

Evaluation of California Olive Oil Samples from Retail Sites 2017-2018



The Olive Oil Commission of California has completed two studies assessing the quality of California olive oil in retail environments at least one year after harvest. The first study was conducted in 2017 with 50 samples collected from retail locations in the Sacramento area. The second study in 2018 involved 50 samples collected from retail locations in the Fresno area. This report summarizes data, compares, evaluates and provides recommendations based on results from these two snapshots of the California marketplace.

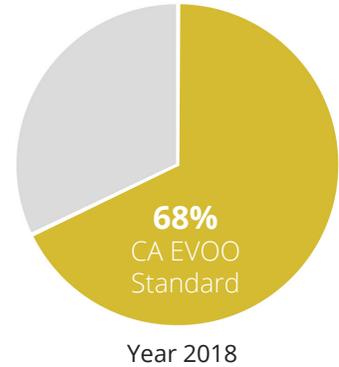
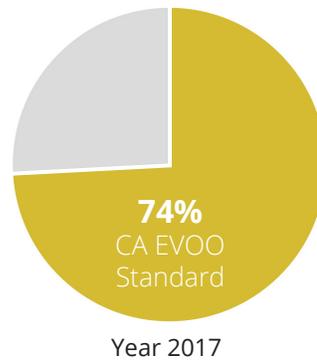
EXECUTIVE SUMMARY

- ▶ The study, funded by the Olive Oil Commission of California, is part of an ongoing effort to improve the quality of California olive oils by capturing supply chain quality data from Sacramento, CA in 2017 and from Fresno, CA in 2018.
- ▶ Testing parameters used in this study are those required under the California Department of Food and Agriculture standard for Extra Virgin Olive Oil, which is the most stringent in the United States and amongst the most stringent in the world.
- ▶ The findings present an opportunity to provide actionable information to help improve and maintain the quality of California olive oil, as similar studies have done in other countries.
- ▶ Test results have been shared individually with all producers whose products were sampled to better inform them of their quality performance in the retail environment for both OCCC-member and non-member producers of olive oil.
- ▶ The information gathered from this study also shows the importance of best practice guidelines for everyone involved in purchasing, transporting, storing and displaying olive oil to help preserve the product quality for as long as possible.



Summary of Report Findings

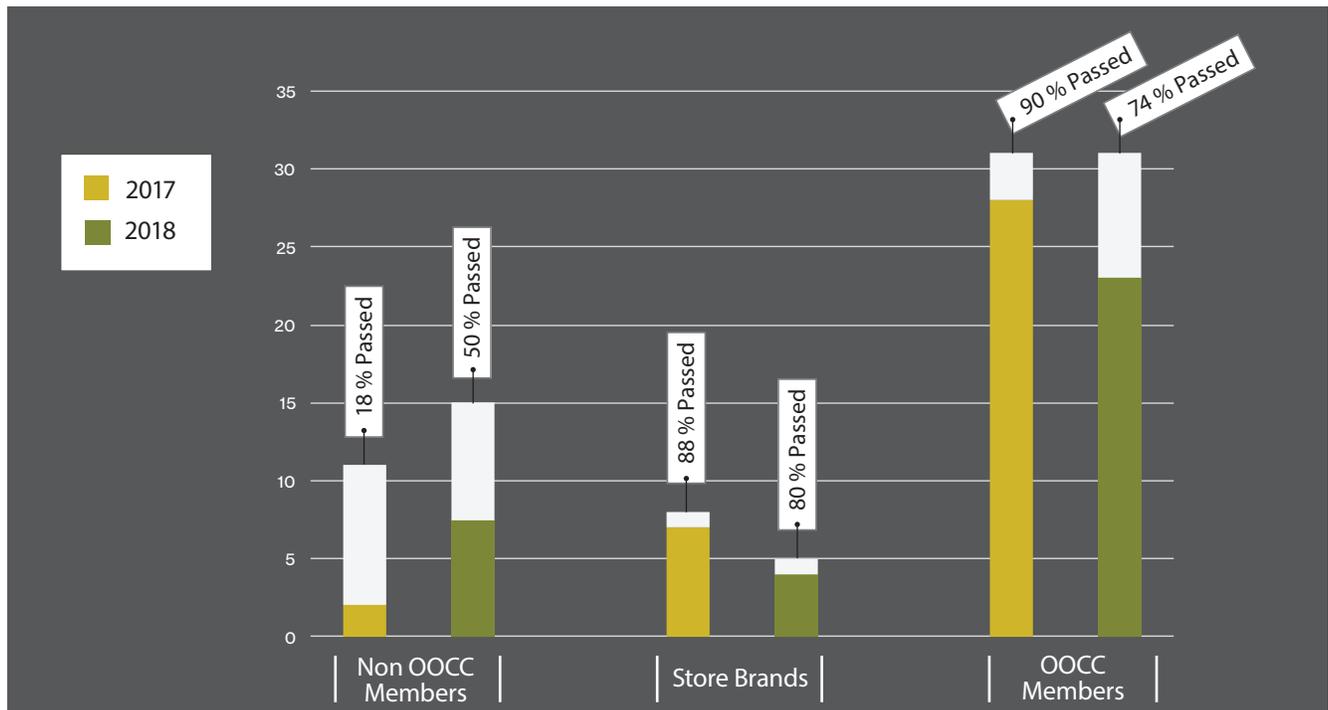
1. Seventy-four percent of the samples of California olive oils collected in 2017 and 68% of the samples collected in 2018 from various retail outlets met the California Extra Virgin Olive Oil Standard.



2. From both the 2017 and 2018 data, the results indicate that olive oils produced by OOC members are generally achieving better results than non-OOC members when it comes to maintaining the quality of California olive oil available for sale to consumers. As a reminder, the test data were samples collected at retail of olive oil that was approximately one year old.

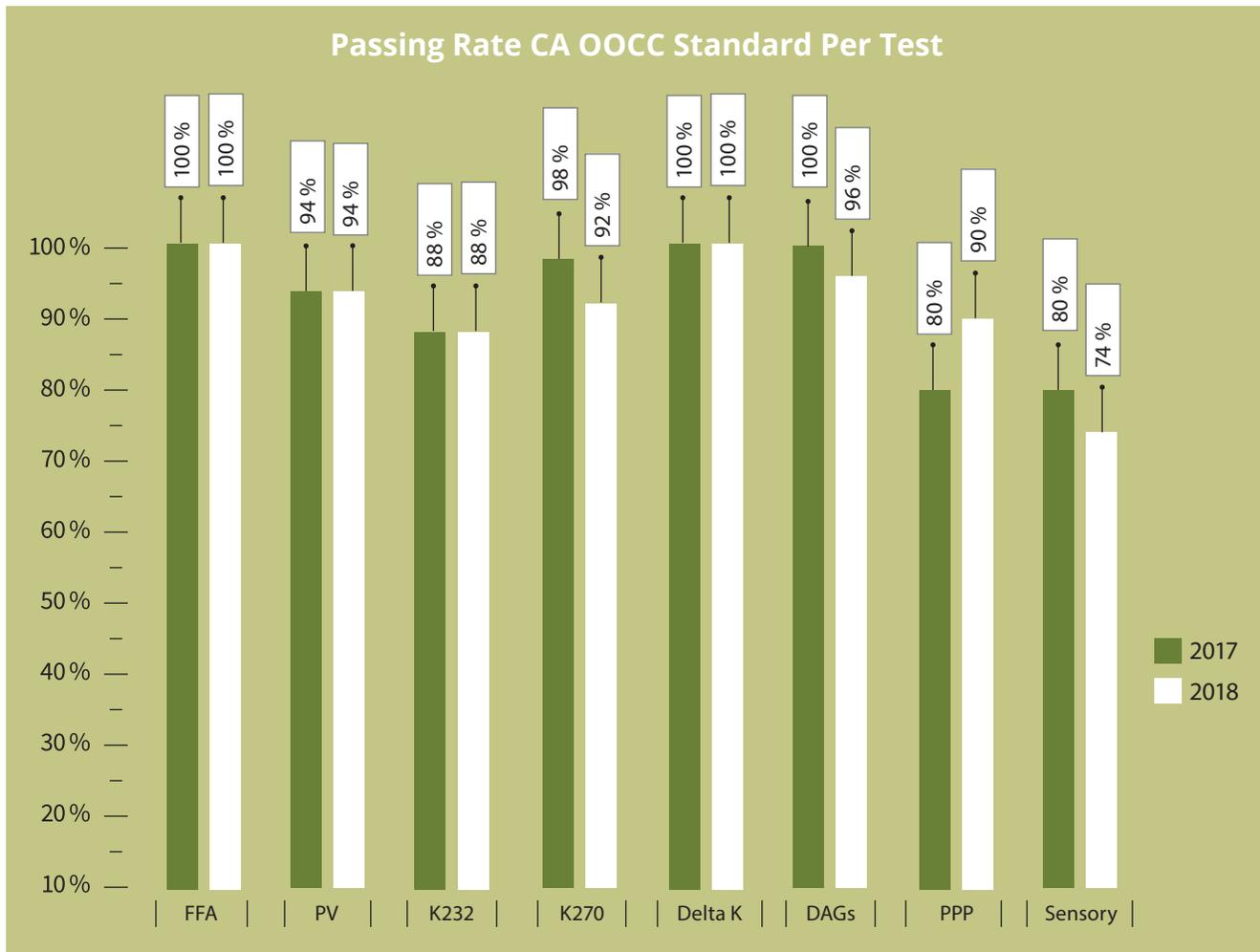
From 2017 there were 31 samples collected from OOC members and 28 samples (90%) passed California Extra Virgin standards. Of the 8 samples that were store brands, 7 samples (88%) passed. The 11 samples collected and identified as being from non-OOC members had a pass rate of 18%.

From the 2018 data, there were 31 samples collected from OOC members and 23 samples (74%) passed California Extra Virgin standards. Of the 5 samples that were store brands, 4 samples (80%) passed. Of the 14 samples collected and identified as being from non-OOC members 7 samples (50%) passed. This was a dramatic improvement over last year's passing rate for non-OOC samples, which was at 18% in the 2017 samples.



*Participation in the OOC is mandatory for producers of 5,000 gallons or more per year. Olive oil brands in the non-OOC category were from producers with less than 5,000 gallons per year who are not required to meet the OOC standard.

3. With the 2017 data, 37 of the 50 samples collected passed the California Extra Virgin Olive Standard, while 13 failed at least one California standard for the grade. From the shelf testing data from 2018, 34 of the 50 samples collected passed the California Extra Virgin Olive Oil Standard, while 16 failed at least one California standard for the grade. The percentage of the of samples passing or failing each test for the grade is summarized below.



What is the OOC and what do they do?

- ▶ At the heart of the OOC is a mandatory government sampling and testing program to verify that the quality of California olive oil matches labeling claims.
- ▶ Under this program, California Department of Food and Agriculture officials collect samples of olive oil from all California producers who process 5,000 gallons or more.
- ▶ Samples are tested by accredited independent laboratories to assess quality using eight chemical and sensory parameters, which include important PPP and DAGs tests to quantify olive oil aging and quality.
- ▶ The grade verified through the OOC program must be accurately reflected on product labels. If the grade listed on the package does not match the CDFA-verified grade of the olive oil, the producer must correct the label. The grades are Extra Virgin, Virgin and Crude.
- ▶ OOC members produce approximately 90% of the olive oils from California.

Background

The quality of Extra Virgin olive oils naturally declines due to oxidation. Producers have the challenge of minimizing the oxidation rate to ensure that Extra Virgin olive oils meet grade standards one year or more after the harvest date. This study provides a look at the performance of California olive oils approximately one year after harvest sold through common retail channels.

For the 2017 study, the UC Davis Olive Center purchased a total of 50 extra virgin olive oil samples from retail settings in and around Sacramento, CA. Forty samples (80%) were from seven traditional food stores; six samples (12%) were from three warehouse clubs/supercenters; three samples (6%) were from Amazon; and one sample (2%) was from the tasting room of an olive oil producer. Of these samples, 31 (62%) came from OOC members, 11 samples (22%) came from producers that were not OOC members during the year when the oils were produced, and eight samples (16%) came from store brands that presumably were sourced from OOC members.

For the 2018 study, the UC Davis Olive Center purchased a total of 50 Extra Virgin olive oil samples from retail settings in Fresno, CA. Of these samples 30 (60%) were from seven supermarkets; nine samples (18%) were from two delicatessens and an olive oil specialty store; four samples (8%) were from two supercenters; one sample (2%) was collected from a club store; and six samples (12%) through the University Student Housing Dining Service. Of the 2018 samples, 31 (62%) came from OOC members, 14 samples (28%) came from producers who were not OOC members during the year when the oils were produced and five samples (10%) came from store brands that presumably were sourced from OOC members.

The 2017 studies oil samples were collected between November 4, 2016 and November 12, 2016. From the 2018 studies oil samples 44 were collected between October 25 and October 26, 2017, and the six remaining samples were collected through the University Student Housing Dining Service on November 22, 2017.

For both year's studies the oil sample collection team used protocols to minimize the impact of heat and light during the collection process.

All samples from both the 2017 and 2018 studies were analyzed and compared to California olive oil standards. The UC Davis Olive Center Laboratory provided chemistry analysis of the samples. If a sample failed chemistry analysis, the study team sent it to the Eurofins Central Analytical Laboratories in New Orleans for retesting. Eurofins' results agreed with UC Davis' results for all re-tested samples.

Sensory analysis was performed by the panel managed by Applied Sensory, LLC. If a sample failed the sensory standard for Extra Virgin grade, the same panel re-evaluated the sample.

The study team considered a sample to have failed California extra virgin standards if it failed any chemistry standard and/or failed at least two of three sensory panel tests.

▶ Actionable Information

- ▶ The overarching goal of these two studies is to assess products and inform the California olive oil community on the quality of their oil available for sale at retail outlets. In addition, this study functions to display the high quality of olive oil produced in the state so that consumers can have confidence while purchasing California olive oil.
- ▶ The information gathered from both retail studies show the importance of disseminating best practice guidelines for storing, packaging, transporting and displaying olive oil to help preserve product quality and integrity. The OOC held Quality Workshops to highlight the issue of safeguarding the quality of extra virgin olive oil.
- ▶ Test results from samples of olive oil collected in this study were shared with the producer. In the case of store brands, this was not possible but valuable information was shared with many brands to improve their knowledge of their product's condition on these retail shelves.
- ▶ The OOC recommends that producers trace lot numbers provided with these samples to compare off-the-shelf test results with testing conducted at time of production. In the long run, this data will be very helpful in accurately predicting olive oil shelf life.
- ▶ These two studies function as valuable snapshots of California olive oil available for sale at retail outlets. Many factors impact olive oil quality from bottling through distribution channels to retail store shelves. This study focused on "real world" circumstances and did not attempt to control conditions during handling, shipping, storage or display.