## Citrus <br> October Forecast <br> Maturity Test Results and Fruit Size



Cooperating with the Florida Department of Agriculture \& Consumer Services 1222 Woodward St. • Orlando, FL 32803
(407) 648-6013 • (407) 648-6029 FAX • www.nass.usda.gov/fl

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## ALL ORANGES 168.0 MILLION BOXES

The 2007-08 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 168.0 million boxes. This is 30 percent more than the 129.0 million boxes recorded as final production last season and 31 percent below the record high utilization of 244.0 million boxes (Temples not included) in the 1997-98 season. The forecast is divided into the early-midseason-Navel portion (including Temples) at 81.0 million boxes, and the Valencia portion at 87.0 million. Navel oranges account for 3.1 million boxes of the early-midseason-Navel category.

Excluding the 2004-05 and 2005-06 seasons, both affected by hurricanes, the October all orange forecasts, during the past 10 seasons, have differed from the final recorded utilization by an average of 3.9 percent. Seasonal differences range from 9.4 percent below in 1999-00 to 7.5 percent above in 2000-01. Six of the 10 seasons have been above and four have been below.

Weather conditions during the early months of 2007 were generally mild, but very dry. The bloom period was interrupted by a two week cold snap in mid-February, causing multiple blooms and resulting in later maturing fruit and smaller sizes. Warm weather and dry conditions continued throughout the summer months and into early autumn.

Citrus Production: Осtober 1, 2007
Forecasts by varieties and states, with comparisons

| Crop and State | Production |  |  | Forecast |
| :---: | :---: | :---: | :---: | :---: |
|  | 2004-05 | 2005-06 | 2006-07 | 2007-08 |
|  | - - 1,000 boxes -- |  |  |  |
| Early, Midseason, and Navel Oranges: |  |  |  |  |
| FLORIDA ${ }^{1 /}$ | 79,100 | 75,000 | 65,600 | 81,000 |
| California | 44,000 | 47,000 | 34,000 | 43,000 |
| Texas | 1,500 | 1,400 | 1,600 | 1,450 |
| Arizona | 240 | 250 | 200 | 200 |
| Total Above Varieties | 124,840 | 123,650 | 101,400 | 125,650 |
| Valencias: |  |  |  |  |
| FLORIDA | 70,700 | 72,700 | 63,400 | 87,000 |
| California | 20,500 | 14,000 | 11,000 | 15,000 |
| Texas | 270 | 200 | 380 | 350 |
| Arizona | 190 | 200 | 100 | 100 |
| Total Valencias | 91,660 | 87,100 | 74,880 | 102,450 |
| All Oranges: |  |  |  |  |
| FLORIDA | 149,800 | 147,700 | 129,000 | 168,000 |
| California | 64,500 | 61,000 | 45,000 | 58,000 |
| Texas | 1,770 | 1,600 | 1,980 | 1,800 |
| Arizona | 430 | 450 | 300 | 300 |
| Total All Oranges | 216,500 | 210,750 | 176,280 | 228,100 |

## FORECAST DATES 2007-08 SEASON

November 9, 2007 December 11, 2007

Less than one percent of the fruit counted for the forecast was "non-regular" bloom fruit. July and later blooms, not included in the forecast, was nominal.

This season's bearing tree numbers include trees planted in 2004 (three years old at bloom time) and earlier. This season's 59.6 million orange trees, a decrease of 6.4 percent from the adjusted trees used last season, are used to expand the objective count data. In addition to attrition rates, the loss of bearing trees for this year's forecast reflects two large areas equaling 1.6 million orange trees scheduled to be removed for reservoirs.

The average fruit per tree (excluding Navels) is 52 percent higher than last season on early-midseason oranges and 59 percent higher on Valencias. Fruit sizes are considerably smaller than last season on all orange varieties. The youngest bearing age group, three through five years, contributes only two percent of the total fruit population for both early-midseason and Valencia oranges. Age 4 (14-23 years old) has the largest percentage of fruit population at 59 percent for early-midseason oranges and 55 percent for Valencias.

The procedures used in this forecast are similar to past seasons. The methodology is described on page six of this report.

## FCOJ YIELD 1.60 GALLONS PER BOX

The initial all orange FCOJ yield projection is 1.60 gallons per box of $42^{\circ}$ Brix concentrate. The average final yield over the last 10 seasons is 1.59 gallons per box. Last season's final yield of 1.64668 gallons per box is higher than the previous record high yield of 1.63381 in the 1998-99 season.

## EARLY-MIDSEASON-NAVEL 81.0 MILLION BOXES

The early-midseason-Navel forecast (including Temples) is 81.0 million boxes. Of this total, 3.1 million are of the Navel variety. If realized, the 81.0 million would be 23 percent more than utilized last season, and 42 percent below the high of 140.0 million boxes (Temples not included) recorded in 1997-98.

Early and midseason trees planted in 2004 were added and attrition and removals from the revised 2006-07 tree numbers resulted in the bearing tree numbers used in this forecast. The 24.5 million bearing trees are 6.3 percent less than the revised 26.1 million bearing trees of the 2006-07 season. This season over half the trees in the early-midseason category are in Age 4 (14-23 years old). The Southern citrus production area accounts for the greatest number of trees at 7.8 million, followed by the Western citrus production area at 7.3 million.

Average fruit per tree for early-midseason oranges (excluding Navels) at 1,052 is 23 fruit higher than the average of the most recent eight non-hurricane affected years used in the regression. In the late 1980 's, the average fruit per tree averaged nearly 1,300 due to a greater inventory of much older trees.

Early-midseason fruit size is below the minimum of the eight years used in the regression, but is expected to be slightly above the minimum at harvest. To fill a 90-pound equivalent box will require 266 pieces of fruit. In recent seasons, the 268 in 2001-02 and 288 in 2005-06, required more. Currently, droppage is equal to the lowest amount used in the eight year regression and is expected to be final at eight percent, the lowest since the 2001-02 season.

## NAVEL ORANGES 3.1 MILLION BOXES

The Navel forecast at 3.1 million boxes is up 9 percent from 2.85 million boxes in the 2006-07 season. Excluding last year and the hurricane-affected crop of 2004-05, this forecast is below the utilization for all seasons since the freeze affected 1989-90 season of 2.9 million boxes. The forecast includes an allocation of 500,000 boxes for non-certified and gift fruit. A high portion of the crop is used for fund-raising events and gift fruit shipments.

Estimated bearing trees total 1.3 million, down 8 percent from last season. Average fruit per tree at 440 is only 23 pieces fewer than the maximum of the past 8 non-hurricane seasons. Fruit size is smaller than seven of the eight years used in the regression at 138 pieces per box. Current loss from droppage is below the minimum of recent non-hurricane history; it is anticipated to be slightly above the minimum at harvest. Navel orange harvest has begun in limited quantities and will continue robustly through the Thanksgiving and Christmas seasons.

## VALENCIA ORANGES 87.0 MILLION BOXES

The Valencia forecast of 87.0 million boxes is the highest since the 2003-04 record of 116.0 million boxes were harvested. If realized, this forecast will be 37 percent greater than last season’s harvest and 20 percent more than 2005-06.

Bearing tree numbers have been declining since the 2002-03 season. The decline of 6.4 percent from the revised figure for 2006-07 is second only to the loss of 8.1 percent from 2004-05 to

Components Used in the October Forecast

| Type |  |  |  |  |
| :--- | ---: | :---: | :---: | :---: |
|  | Bearing <br> Trees | Fruit <br> per <br> Tree | Percent <br> Droppage | Fruit <br> per <br> box |
| Early-midseason | $(1,000)$ |  |  |  |
| Navel | 24,473 | 1,052 | 8 | 266 |
| Valencia | 1,284 | 440 | 9 | 138 |

2005-06 in recent seasons. The Southern area leads with 39 percent of the bearing trees, followed by the Central and Western.

The average pieces of fruit per tree is the highest since 2003-04 and up 59 percent from the previous season. One-third of the fruit population is located in the Southern area. The Central area is contributing 31 percent and 26 percent is coming from the Western area.

Current average fruit size is small and the projected size at harvest is below all recent non-hurricane seasons. Results of the objective surveys show that less than one percent of the fruit has dropped from selected limbs since the initial count in August. Drop is projected to be final between the minimum and average of the seasons used in the regressions (1997-98 through 2005-06 excluding hurricane seasons).

> ORANGES: 2006-07 production and a proration of the 2007-08 forecasts based on fruit populations, by production areas ${ }^{1 /}$

| Production Area | 2006-07 |  | 2007-08 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | E-M-N | Valencia | E-M-N | Valencia |
|  | -- - 1,000 boxes -- |  |  |  |
| Indian River | 3,000 | 4,500 | 4,100 | 6,300 |
| Southern | 17,500 | 24,400 | 22,000 | 28,800 |
| Other | 45,100 | 34,500 | 54,900 | 51,900 |

${ }^{1 /}$ The possible differences between growing areas, concerning average fruit size, loss from droppage, and harvest patterns, can alter the prorated estimates.

## TANGELOS 1.3 MILLION BOXES

The tangelo forecast of 1.3 million boxes is four percent greater than last season and equal to the average utilization for the past four seasons. Bearing trees have declined almost 12 percent to 622 thousand. Fruit per tree is up 39 percent from 2006-07 but current fruit size is the smallest since 1993-94. Excluding hurricane seasons, final fruit size is also projected to be the smallest since 1993-94, necessitating 31 more pieces of fruit to fill a box than last season. Partially offsetting the small size is low current droppage, second only to the 2006-07 record, and the projection that it will remain below average, finalizing at 8 percent.

| Expected Gift Fruit Shipments Under the 6-R <br> Program, And Non-Certified Usage, 2007-08 Season |  |
| :--- | :---: |
| Type | 1,000 boxes |
| Early and Midseason Oranges | 1,000 |
| Valencia Oranges | 500 |
| White Grapefruit | 200 |
| Colored Grapefruit | 500 |
| Tangelos | 100 |
| Tangerines | 300 |

Florida Citrus: Distribution of estimated fruit

| population in September by areas and age groups <br> and <br> and <br> age groups |  |  |  | Oranges |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Early - midseason |  | Valencia |  |  |  |  |
|  | $2006-07$ | $2007-08$ | $2006-07$ | $2007-08$ |  |  |  |
|  | - Percent -- |  |  |  |  |  |  |


| Indian River | 4 | 4 | 8 | 7 |
| :--- | ---: | ---: | ---: | ---: |
| Northern | 5 | 8 | 3 | 3 |
| Central | 30 | 29 | 32 | 31 |
| Western | 34 | 31 | 22 | 26 |
| Southern | 27 | 28 | 35 | 33 |
|  |  |  |  |  |
| $3-5$ years | 4 | 2 | 3 | 2 |
| $6-8$ years | 5 | 5 | 8 | 8 |
| $9-13$ years | 10 | 9 | 14 | 15 |
| $14-23$ years | 57 | 59 | 56 | 55 |
| 24 yrs \& over | 24 | 25 | 19 | 20 |


| Areas <br> and <br> age groups | Seedless Grapefruit |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | White |  | Colored |  |
|  | $2006-07$ | $2007-08$ | $2006-07$ | $2007-08$ |
|  | - Percent -- |  |  |  |


| Indian River | 72 | 78 | 68 | 68 |
| :--- | ---: | ---: | ---: | ---: |
| Northern | 1 | 1 | 3 | 4 |
| Central | 13 | 9 | 10 | 9 |
| Western | 2 | 2 | 4 | 3 |
| Southern | 12 | 10 | 15 | 16 |
|  |  |  |  |  |
| $3-5$ years | 1 | 2 | 1 | 2 |
| $6-8$ years | 2 | 4 | 3 | 3 |
| $9-13$ years | 12 | 8 | 7 | 5 |
| $14-23$ years | 40 | 44 | 57 | 56 |
| 24 yrs $\&$ over | 45 | 42 | 32 | 34 |

${ }^{1 /}$ Distribution of fruit population in September as determined by multiplying average fruit per tree from the Limb Count Survey by bearing age trees.


Unadjusted Maturity Tests: Average of regular bloom fruit from sample groves,
2006-07 and 2007-08 seasons

| Fruit type (No. groves) test date | Acid |  | Solids (Brix) |  | Ratio |  | Unfinished juice per box |  | Solids per box |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006-07 | 2007-08 | 2006-07 | 2007-08 | 2006-07 | 2007-08 | 2006-07 | 2007-08 | 2006-07 | 2007-08 |
|  | Percent |  | Percent |  |  |  | Pounds |  | Pounds |  |

Juice and solids per box are unadjusted and not comparable to plant test results.
Oranges:
Early (119-120)

| Sep 1 | 1.70 | 1.75 | 9.44 | 9.45 | 5.66 | 5.51 | 42.47 | 40.93 | 4.00 | 3.86 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Oct 1 | 1.15 | 1.25 | 9.58 | 10.28 | 8.48 | 8.39 | 48.81 | 45.93 | 4.68 | 4.72 |
| d (54-55) |  |  |  |  |  |  |  |  |  |  |
| Sep 1 | 1.81 | 1.99 | 9.29 | 9.63 | 5.25 | 4.91 | 43.06 | 41.52 | 4.00 | 4.00 |
| Oct 1 | 1.28 | 1.49 | 9.52 | 9.62 | 7.62 | 6.58 | 50.03 | 46.19 | 4.76 | 4.44 |
| te (150-149) NA |  |  |  |  |  |  |  |  |  |  |
| Sep 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Oct 1 | 2.50 | 2.62 | 8.91 | 9.47 | 3.59 | 3.66 | 45.75 | 43.86 | 4.08 | 4.15 |
| FRUIT: <br> hite Seedless (50-50) |  |  |  |  |  |  |  |  |  |  |
| Sep 1 | 1.86 | 1.94 | 10.47 | 10.17 | 5.63 | 5.30 | 32.12 | 30.64 | 3.36 | 3.11 |
| Oct 1 | 1.59 | 1.64 | 10.43 | 10.12 | 6.58 | 6.19 | 37.35 | 35.58 | 3.89 | 3.59 |
| lored Seedless (50-49) |  |  |  |  |  |  |  |  |  |  |
| Sep 1 | 1.85 | 1.96 | 10.43 | 10.53 | 5.64 | 5.40 | 32.04 | 30.54 | 3.33 | 3.21 |
| Oct 1 | 1.55 | 1.67 | 10.46 | 10.56 | 6.78 | 6.35 | 39.08 | 35.41 | 4.08 | 3.74 |

[^0] $5 / 8$-inch orifice tube. The beam settings are also identical to past tests and no restrictors are used.

Unadjusted Maturity Tests: Averages of regular bloom fruit from sample groves, by types, as of October 1, 1999 through 2007

| Fruit <br> type | Groves <br> sampled | Acid | Solids <br> (Brix) | Ratio | Unfinished <br> juice per <br> box | Solids <br> per box |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Percent | Percent |  | Pounds | Pounds |

## ORANGES:

| Early |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 |
| 2007 | 120 | 1.25 | 10.28 | 8.39 | 45.93 | 4.72 |
| Midseason |  |  |  |  |  |  |
| 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 |
| 2007 | 55 | 1.49 | 9.62 | 6.58 | 46.19 | 4.44 |
| Late |  |  |  |  |  |  |
| 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 |
| 2007 | 149 | 2.62 | 9.47 | 3.66 | 43.86 | 4.15 |

## MATURITY

Results of the second maturity tests of the 2007-08 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 24-25 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 winter and spring months was very sparse in all areas. Although rainfall significantly picked up from June through September, in most cases monthly totals were still one to two inches below average.

Acid levels are higher than seven of the last eight seasons on early and midseason oranges, and higher than the last eight seasons on late oranges. Brix levels are higher than seven of the last eight seasons on midseason oranges and higher than the last eight seasons on early and late oranges.

Juice levels are lower than seven of the last eight seasons on early and midseason oranges and lower than six of the last eight on late oranges. Solids per box is above average on early oranges and below on midseason and late oranges. Some fresh fruit packers opened in late September. Varieties being shipped include Ambersweet and Navel oranges, Fallglo tangerines, and grapefruit.

Maturity Test Averages by Areas, October 1, 2007

| Fruit type | Groves sampled | Acid | $\begin{aligned} & \hline \text { Solids } \\ & \text { (Brix) } \end{aligned}$ | Ratio | Unfinished juice per box | Solids per box |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Percent | Percent |  | Pounds | Pounds |
| Oranges: |  |  |  |  |  |  |
| Early |  |  |  |  |  |  |
| Indian River | 9 | 1.29 | 10.24 | 7.97 | 46.38 | 4.75 |
| Other Areas | 111 | 1.25 | 10.28 | 8.42 | 45.89 | 4.71 |
| Midseason |  |  |  |  |  |  |
| Indian River | 11 | 1.54 | 9.47 | 6.21 | 42.91 | 4.06 |
| Other Areas | 44 | 1.48 | 9.66 | 6.68 | 47.01 | 4.54 |
| Late |  |  |  |  |  |  |
| Indian River | 25 | 2.71 | 9.48 | 3.52 | 44.26 | 4.19 |
| Other Areas | 124 | 2.60 | 9.46 | 3.69 | 43.77 | 4.14 |
| Grapefruit: |  |  |  |  |  |  |
| White Seedless |  |  |  |  |  |  |
| Indian River | 38 | 1.67 | 10.16 | 6.08 | 35.37 | 3.59 |
| Other Areas | 12 | 1.53 | 9.97 | 6.55 | 36.23 | 3.60 |
| Colored Seedless |  |  |  |  |  |  |
| Indian River | 39 | 1.69 | 10.61 | 6.29 | 35.58 | 3.77 |
| Other Areas | 10 | 1.57 | 10.35 | 6.61 | 34.75 | 3.60 |

## ALL GRAPEFRUIT 25.0 MILLION BOXES

The total Florida all grapefruit crop is forecast at 25.0 million boxes, 8.1 percent less than last season's utilization of 27.2 million boxes. With the exception of the hurricane-reduced 2004-05 and 2005-06 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 16.0 million boxes of colored varieties.

Graperruit: 2006-07 production and a proration of the 2007-08 forecasts based on fruit populations, by production areas ${ }^{1 /}$

| Production Area | $2006-07$ |  | 2007-08 |  |
| :--- | ---: | ---: | ---: | ---: |
|  | White | Colored | White | Colored |
| $---1,000$ | boxes -- |  |  |  |
|  |  |  |  |  |
|  | 6,700 | 12,800 | 7,000 | 10,900 |
| Other | 1,100 | 2,100 | 900 | 2,500 |

${ }^{1 /}$ The possible differences between growing areas, concerning average fruit size, loss from droppage, and harvest patterns, can alter the prorated estimates.

Except for the 2004-05 and 2005-06 seasons, the white category, including seedy, at 9.0 million boxes is projected to be the lowest in over 75 years. The average fruit per tree, at 557, is the highest since the 1992 season. Current fruit sizes are below the minimum of the last eight years used in the regressions, and

## Citrus Production: October 1, 2007

Forecasts by varieties and states, with comparisons

| Crop and State | Production |  |  | Forecast |
| :---: | :---: | :---: | :---: | :---: |
|  | 2004-05 | 2005-06 | 2006-07 | 2007-08 |
|  | -- 1,000 boxes -- |  |  |  |
| Grapefruit: |  |  |  |  |
| FLORIDA-All | 12,800 | 19,300 | 27,200 | 25,000 |
| White | 3,400 | 6,500 | 9,300 | 9,000 |
| Colored | 9,400 | 12,800 | 17,900 | 16,000 |
| California | 6,100 | 6,000 | 4,000 | 4,500 |
| Texas | 6,600 | 5,200 | 7,100 | 6,800 |
| Arizona | 140 | 100 | 100 | 200 |
| Total Grapefruit | 25,640 | 30,600 | 38,400 | 36,500 |
| Lemons: |  |  |  |  |
| California | 20,500 | 22,000 | 16,000 | 16,500 |
| Arizona | 2,400 | 3,800 | 2,500 | 1,500 |
| Total Lemons | 22,900 | 25,800 | 18,500 | 18,000 |
| Temples: Florida | 650 | 700 |  | T |
| Tangelos: Florida | 1,550 | 1,400 | 1,250 | 1,300 |
| Tangerines: |  |  |  |  |
| FLORIDA-AII | 4,450 | 5,500 | 4,600 | 5,100 |
| Early ${ }^{2 /}$ | 2,450 | 2,850 | 2,400 | 2,600 |
| Honey | 2,000 | 2,650 | 2,200 | 2,500 |
| California ${ }^{3 /}$ | 2,900 | 3,600 | 2,900 | 4,700 |
| Arizona ${ }^{3 /}$ | 400 | 550 | 300 | 400 |
| Total Tangerines | 7,750 | 9,650 | 7,800 | 10,200 |

[^1]Components Used in the October Forecast

| Type | Bearing <br> Trees | Fruit <br> per <br> tree | Percent <br> droppage | Fruit <br> per <br> box |  |
| :--- | ---: | ---: | :---: | :---: | :---: |
|  | $(1,000)$ |  |  |  |  |
| White Grapefruit $^{1 /}$ | 1,862 | 557 | 10 | 96 |  |
| Colored Grapefruit $_{1 /}$ | 4,155 | 499 | 12 | 110 |  |

${ }^{1 /}$ Seedless variety only.
are projected to be the smallest at harvest since the 2001-02 season. Loss from droppage is expected to be above average. White seedless bearing trees used in this forecast are estimated to have declined by seven percent from last season's revised bearing tree numbers.

The forecast of colored varieties at 16.0 million boxes is 11 percent less than last season's 17.9 million boxes. Excluding the 2004-05 and 2005-06 seasons, it is the lowest since 1983-84. Projected fruit sizes at harvest are expected to be the smallest on record, since the survey began in the 1968-69 season. The average fruit per tree is higher than the last five seasons, surpassed by the 2001-02 season at 522 fruit per tree. Fruit droppage is projected to be slightly above average. Bearing trees are estimated to be two percent less than last season's revised bearing trees.

## ALL TANGERINES 5.1 MILLION BOXES

The forecast of all tangerines is 5.1 million boxes, an increase of 11 percent over last season, but 27 percent below the record 7.0 million box crop of 1999-00. The total is divided nearly evenly between the early component (Fallglo and Sunburst varieties) at 2.6 million boxes, 200,000 above last season's production and the late Honey variety at 2.5 million boxes, up 300,000 from 2006-07.

High production for these Fallglo and Sunburst early varieties is 4.24 million boxes in 2001-02. Combined production has been below 3.0 million boxes the past three seasons. Sunburst accounts for about $3 / 4$ of the early tangerine crop.

In the two decades since 1987 when Fallglo was released, bearing trees have peaked (1996-97) and then declined 60 percent to the current level of 238 thousand. Bearing trees are down five percent from last season. Fruit per tree is up 40 percent from last season. Sizes are below average, but ahead of last season, with 274 pieces required to fill a box. Although current droppage is higher than the past three seasons, the projected drop at harvest is below average.

Sunburst bearing trees have fallen 55 percent in the last decade, including 10 percent since last season and stand at 843 thousand trees. Fruit per tree is up 33 percent from 2006-07 and current size measurements are near the minimums of recent seasons, resulting in 320 pieces required to fill a box. Droppage is expected to remain close to average.

Honey tangerine bearing trees, now 1,099 thousand, are down almost 4 percent from last season and 21 percent from the peak in 2003-04 when the record harvest of 2.9 million boxes was recorded. Fruit per tree is up 54 percent over last season while fruit sizes to date are below the minimums of recent seasons. It may take an additional 37 pieces of fruit to fill a box compared to last season. Current droppage is below the minimum of recent non-hurricane seasons, and projected to be final at 30 percent.

## FORECAST PROCEDURES FOR THE 2007-08 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, and the update of selected counties, published September 14, 2007, are the base used to determine forecast tree numbers for this season. All trees planted in 2004 and earlier are included. The tree base was reduced by trees scheduled for reservoir removal. An attrition factor by age and area was applied to these base numbers to account for tree losses since the inventory periods.

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 2007 early and midseason orange (excluding Navel) fruit size measurements with those taken in September 2006. 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 | 2005 | 2006 | 2007 |
| :---: | :---: | :---: | :---: |
|  | ---Percent --- |  |  |
| EARLY AND MIDSEASON ORANGES: (excluding Navels) |  |  |  |
| 64 and larger | 0.0 | 0.5 | 0.0 |
| 80 | 0.4 | 3.3 | 0.8 |
| 100 | 3.7 | 15.8 | 7.1 |
| 125 | 13.0 | 31.3 | 20.8 |
| 163 and smaller | 82.9 | 49.1 | 71.3 |
| Navel oranges: |  |  |  |
| 64 and larger | 11.0 | 33.8 | 15.2 |
| 80 | 29.6 | 33.2 | 27.5 |
| 100 | 35.6 | 22.1 | 34.4 |
| 125 | 18.3 | 8.1 | 16.1 |
| 163 and smaller | 5.5 | 2.8 | 6.8 |
| Valencia oranges: |  |  |  |
| 64 and larger | 0.1 | 0.1 | 0.0 |
| 80 | 0.4 | 1.6 | 0.7 |
| 100 | 3.4 | 11.3 | 5.9 |
| 125 | 16.5 | 30.3 | 19.8 |
| 163 and smaller | 79.6 | 56.7 | 73.6 |
| White seedless grapefruit: |  |  |  |
| 32 and larger | 4.2 | 1.7 | 0.3 |
| 36 | 7.0 | 7.0 | 2.8 |
| 40 | 11.9 | 14.0 | 4.8 |
| 48 | 16.7 | 18.7 | 11.1 |
| 56 | 14.1 | 17.5 | 12.5 |
| 63 and smaller | 46.1 | 41.1 | 68.5 |
| Colored seedless graperruit: |  |  |  |
| 32 and larger | 4.3 | 0.5 | 0.3 |
| 36 | 4.6 | 3.3 | 1.4 |
| 40 | 8.8 | 11.1 | 3.1 |
| 48 | 13.4 | 18.3 | 7.5 |
| 56 | 13.8 | 16.8 | 10.1 |
| 63 and smaller | 55.1 | 50.0 | 77.6 |
| Fallglo tangerines: |  |  |  |
| 80 and larger | 10.0 | 4.0 | 5.0 |
| 100 | 31.6 | 27.0 | 17.0 |
| 120 | 21.7 | 25.0 | 32.0 |
| 176 | 21.7 | 21.0 | 21.0 |
| 210 and smaller | 15.0 | 23.0 | 25.0 |
| SUNBURST TANGERINES: |  |  |  |
| 100 and larger | 1.9 | 2.2 | 0.9 |
| 120 | 1.9 | 8.5 | 3.9 |
| 176 | 2.5 | 11.3 | 4.3 |
| 210 and smaller | 93.7 | 78.0 | 90.9 |
| TANGELOS: |  |  |  |
| 80 and larger | 0.2 | 1.7 | 0.0 |
| 100 | 2.1 | 9.8 | 5.2 |
| 120 | 12.1 | 24.6 | 12.7 |
| 156 and smaller | 85.6 | 63.9 | 82.1 |


[^0]:    NOTICE: All samples were run through an FMC 091 machine using mechanical pressure only. This machine utilizes a . 040 short strainer and standard

[^1]:    ${ }^{1 /}$ Included in early-midseason-Navel oranges.
    ${ }^{2 /}$ Fallglo and Sunburst varieties.
    ${ }^{3 /}$ Includes tangelos and tangors.

