boxes, including Temples. Of this total, 3.3 million are of the Navel variety. If realized, the 72.0 million boxes (including Temples for the 2006-07 season only) would be four percent less than utilized last season, 43 percent less than the disaster-free 2003-04 season, and 49 percent below the high of 140.0 million boxes recorded in 1997-98.

Early and midseason trees planted through 2003 are included and attrition was applied to the results of the 2006 citrus tree census. The 27.2 million bearing trees are only slightly less than the revised 27.3 million trees that produced the previous crop.

Average fruit per tree for early-midseasons is 696, down 26 percent from last season and the lowest since 1971. The heaviest fruit per tree is in the Central production area and the greatest number of bearing trees is in the Southern area. However, the Western area's combination of fruit and trees is contributing the largest share of the fruit population. Over 90 percent of the fruit population is found in these three areas. The early type, primarily Hamlin variety, accounts for 86 percent of the fruit population.

Early-midseason fruit size is slightly below the average of 1994-95 through 2003-04. To fill a 90-pound equivalent box will require 243 pieces, the fewest since the 2002-03 season. Currently, droppage is below average and is expected to be final at eight percent, the lowest since 2001-02.

## NAVEL ORANGES 3.3 MILLION BOXES

The Navel forecast at 3.3 million boxes is down 13 percent from 2005-06 and up 32 percent from the prior season. Except for the hurricane-affected crop of 2004-05, this forecast is below the utilization for all seasons since 1989-90 and just 52 percent of the record production of 6.4 million boxes attained in 1996-97. The forecast includes an allocation of 500,000 boxes for non-certified and gift fruit. A high proportion of the crop is used for fund-raising events and gift fruit shipments.

Estimated bearing trees total 1.5 million, down less than four percent from last season. Average fruit per tree at 342 is down 21 percent from last season and 40 fewer pieces than the mean of the past 10 non-hurricane seasons. Fruit size is slightly above average and the projected fruit per box at harvest is 132. Current loss from droppage is low and it is anticipated that 90 percent of the initial fruit population will be available for harvest. Limited quantities are being harvested.

## VALENCIA ORANGES 63.0 MILLION BOXES

The Valencia forecast of 63.0 million boxes is 14 percent less than last season and the lowest since the 1991-92 season. If realized, this forecast would equal 54 percent of the record 116.0 million boxes utilized in 2003-04.

At 37.1 million bearing trees, the total used in the forecast is less than one percent fewer than the adjusted trees that produced last season's crop and eight percent less than two seasons ago. The youngest age group (3-5 years old) has the least bearing trees at

## COMPONENTS USED IN THE OCTOBER FORECAST

Type	Bearing Trees	Fruit per Tree	Percent Droppage	Fruit per box
	(1,000)			
Early-midseason	27,209	696	8	243
Navel	1,467	342	10	132
Valencia	37,133	428	13	209

3.6 million and age group 4 (14-23 years old) has the most bearing trees at 18.9 million. The Southern area has the largest number of bearing trees, 39 percent of the total.

Average fruit per tree at 428 is the lowest on record dating back to the 1964-65 season. The previous low record of 524 fruit per tree set in 2002-03 is 96 pieces of fruit higher than this season. The current fruit size measurement and the projected size at harvest are slightly less than the non-hurricane 10 year average.

Projected drop at harvest is 13 percent, almost 1½ percentage points less than the average of the past 10 seasons excluding 2004-05 and 2005-06, both which were affected by hurricanes. In the previous 10 non-hurricane seasons, the droppage rate for Valencias has ranged from 11 to 20 percent due to the longer growing season.

### ORANGES: 2005-06 production and a proration of the 2006-07 forecasts based on fruit populations, by production areas <sup>1/</sup>

Production Area	2005-06		2006-07	
	E & M	Valencia	E & M	Valencia
	--- 1,000 boxes ---			
Indian River	2,400	3,900	3,100	5,000
Southern	12,000	19,400	19,200	22,300
Other	60,600	49,600	49,700	35,700

<sup>1/</sup> The possible differences between growing areas, concerning average fruit size, loss from droppage, and harvest patterns, can alter the prorated estimates.

## TANGELOS 1.1 MILLION BOXES

The tangelo forecast of 1.1 million boxes is 21 percent less than the 1.4 million boxes utilized last season and 29 percent below the 1.55 million boxes harvested in 2004-05. Bearing trees are down almost four percent and fruit per tree is reduced 20 percent from last season. Objective surveys indicate the fruit size is smaller than average and project that 246 pieces will be required to fill a 90-pound equivalent box, almost 43 pieces less than last season. Although current droppage is at a record low level, with the assumption of a normal drop pattern, droppage should be final between the minimum and average of the past 10 non-hurricane seasons.

### EXPECTED GIFT FRUIT SHIPMENTS UNDER THE 6-R PROGRAM, AND NON-CERTIFIED USAGE, 2006-07 SEASON

Type	1,000 boxes
Early and Midseason Oranges	1,000
Valencia Oranges	500
White Grapefruit	200
Colored Grapefruit	500
Tangelos	100
Tangerines	300



**UNADJUSTED MATURITY TESTS:** Averages of regular bloom fruit from sample groves, by types, as of October 1, 1998 through 2006

Fruit type	Groves sampled	Acid	Solids (Brix)	Ratio	Unfinished juice per box	Solids per box
	<i>Number</i>	<i>Percent</i>	<i>Percent</i>		<i>Pounds</i>	<i>Pounds</i>
<b>ORANGES:</b>						
EARLY						
1998	120	1.14	9.38	8.34	47.88	4.49
1999	120	1.20	9.36	7.94	46.51	4.35
2000	120	1.10	9.85	9.13	48.63	4.78
2001	120	0.96	9.81	10.40	48.92	4.80
2002	120	0.89	9.82	11.41	51.79	5.08
2003	120	0.83	9.68	11.82	49.07	4.75
2004	120	1.08	9.27	8.73	48.40	4.49
2005	118	1.34	9.42	7.16	44.78	4.21
2006	119	1.15	9.58	8.48	48.81	4.68
MIDSEASON						
1998	55	1.30	9.14	7.19	48.25	4.41
1999	55	1.41	9.10	6.57	46.89	4.27
2000	55	1.22	9.47	7.94	49.78	4.71
2001	55	1.17	9.56	8.39	49.75	4.76
2002	55	1.01	9.58	9.68	52.84	5.06
2003	55	1.06	9.73	9.39	49.26	4.79
2004	53	1.26	9.01	7.26	49.93	4.50
2005	55	1.51	9.40	6.33	45.34	4.26
2006	54	1.28	9.52	7.62	50.03	4.76
LATE						
1998	150	2.44	8.65	3.60	45.68	3.95
1999	150	2.51	8.55	3.45	43.36	3.71
2000	150	2.45	8.80	3.65	46.50	4.09
2001	150	2.19	8.87	4.11	47.72	4.23
2002	150	2.04	8.70	4.34	48.96	4.26
2003	150	2.01	8.92	4.47	46.28	4.13
2004	144	2.43	8.64	3.59	46.50	4.02
2005	150	2.60	9.02	3.51	43.07	3.88
2006	150	2.50	8.91	3.59	45.75	4.08

**MATURITY**

Results of the second maturity tests of the 2006-07 season for all but the late oranges, which were tested for the first time, are to the left. Samples tested are from groves on routes which cover all five major citrus producing areas.

Sample size for all types has remained constant for the past several seasons. The orange sample size is 325 and the grapefruit sample size is 100 at the start of each season.

Samples were collected September 25-26 and tested at the Orlando laboratory of the National Agricultural Statistics Service (NASS), Florida Field Office. Only regular bloom fruit is collected and tested.

Rainfall in the late spring and early summer months was very sparse in all areas. July through September rainfall was also below average. Interior and eastern coastal areas received the least rain.

Acid levels are above average on all types of oranges. Brix levels are higher than last season on early and midseason oranges while late (Valencia) oranges have a lower Brix level. All orange varieties have acid and Brix content in line with previous seasons. Grapefruit acid and Brix levels are higher than last season.

The ratio of solids to acid is above last year on all varieties. Juice levels and solids per box are about average. Some fresh fruit packers opened in late September. Varieties being shipped include Ambersweet and Navel oranges, and grapefruit.

**MATURITY TEST AVERAGES BY AREAS, OCTOBER 1, 2006**

Fruit type	Groves sampled	Acid	Solids (Brix)	Ratio	Unfinished juice per box	Solids per box
	<i>Number</i>	<i>Percent</i>	<i>Percent</i>		<i>Pounds</i>	<i>Pounds</i>
<b>ORANGES:</b>						
Early						
Indian River Dist.	9	1.25	9.99	8.04	50.57	5.07
Other Areas	110	1.15	9.55	8.51	48.66	4.64
Midseason						
Indian River Dist.	10	1.27	9.70	7.68	52.98	5.15
Other Areas	44	1.28	9.48	7.60	49.35	4.68
Late						
Indian River Dist.	26	2.56	9.13	3.59	45.17	4.13
Other Areas	124	2.48	8.86	3.59	45.87	4.06
<b>GRAPEFRUIT:</b>						
White Seedless						
Indian River Dist.	38	1.61	10.67	6.65	37.51	4.00
Other Areas	12	1.53	9.67	6.36	36.84	3.56
Colored Seedless						
Indian River Dist.	40	1.57	10.54	6.74	39.38	4.14
Other Areas	10	1.47	10.14	6.93	37.88	3.85

## ALL GRAPEFRUIT 26.0 MILLION BOXES

The total Florida all grapefruit crop is forecast at 26.0 million boxes, 35 percent more than last season's utilization of 19.3 million boxes. With the exception of the last two seasons' hurricane-reduced crops, this grapefruit crop is forecast to be the lowest since the 24.2 million boxes in 1949-50. The total is comprised of 9.0 million boxes of white grapefruit and 17.0 million boxes of colored varieties.

### GRAPEFRUIT: 2005-06 production and a proration of the 2006-07 forecasts based on fruit populations, by production areas <sup>1/</sup>

Production Area	2005-06		2006-07	
	White	Colored	White	Colored
--- 1,000 boxes ---				
Indian River	3,600	8,000	6,500	11,600
Southern	300	1,300	1,100	2,500
Other	2,600	3,500	1,400	2,900

<sup>1/</sup> The possible differences between growing areas, concerning average fruit size, loss from droppage, and harvest patterns, can alter the prorated estimates.

The biennial *Commercial Citrus Inventory* released in September reported bearing tree numbers for the 2005-06 season. Trees planted in 2003 were added and attrition rates were then applied. The net loss in bearing trees used in the grapefruit expansion is two percent.

### CITRUS PRODUCTION: October 1, 2006 Forecasts by varieties and states, with comparisons

Crop and State	Production			Forecast
	2003-04	2004-05	2005-06	2006-07
--- 1,000 boxes ---				
<b>GRAPEFRUIT:</b>				
<b>FLORIDA-All</b>	<b>40,900</b>	<b>12,800</b>	<b>19,300</b>	<b>26,000</b>
<b>White</b>	<b>15,900</b>	<b>3,400</b>	<b>6,500</b>	<b>9,000</b>
<b>Colored</b>	<b>25,000</b>	<b>9,400</b>	<b>12,800</b>	<b>17,000</b>
California	5,800	6,100	6,000	5,700
Texas	5,700	6,600	5,200	6,700
Arizona	140	140	100	100
<b>Total Grapefruit</b>	<b>52,540</b>	<b>25,640</b>	<b>30,600</b>	<b>38,500</b>
<b>LEMONS:</b>				
California	18,000	20,500	21,000	19,700
Arizona	3,000	2,400	3,800	2,800
<b>Total Lemons</b>	<b>21,000</b>	<b>22,900</b>	<b>24,800</b>	<b>22,500</b>
<b>Temples: Florida</b>	<b>1,400</b>	<b>650</b>	<b>700</b>	<sup>1/</sup>
<b>Tangelos: Florida</b>	<b>1,000</b>	<b>1,550</b>	<b>1,400</b>	<b>1,100</b>
<b>TANGERINES:</b>				
<b>FLORIDA-All</b>	<b>6,500</b>	<b>4,450</b>	<b>5,500</b>	<b>4,600</b>
<b>Early <sup>2/</sup></b>	<b>3,600</b>	<b>2,450</b>	<b>2,850</b>	<b>2,400</b>
<b>Honey</b>	<b>2,900</b>	<b>2,000</b>	<b>2,650</b>	<b>2,200</b>
California <sup>3/</sup>	2,200	2,900	3,600	3,800
Arizona <sup>3/</sup>	690	400	550	400
<b>Total Tangerines</b>	<b>9,390</b>	<b>7,750</b>	<b>9,650</b>	<b>8,800</b>

<sup>1/</sup> Included in early-midseason-Navel oranges.

<sup>2/</sup> Fallglo and Sunburst varieties.

<sup>3/</sup> Includes tangelos and tangors.

## COMPONENTS USED IN THE OCTOBER FORECAST

Type	Bearing Trees	Fruit per tree	Percent droppage	Fruit per box
	(1,000)			
White Grapefruit <sup>1/</sup>	2,067	469	10	88
Colored Grapefruit	4,243	447	11	98

<sup>1/</sup> Seedless variety only.

Except for the two previous seasons, the **white** category, including seedy, at 9.0 million boxes is projected to be the lowest in over 75 years. White grapefruit bearing trees used in this forecast are estimated to have declined by three percent from last season's revised bearing tree numbers and 21 percent from two seasons ago. The average fruit per tree is slightly less than the mean in the 10-season series from 1994-95 through 2003-04. Current fruit sizes are slightly below average, and the rate of growth measured in last month's survey indicates that final sizes will be about average. Loss from droppage is expected to be about average.

The forecast of **colored** varieties at 17.0 million boxes is 33 percent more than last season. Excluding the last two seasons, it is the lowest since the 1989-90 season. Bearing trees are estimated to be two percent less than last season's revised bearing tree numbers and 16 percent less than 2004-05 bearing tree numbers. The average fruit per tree compared to the 10 previous seasons prior to 2004-05 is higher than six and lower than four. Fruit droppage is projected to be slightly above average, while sizes are projected to remain slightly below.

## ALL TANGERINES 4.6 MILLION BOXES

The forecast of all tangerines is 4.6 million boxes, down 16 percent from last season, but three percent more than in 2004-05. The record crop of 7.0 million boxes was produced in 1999-00. Comprising this forecast are 2.4 million boxes of the **early** varieties (**Fallglo** and **Sunburst**) and 2.2 million boxes of the later maturing **Honey** variety.

**Fallglo** bearing trees are down almost six percent from last season to 249 thousand. Fruit per tree at 696 is down six percent, but above the average of recent seasons. Fruit sizes are below the minimum of the past 10 non-hurricane seasons. Fruit per box is projected at 281 pieces per box or 36 more than last season. Current droppage is near minimum and is expected to finalize below the level of the past six seasons.

**Sunburst** bearing trees, which account for 80 percent of the early tangerine bearing trees, are down almost five percent to 990 thousand. Although fruit per tree is down 408 pieces from last season's record 1043, the 635 is above the mean for non-hurricane seasons. Fruit per box at 306 is close to the non-hurricane season average. Adopted droppage is eight percent, slightly above average.

**Honey** tangerines are forecast at 2.2 million boxes, 17 percent below last season and 24 percent below the record 2.9 million boxes of 2003-04. Fruit size is below average but following a normal growth curve. Loss from droppage is low and final droppage is projected to be 10 percentage points below average.

**FORECAST PROCEDURES FOR THE 2006-07 SEASON**

All citrus forecasts are based on actual fruit counts and measurements. These objective count methods utilize: (1) the bearing age tree population provided from the latest aerial photography with field verifications, (2) the average fruit per tree obtained from the fruit count survey using randomly selected trees and limbs, and (3) the fruit measurement and fruit drop count surveys to determine fruit sizes and loss from fruit droppage.

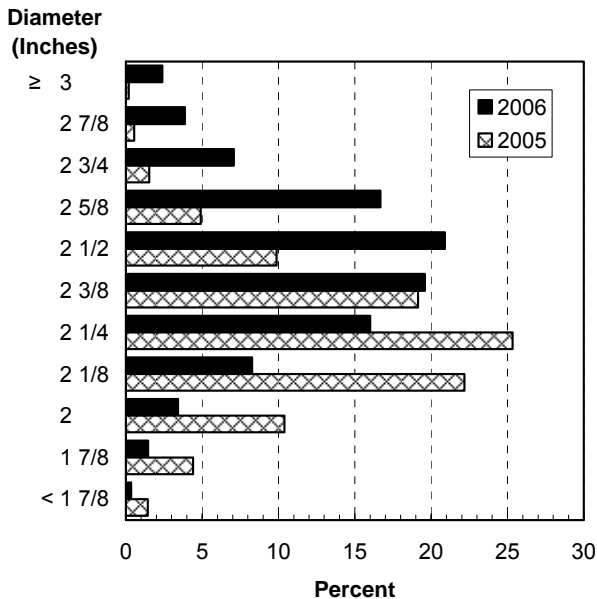
The latest Commercial Citrus Inventory, published September 15, 2006, is the base used to determine forecast tree numbers for this season. All trees planted in 2003 and earlier are included. An attrition factor by age and area was applied to these base numbers to account for tree losses since the inventory period.

The same unbiased fruit count procedures were used as in past seasons. These include drawing the sample with known probabilities from the Commercial Citrus Inventory based on analyses of the variability in fruit per tree. Using random path procedures, count limbs on sample trees are preselected to improve accuracy. Fruit on these limbs is counted in the mid-July to mid-September period.

Fruit size surveys were conducted in August and September. The fruit loss surveys (drop count) were begun in August. These surveys, along with historical records, were used to project the fruit size at harvest and the fruit population that is expected to remain on trees at harvest.

The chart below describes the relationship of the September 2006 early and midseason orange (excluding Navel) fruit size measurements with those taken in September 2005. The diameter measurements shown are the minimum values of each eighth inch range, except for the smallest values.

**FRUIT SIZE:** Early and midseason oranges (excluding Navels) size frequency by diameter from September measurements



Size frequency distributions developed from the September 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 relate to fruit from regular bloom and exclude summer bloom in all years.

**FLORIDA CITRUS:** Size frequency distributions from September measurements

Type of fruit and size in 4/5-bushel containers	2004	2005	2006
--- Percent ---			
<b>EARLY AND MIDSEASON ORANGES:</b>			
(excluding Navels)			
64 and larger	0.2	0.0	0.5
80	1.3	0.4	3.3
100	8.2	3.7	15.8
125	27.9	13.0	31.3
163 and smaller	62.4	82.9	49.1
<b>NAVEL ORANGES:</b>			
64 and larger	19.7	11.0	33.8
80	34.6	29.6	33.2
100	31.5	35.6	22.1
125	11.4	18.3	8.1
163 and smaller	2.8	5.5	2.8
<b>VALENCIA ORANGES:</b>			
64 and larger	0.0	0.1	0.1
80	0.6	0.4	1.6
100	7.9	3.4	11.3
125	28.9	16.5	30.3
163 and smaller	62.6	79.6	56.7
<b>WHITE SEEDLESS GRAPEFRUIT:</b>			
32 and larger	3.1	4.2	1.7
36	8.1	7.0	7.0
40	14.0	11.9	14.0
48	19.1	16.7	18.7
56	16.9	14.1	17.5
63 and smaller	38.8	46.1	41.1
<b>COLORED SEEDLESS GRAPEFRUIT:</b>			
32 and larger	0.9	4.3	0.5
36	5.6	4.6	3.3
40	11.2	8.8	11.1
48	18.5	13.4	18.3
56	17.2	13.8	16.8
63 and smaller	46.6	55.1	50.0
<b>FALLGLO TANGERINES:</b>			
80 and larger	19.0	10.0	4.0
100	54.0	31.6	27.0
120	22.0	21.7	25.0
176	3.0	21.7	21.0
210 and smaller	2.0	15.0	23.0
<b>SUNBURST TANGERINES:</b>			
100 and larger	2.9	1.9	2.2
120	9.8	1.9	8.5
176	9.8	2.5	11.3
210 and smaller	77.5	93.7	78.0
<b>TANGELOS:</b>			
80 and larger	0.6	0.2	1.7
100	4.0	2.1	9.8
120	17.5	12.1	24.6
156 and smaller	77.9	85.6	63.9