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



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April 12, 2016
Florida All Orange Production Up 7 Percent
Florida Non-Valencia Orange Production Unchanged
Florida Valencia Orange Production Up 14 Percent
Florida All Grapefruit Production Unchanged
Florida All Tangerine Production Unchanged
Florida Tangelo Production Down 3 Percent
Florida FCOJ Yield 1.42 Gallons per Box (42o Brix)
Citrus Production by Type and State - United States

| Crop and State | Production ${ }^{1}$ |  |  | 2015-2016 Forecasted Production ${ }^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2012-2013 | 2013-2014 | 2014-2015 | March | April |
|  | (1,000 boxes) | (1,000 boxes) | (1,000 boxes) | (1,000 boxes) | (1,000 boxes) |
| Non-Valencia Oranges ${ }^{2}$ |  |  |  |  |  |
| Florida ................. | 67,100 | 53,300 | 47,400 | 36,000 | 36,000 |
| California. | 42,500 | 38,700 | * 39,100 | 42,000 | 42,000 |
| Texas | 1,504 | 1,401 | 1,170 | 1,130 | 1,350 |
| United States...... | 111,104 | 93,401 | * 87,670 | 79,130 | 79,350 |
| Valencia Oranges |  |  |  |  |  |
| Florida ............ | 66,500 | 51,400 | * 49,550 | 35,000 | 40,000 |
| California | 12,000 | 10,800 | 9,500 | 10,500 | 10,500 |
| Texas ..... | 289 | 376 | 282 | 280 | 220 |
| United States. | 78,789 | 62,576 | * 59,332 | 45,780 | 50,720 |
| All Oranges |  |  |  |  |  |
| Florida. | 133,600 | 104,700 | * 96,950 | 71,000 | 76,000 |
| California | 54,500 | 49,500 | * 48,600 | 52,500 | 52,500 |
| Texas .... | 1,793 | 1,777 | 1,452 | 1,410 | 1,570 |
| United States.. | 189,893 | 155,977 | * 147,002 | 124,910 | 130,070 |
| Grapefruit |  |  |  |  |  |
| Florida-All | 18,350 | 15,650 | 12,900 | 10,700 | 10,700 |
| White.. | 5,250 | 4,150 | 3,250 | 2,500 | 2,500 |
| Red. | 13,100 | 11,500 | 9,650 | 8,200 | 8,200 |
| California | 4,500 | 3,850 | * 4,300 | 3,700 | 3,900 |
| Texas | 6,100 | 5,700 | 4,250 | 5,100 | 5,200 |
| United States.. | 28,950 | 25,200 | * 21,450 | 19,500 | 19,800 |
| Lemons |  |  |  |  |  |
| California.. | 21,000 | 18,800 | * 20,600 | 20,000 | 21,000 |
| Arizona ..... | 1,800 | 1,800 | 2,000 | 1,600 | 1,500 |
| United States. | 22,800 | 20,600 | * 22,600 | 21,600 | 22,500 |
| Tangelos |  |  |  |  |  |
| Florida ... | 1,000 | 880 | * 665 | 400 | 390 |
| Tangerines |  |  |  |  |  |
| Florida-All .. | 3,280 | 2,900 | * 2,265 | 1,400 | 1,400 |
| Early ${ }^{3}$. | 1,910 | 1,750 | 1,445 | 800 | 800 |
| Honey .... | 1,370 | 1,150 | * 820 | 600 | 600 |
| California ${ }^{4}$ | 13,000 | 14,700 | * 18,500 | 21,000 | 22,000 |
| Arizona ${ }^{45}$.. | 160 | 150 | 170 | (NA) | (NA) |
| United States... | 16,440 | 17,750 | * 20,935 | 22,400 | 23,400 |

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## Regressions

Regression data used are from the 2006-2007 through 2014-2015 seasons. All references to "average", "minimum", and "maximum" refer to these 9 seasons unless noted.

## All Oranges 76.0 Million Boxes

The 2015-2016 Florida all orange forecast released today by the USDA Agricultural Statistics Board is raised to 76.0 million boxes, but still down 22 percent from last season's revised final production. The total includes 36.0 million boxes of non-Valencia oranges (early, midseason, Navel, and Temple varieties) and 40.0 million boxes of Valencia oranges. For those previous 9 seasons, the April forecast has deviated from final production by an average of 3 percent with 4 seasons below and 5 above, and differences ranging from 3 percent below to 5 percent above.

## Non-Valencia Oranges 36.0 Million Boxes

The forecast of non-Valencia orange production is unchanged at 36.0 million boxes. The Row Count survey conducted March 29-30 showed 99 percent of non-Valencia orange rows harvested. The Navel portion of the non-Valencia forecast is final at 1.0 million boxes, the smallest in a 36 year series.

## Valencia Oranges 40.0 Million Boxes

The forecast of Valencia production is raised to 40.0 million boxes. The March Drop survey indicated final droppage at 29 percent. Final fruit size is slightly smaller than last month's projection, requiring 228 pieces of fruit to fill a $1-3 / 5$ bushel box. The Row Count survey conducted March 29-30 showed 46 percent of the Valencia rows are harvested.

## All Grapefruit 10.7 Million Boxes

The forecast of all grapefruit production is unchanged at 10.7 million boxes. The forecast of white grapefruit remains at 2.5 million boxes and red grapefruit is unchanged at 8.2 million boxes. The Row Count survey conducted March 29-30 showed harvest of both white and red grapefruit is nearly complete for the season.

## All Tangerines 1.40 Million Boxes

The forecast of all tangerine production is unchanged at 1.40 million boxes. The early varieties (Fallglo and Sunburst) are final at 800,000 boxes. The Honey variety is unchanged at 600,000 boxes.

## Tangelos 390 Thousand Boxes

The forecast of tangelo production is lowered to 390,000 boxes, including an allocation for non-certified use. Tangelo harvest is complete for the season, and is the lowest amount since 300,000 boxes were harvested during the 1958-1959 season.

## FCOJ Yield 1.42 Gallons per Box

The projection for frozen concentrated orange juice (FCOJ) is lowered to 1.42 gallons per box of $42^{\circ}$ Brix concentrate. The projection for Valencia oranges is lowered to 1.52 gallons per box. The final yield for non-Valencia oranges is 1.347046 gallons per box, as reported by the Florida Department of Citrus (FDOC) in Report No. 20. Last season's final yield for all oranges was 1.502203 gallons per box, 1.419546 gallons per box for non-Valencia oranges and 1.584149 for Valencia oranges.

## Forecast Components, by Variety - Florida: April 2016

[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 | 21,650 | 744 | 32 | 284 |
| Navel. | 944 | 229 | 24 | 141 |
| Valencia ..... | 30,249 | 520 | 29 | 228 |
| GRAPEFRUIT |  |  |  |  |
| White... | 1,087 | 449 | 34 | 132 |
| Red | 3,236 | 439 | 40 | 127 |

## Maturity Tests

Regular bloom fruit samples were collected from groves on established routes March 29-30, 2016 in Florida's five major citrus producing areas, and tested April 1, 2016. Only late oranges were collected for this month's testing. Acid level and solids (Brix) are lower than last season, resulting in a higher ratio. Unfinished juice per box is higher than last season, while solids per box are lower than last season.
Fruit from the Indian River District have a lower acid level, and a higher solids (Brix) compared to fruit from other areas, resulting in a higher ratio. Unfinished juice per box and solids per box is higher in fruit from the Indian River District than fruit from other areas.

## Citrus Unadjusted Maturity Tests - Florida: 2014-2015 and 2015-2016

[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) |  | Solids/Acid |  | Unfinished juice per box |  | Solids per box |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014-2015 | 2015-2016 | 2014-2015 | 2015-2016 | 2014-2015 | 2015-2016 | 2014-2015 | 2015-2016 | 2014-2015 | 2015-2016 |
|  | (percent) | (percent) | (percent) | (percent) | (ratio) | (ratio) | (pounds) | (pounds) | (pounds) | (pounds) |
| LATE ORANGES (130-81) |  |  |  |  |  |  |  |  |  |  |
| Oct 1... | 2.09 | 1.95 | 8.70 | 8.61 | 4.20 | 4.46 | 45.20 | 48.37 | 3.93 | 4.16 |
| Nov 1. | 1.78 | 1.63 | 9.12 | 9.34 | 5.18 | 5.77 | 50.42 | 52.40 | 4.60 | 4.89 |
| Dec 1. | 1.49 | 1.33 | 9.69 | 9.74 | 6.55 | 7.40 | 53.95 | 54.77 | 5.23 | 5.33 |
| Jan 1. | 1.27 | 1.05 | 10.87 | 10.26 | 8.63 | 9.85 | 54.87 | 57.08 | 5.96 | 5.86 |
| Feb 1. | 1.19 | 0.99 | 11.33 | 10.67 | 9.62 | 10.88 | 55.28 | 56.19 | 6.26 | 5.99 |
| Mar 1. | 1.10 | 0.89 | 11.78 | 11.32 | 10.79 | 12.86 | 54.62 | 56.38 | 6.43 | 6.38 |
| Apr 1. | 0.95 | 0.81 | 11.94 | 11.64 | 12.73 | 14.60 | 55.36 | 56.29 | 6.60 | 6.55 |

Citrus Maturity Test Averages, by Areas - Florida: April 1, 2014-2015 and 2015-2016

| Fruit type (number of groves) | Acid |  | Solids (Brix) |  | Solids/Acid |  | Unfinished juice per box |  | Solids per box |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014-2015 | 2015-2016 | 2014-2015 | 2015-2016 | 2014-2015 | 2015-2016 | 2014-2015 | 2015-2016 | 2014-2015 | 2015-2016 |
|  | (percent) | (percent) | (percent) | (percent) | (ratio) | (ratio) | (pounds) | (pounds) | (pounds) | (pounds) |
| LATE ORANGES |  |  |  |  |  |  |  |  |  |  |
| Indian River (28-16). | 0.98 | 0.79 | 12.33 | 12.04 | 12.70 | 15.26 | 54.39 | 56.32 | 6.70 | 6.77 |
| Other Areas (102-65). | 0.94 | 0.81 | 11.83 | 11.54 | 12.74 | 14.44 | 55.63 | 56.29 | 6.58 | 6.50 |

## Fruit Size Comparisons to Previous Seasons

Size frequency distributions from the March size survey are shown in the table below. The distributions are by percent of fruit falling within the size range of each 4/5-bushel container. These frequency distributions include fruit from regular bloom and exclude fruit from summer bloom.

The chart to the right shows the distribution of fruit sizes in 2016 compared to 2015. The diameter measurements shown are the minimum values of fruit measured, except for the smallest values.

## Citrus Size Frequency Measurement Distributions, by Type - Florida: March

| Type and number of fruit per 4/5 - bushel containers | 2014 | 2015 | 2016 |
| :---: | :---: | :---: | :---: |
|  | (percent) | (percent) | (percent) |
| VALENCIA ORANGES |  |  |  |
| 64 or less .... | 3.9 | 3.1 | 5.8 |
| 80. | 13.5 | 12.3 | 16.3 |
| 100.................................. | 31.8 | 29.4 | 32.2 |
| 125................................... | 29.2 | 32.2 | 27.4 |
| 163 or more ....................... | 21.6 | 23.0 | 18.3 |

Fruit Size Frequency Measurements, Valencia Oranges, by Diameter Florida: March



[^0]:    * Revised.
    ${ }^{1}$ Net pounds per box: oranges in California-80, Florida-90, Texas-85; grapefruit in California-80, Florida-85, Texas-80; lemons-80, tangelos-90; tangerines and mandarins in Arizona and California-80, Florida-95.
    ${ }^{2}$ Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas. Includes small quantities of Temples in Florida.
    ${ }^{3}$ Fallglo and Sunburst varieties.
    ${ }^{4}$ Includes tangelos and tangors.
    ${ }^{5}$ Estimates discontinued in 2015-2016.

