2019-20 California Valencia Orange Objective Measurement Report

California Department of Food and Agriculture

Cooperating with the USDA, National Agricultural Statistics Service, Pacific Regional Office - California
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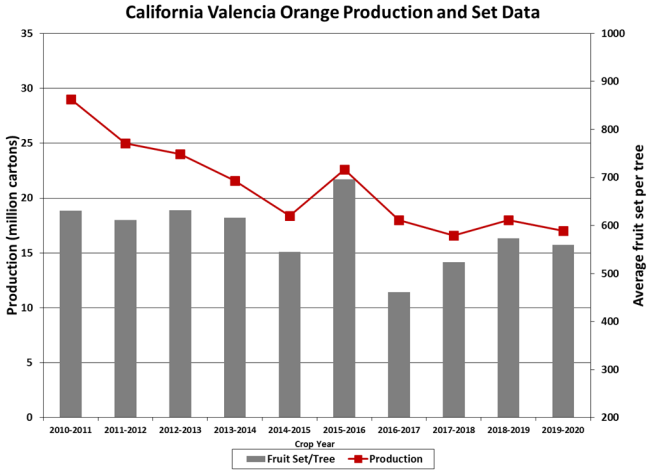
VALENCIA ORANGE PRODUCTION FORECAST AT 17 MILLION CARTONS

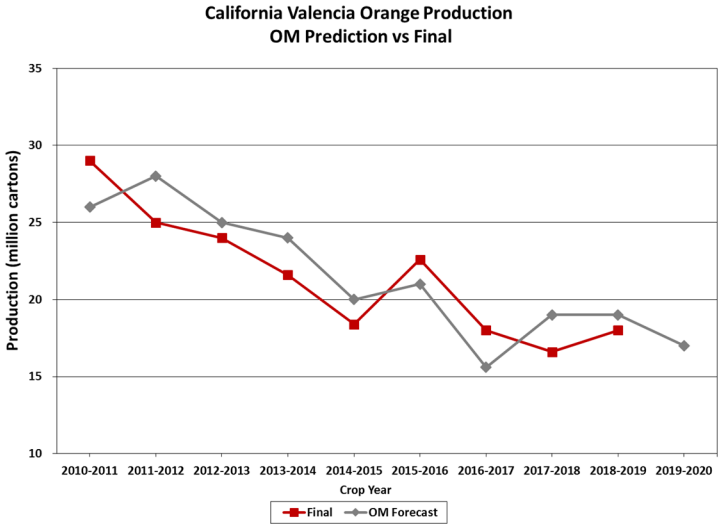
The March 2019-20 Valencia orange forecast is 17.0 million cartons. This forecast was based on the results of the 2019-20 Valencia Orange Objective Measurement (O.M.) Survey, which was conducted from January 15 to February 28, 2020. Estimated fruit set per tree, fruit diameter, trees per acre, bearing acreage, and oranges per carton were used in the statistical models estimating production.

The season had experienced rainy weather early in the year with warmer and very dry conditions in January and February. Survey data indicated an average fruit set per tree of 560, a 2 percent decrease from the previous year and equal to the five-year average. The average March 1 diameter was 2.471 inches, slightly below the five-year average of 2.549.



SURVEY HISTORY

A Valencia Orange Objective Measurement Survey was conducted from the 1985-86 to 1993-94 seasons before suspension due to a lack of funding. The survey has been conducted since it was reinstated for the 1999-00 season, with the exception of the 2006-07 season due to a substantial freeze. The data from the first three years after the survey was reinstated were used for research purposes in developing crop-estimating models.



SURVEY SAMPLE

A sample of 374 Valencia orange groves were randomly selected proportional to acreage, county, and variety representation in the state, with 346 of these groves being utilized in this survey. Once a grove was randomly chosen and grower permission was granted, two trees were randomly selected for each grove. For each randomly selected tree, its trunk was measured along with all connected branches. A random number table was then used to select a branch, and then all connected branches from the randomly-selected branch were measured.

This process was repeated until a branch was reached with no significant limbs beyond it. This randomly-selected branch, called the terminal branch, was then closely inspected to count all fruit connected to it, as well as all of the fruit along the path from the trunk to the terminal branch. Since each selected path has a probability of selection associated with it, a probability-based method was then applied to estimate a fruit count for the entire tree.

In the last week of the survey period, fruit diameter measurements were collected on the right quadrant of four trees surrounding the two trees of every third sampled grove. These measurements were used to estimate an average fruit diameter per tree. The sampled groves were primarily in the top Valencia orange producing counties of Tulare, Kern, Fresno, Ventura, and San Diego.

CALIFORNIA VALENCIA ORANGE STATEWIDE DATA

Crop year	Number of sampled groves	Final utilized production (Cartons) [1/]	Forecast utilized production (Cartons) [1/]	Bearing acres	Average trees per acre	Average set per tree	Average March 1 diameter (Inches)
2008-09	655	24,000,000	30,000,000	45,000	124	435	2.587
2009-10	571	30,000,000	34,000,000	43,000	124	704	2.630
2010-11	534	29,000,000	26,000,000	41,000	124	631	2.546
2011-12	533	25,000,000	28,000,000	40,000	124	611	2.583
2012-13	526	24,000,000	25,000,000	39,000	125	632	2.484
2013-14	500	21,600,000	24,000,000	36,000	124	616	2.570
2014-15	539	18,400,000	20,000,000	34,000	123	545	2.571
2015-16	531	22,600,000	21,000,000	32,000	123	696	2.502
2016-17	498	18,000,000	15,600,000	30,000	124	461	2.552
2017-18	524	16,600,000	19,000,000	29,000	124	524	2.585
2018-19 [2/]	349	18,000,000	19,000,000	29,000	124	573	2.534
2019-20	346	---	17,000,000	28,000	124	560	2.471

[1/] Prior to the 2010-11 season, cartons had a standard equivalent weight of 37.5 lbs. Beginning in the 2010-11 season, cartons have a standard equivalent weight of 40 lbs.

[2/] Final production is subject to revision in the Crop Production report released on April 9, 2020.

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