The Olive Oil Commission of California supports olive oil farmers by working to ensure California olive oil is trusted and valued.

Impact Report

For the years July 2014 - June 2019

HOW IS THE OOCC PERFORMING?

This report was created to inform California's olive oil industry about the activities and accomplishments of the OOCC over the past five years since the creation of this mandatory quality program. We encourage you to learn more at **www.oliveoilcommission.org**.

About the Olive Oil Commission of California

WHAT

The Olive Oil Commission of California is a government entity of the State of California. It supports California olive farmers by:

- Developing and enforcing standards for the purity and quality of California olive oil.
- Verifying California olive oil quality through mandatory government sampling and third-party analysis.
- Promoting simple, clear accurate labels for California olive oil.
- Conducting research to assist farmers in successfully growing a healthy, sustainable crop.

WHO

The OOCC was established and is funded by California olive oil farmers. California olive oil handlers who produce 5,000 gallons or more are required by law to participate in the OOCC's mandatory government sampling and testing program. Producers with less than 5,000 gallons may voluntarily participate in the OOCC's government sampling program.

WHY

The OOCC exists so that:

- California olive oil is accurately labeled.
- Customers can have confidence in the quality of California olive oil.
- All California olive oil is trusted and valued.

OLIVE OIL COMMISSION OF CALIFORNIA MEMBER

Chairman's Letter

I am convinced that California olive oil is destined to be the "next big thing" as farmers look to plant commodities that are low-input, drought resistant and less reliant on labor.

I am proud to serve as Chairman of the Olive Oil Commission of California. This is an exciting time for California olive oil and I believe tremendous opportunities exist for this wonderful product we grow. The goal of the OOCC is to ensure that California olive oil is trusted and valued. As you will read in this Impact Report, the OOCC program is working to do just that.

Since its founding in 2014, the OOCC's mandatory government sampling and testing program is verifying that we are producing quality olive oils and labeling them with increasing accuracy. Consumers today are looking for honesty and transparency from those who grow their food and that is exactly what the OOCC is providing our customers. I believe this will go a long way to increasing demand for California olive oil.

Through the efforts of the OOCC research program, we are learning important information on how to grow quality olive oil in this state; how to protect it from pests; and how to ensure quality is maintained throughout the supply chain. This is critically important for growers who are looking for ways to grow a healthy, sustainable and profitable crop. I am convinced that California olive oil is destined to be the "next big thing" as farmers look to plant commodities that are low-input, drought resistant and less reliant on labor. California olive oil planting systems offer these benefits and more.

Meanwhile, through the programs of the OOCC, our industry is working together to achieve great things. But we've only just begun. There is much more work to do. I can tell you that the Board of the OOCC is committed to helping farmers grow more high-quality olive oil in California and providing support to ensure consumers understand and trust the value of our product.

Jeff Colombini
Olive Farmer
Lodi, CA

Standard for California

- After a 2012 Congressional investigation of olive oil labeling found that broad and mostly unenforced sta California olive oil producers petitioned the California state Legislature to establish the Olive Oil Commiss stringent standards for California olive oil and a mechanism for enforcing them. The OOCC was establishe the California Department of Food and Agriculture.

  California agricultural commodities have a long history of using mandated programs to differentiate Cali Extra Virgin Olive Oil Standard was developed for the OOCC by incorporating chemical and organoleptic m international standards. These science-based standards were recommended to the CDFA and following a implemented. California olive oil producers with 5,000 gallons or more of olive oil per year are required b includes a mandatory sampling and testing program to ensure their olive oil meets CDFA standards and i

  The OOCC refers to our standard for California Extra Virgin Olive Oil required under the California Departm stringent in the world for good reason. The CA Extra Virgin Olive Oil standard includes all the tests and pa Health and Safety Code. It also contains more stringent parameters for quality tests and incorporates the comparing the CA Extra Virgin Olive standard to those under the United States Department of Agriculture

CA Extra Virgin Olive Oil Standard at a Glance

	USDA* and IOC*	CDFA*
Free fatty acid (%m/m)	≤ 0.8	≤ 0.5
Peroxide value (meq O_2/kg oil)	≤ 20	≤ 15
Absorbency in ultraviolet K_{232}	≤ 2.50	≤ 2.40
Absorbency in ultraviolet K_{270}	≤ 0.22	≤ 0.22
Absorbency in ultraviolet ΔK	≤ /0.01/	≤ /0.01/
Moisture and volatile matter (%m/m)	≤ 0.2	≤ 0.2
Insoluble impurities (%m/m)	≤ 0.1	≤ 0.1
Pyropheophytin a (PPP) (%)	–	≤ 17
1,2 Diacylglycerols (DAGs) (%)	–	≥ 35
Organoleptic analysis (Sensory)—		
Median defects	MeD = 0	MeD = 0
Median fruity	MeF > 0	MeF > 0

USDA - United States Department of Agriculture
IOC - International Olive Council
CDFA - California Department of Food and Agriculture

About the parameter

- **Free fatty acid or free acid** some indication of oil quali change much over the life o life.
- **Peroxide value (PV)** — A m high peroxide value usually The final stage in oxidation that we can perceive as ran
- **Ultra violet absorbency (U** wavelengths. K232 is consi Oxidation is the result of na refining process.
- **Pyropheophytins (PPP)** — down first into pheophytins oil. Light and heat can acce
- **1,2- and 1,3-diacylglycero** well-made fresh olive oil fro quality fruit or oxidized or r steadily and is a good indica
- **Organoleptic (sensory)** — important part of determin defects and basic positive a may have no defects in flav

ndards lead to mislabeled product, a segment of
sion of California. Its objective is to provide more
ed in 2014 and operates with general oversight from

fornia products from others in quality. The CDFA
netrics of oil quality from a variety of national and
a public hearing, the standards were approved and
y law to participate in the OOCC program which
s accurately labeled.

ment of Food and Agriculture as one of the most
arameters for olive oil purity found in the California
e valuable tests for DAGs and PPP. Below is a chart
e and International Olive Council.

rs

lity (FFA) — A measurement of the breakdown of the fats. It gives
ty based on fruit quality and handling. Although FFA does not
f oil, a lower FFA level at production will contribute to longer shelf

easure of peroxide compounds arising from primary oxidation. A
indicates poor processing, and that the oil might not keep well.
is peroxide breakage, resulting in the formation of new compounds
cid smelling.

UV) — An indicator of oxidation using the UV spectrum at different
dered a critical marker for good quality extra virgin olive oil.
tural aging or indicative of poor handling or heating during the

Breakdown products of chlorophyll. Over time, chlorophyll breaks
s then into PPP, making PPP an excellent indicator of the age of an
lerate the production of PPP.

ol (DAGs) — Breakdown products of the fats. 1,2-DAG is high in
om good fruit and 1,3-DAG is higher in olive oil made from poor
efined olive oils. The ratio between 1,2-DAGs and 1,3-DAGs declines
ator of the age of an oil.

Analysis by a trained taste panel using official protocols is an
ing the grade of virgin olive oil. Taste panels identify and quantify
ttributes in an olive oil. To be classified as extra virgin, an olive oil
or, and must have fruitiness.

Evaluation of Fatty Acid and Sterol Profiles of California Olive Oils

Research to support the development and improvement of California's olive oil standards is one of the core mandates of the OOCC. In the case of fatty acid and sterol profiles, the OOCC has been conducting ongoing research that aims to ensure all genuine California olive oil will be encompassed by the purity parameters of the CDFA standard.

For each of the past four seasons, the UC Davis Olive Center has analyzed about 70 samples of monocultivar olive oil from different parts of the state to determine their percentages of different fatty acids and sterols. What they have found is that about 10 percent of the samples analyzed fall outside of the official parameters for fatty acids or sterols, which means they would not even be considered olive oil under some standards.

Fatty acids and sterols are part of the suite of analyses known as purity or authenticity tests. All oils are made up of different proportions of fatty acids—oleic, palmitic, linoleic, linolenic, etc—and contain varying amounts of different sterols. Brassicasterol, for example, is at high levels in canola oil. So, measuring these components of olive oil can be a useful way of detecting adulteration with other oils.

But importantly, values outside the official range for various fatty acids and sterols can also be the result of natural variation in the makeup of the olive due to climate, variety, maturity and other factors. This is why the evaluation of fatty acid and sterol profiles in California olive oil is so important.

The official fatty acid and sterol parameters contained in the International Olive Council (IOC) standard are based on olive oil produced from varieties grown in the traditional regions of the Mediterranean. Growers in other areas of the world are sometimes finding their genuine olive oil is outside those parameters, leading to a situation where a producer can have their absolutely authentic olive oil not qualify as "olive oil" under the IOC standard!

The USDA standard was adjusted a little to adapt it to the range of authentic olive oil produced in the USA, and these are the parameters that are used in California. But as we see from the results of the OOCC's four years of data, those parameters are still too restrictive for the fatty acids and sterols found in some California olive oils.

The OOCC is amassing data to take this adaptation to the next level so the CDFA standard will accommodate the natural variability of all the olive oil produced within the state. This research on fatty acid and sterol profiles is what is needed to make a strong case for some new limits in the CDFA standard to ensure that all olive oils grown in California are able to comply.

Verification of Olive Oil Grades

The overarching goal of the Olive Oil Commission of California is to ensure that olive oil produced in California is trusted and valued. This is being achieved through the OOCC's mandatory government sampling and testing program.

HOW THE OOCC TESTING PROGRAM WORKS

- Inspectors from the California Department of Food and Agriculture collect a designated number of olive oil samples from each OOCC olive oil handler.
- Samples are sent to an accredited third-party laboratory for sensory and chemical analysis.
- Producers are required to test their own olive oil and results must be sent to the OOCC.
- Test results from samples collected by producers and from CDFA are forwarded to the UC Davis Olive Center.
- The UC Davis Olive Center compares lab testing results from producers and those from the government sampling program to:

1. Confirm olive oils meet the minimum standards for olive oil grade;
2. Ensure labeling matches the quality of olive oil in the bottle.

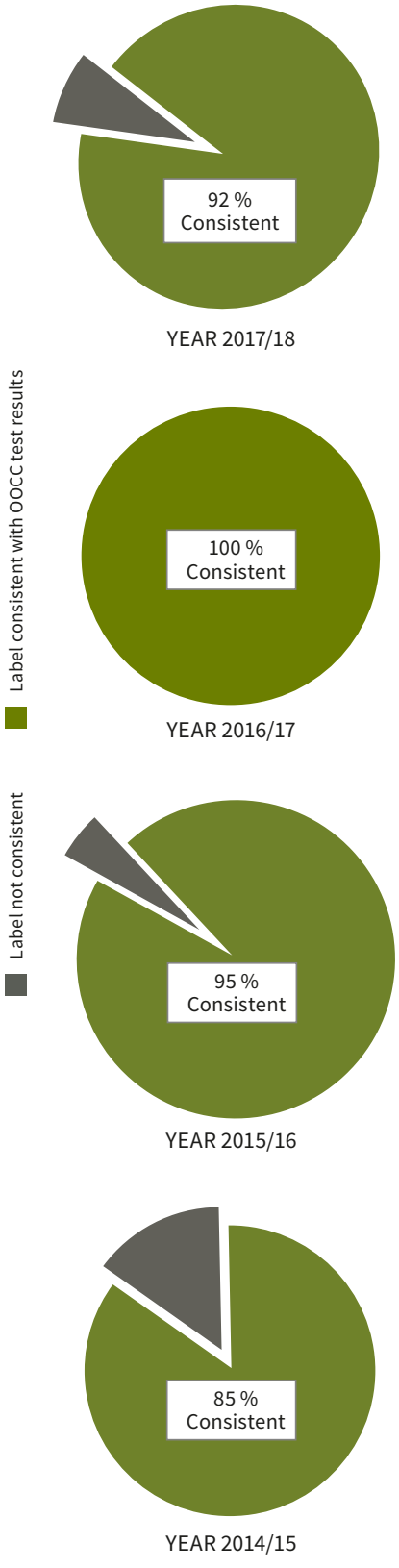
What Test Results Mean

The results of the mandatory olive oil testing indicate that the OOCC is working to make a difference in the quality of olive oil produced in the state. More importantly, laboratory analysis shows that California producers are accurately labeling their product.

Independent testing shows that olive oils produced by OOCC program participants are consistent with the grade on packaging a significant percentage of the time. Although, 2018 tests found that 92 percent of the samples were accurately labeled — a drop from 100 percent in 2017 — this is still an improvement over the 2014 results when just 85 percent of the samples were labeled accurately.

Reports of fraud have resulted in confusion about how to select and buy quality olive oil. The OOCC represents the California olive oil industry's commitment to improving the olive oil buying experience by establishing trust and credibility. This trust increases the value of California olive oil.

It's important to note the 2018 testing found only 5 samples inconsistent with their labeled grade. Two samples were found to be of a higher grade than what was listed on the bottle. Producers of the other three samples were notified by the OOCC about independent test results and labels on the bottles were changed to reflect the accurate grade. This is exactly how mandatory government sampling and testing was designed to work and demonstrates the value of the OOCC program at ensuring California olive oil is correctly labeled.

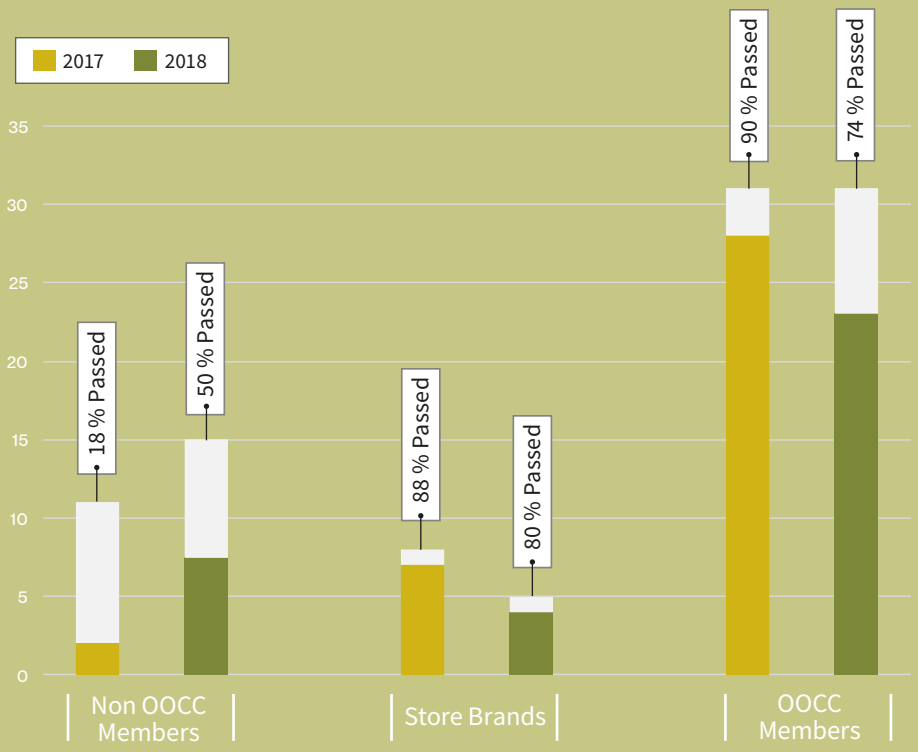


Retail Sampling 2017 & 2018

The Olive Oil Commission of California has completed two studies assessing the quality of California olive oil in a retail environment at least one year after harvest.

The first study was conducted in 2017 with 50 samples collected from retail locations in the Sacramento area, and the second study was conducted in 2018 with 50 samples collected from retail locations in the Fresno area. All samples from both the 2017 and 2018 studies were analyzed based on CDFA Extra Virgin Olive Oil Standards.

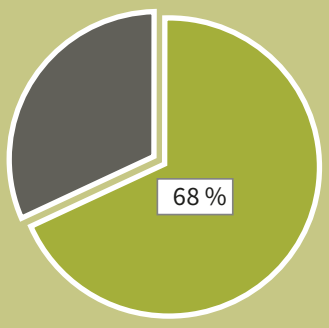
CA Extra Virgin Standard Testing



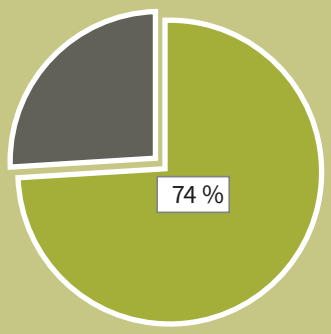
Overall, in both the 2017 and 2018 data, testing results indicate that olive oils produced by OOCC members are generally achieving better results than non-OOCC members with regards to maintaining the quality of California olive oil available for sale to consumers.

OVERALL TESTING RESULTS

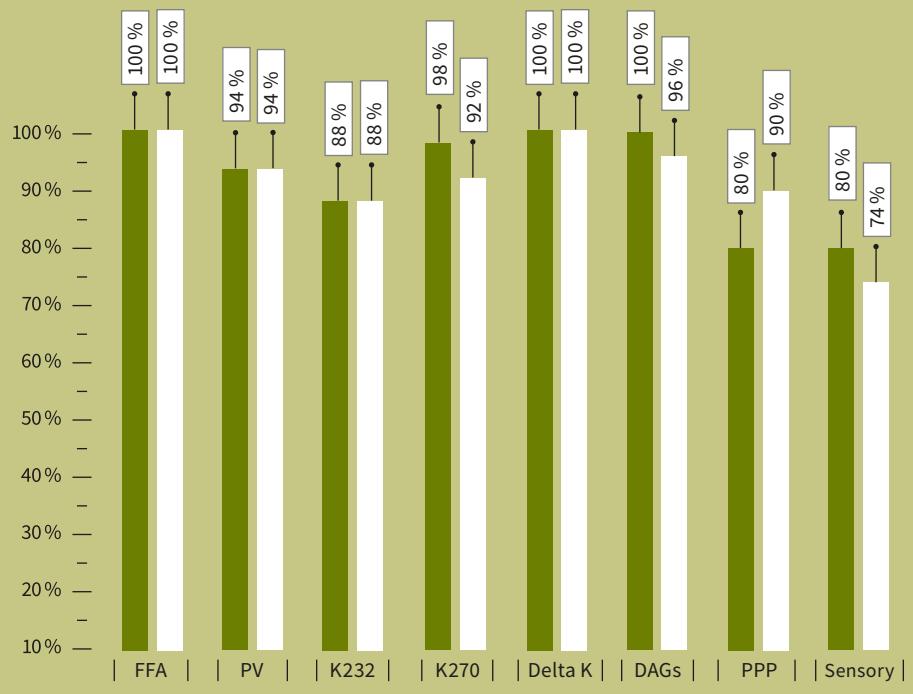
74 percent of the samples of California olive oils collected in 2017 and 68 percent of the samples collected in 2018 from various retail outlets met the California Extra Virgin Olive Oil standard.



YEAR 2018



YEAR 2017



Passing Rate CA OOCC Standard Per Test

With the 2017 data, 37 of the 50 samples collected passed the California Extra Virgin Olive Oil 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.

2017 2018

$598,872

TOTAL RESEARCH DOLLARS INVESTED BY THE OOCC

Research to Assist Olive Oil Growers

The Olive Oil Commission of California is authorized to fund research that is beneficial to the California olive oil industry. The overarching objectives of research funded by the OOCC are to continually improve the quality of California olive oils and to assist farmers in successfully growing a healthy, sustainable crop. Since its foundation in 2014, the OOCC has invested $598,872 in research dollars across a variety of general categories.

	2014	2015	2016	2017	2018	Total
Authenticity	$ 26,575	$ 25,700	$ 34,000	$ 34,000	$ 19,350	$ 139,625
Quality	$ 12,000	$ 15,000	$ 59,000	$ 59,000	$ 9,000	$ 154,000
Pest/Disease	$ -	$ 21,000	$ 61,250	$ 57,000	$ 60,915	$ 200,165
Other	$ -	$ 3,544	$ 36,164	$ 27,924	$ 37,450	$ 105,082
Total	**$ 38,575**	**$ 65,244**	**$ 190,414**	**$ 177,924**	**$ 126,715**	**$ 598,872**

Research Categories

Pest & Disease Management

Over the past five years, the OOCC has conducted research into the management and control of existing and emerging olive diseases including Olive Knot and Neofabraea, or Olive Leaf Spot. As a result of this important research, the OOCC is seeking to register two products combating Neofabraea in olive orchards in California under an emergency pesticide exemption and is actively pursuing full pesticide certification of these products. The OOCC is also working on registering a promising new antibiotic for use in controlling olive knot.

Olive Oil Quality

Since the OOCC's formation, research pertaining to olive oil quality has continued to be a high priority for the OOCC. A report on two important ongoing projects involving olive oil quality are explained on pages 5 and 6 of this report.

Olive Oil Authenticity

The OOCC has devoted considerable effort into studying fatty acid and sterol profiles for California olive oil and how it relates to olive oil standards in California and around the world. This work is described on page 4 of this report. As part of this work, data indicates that one of the fatty acids known as C17:1 is consistently being found at levels that are equal to or exceed the limit allowed in the California standard. The OOCC is working now to determine the best way to adjust standards so they accommodate all California olive oil producers.

Other

The OOCC has conducted a variety of other studies regarding variables affecting olive oil production. These include a series of literature reviews commissioned to provide producers with the most up-to-date information on important production practices (see right); and a study to provide the American Oil Chemists' Society with data to help establish an official method for using Near Infrared Spectrometry as a predictor of harvest timing.

Along with actual projects, the OOCC's research program also funds outreach to ensure producers have access to research findings by conducting various workshops. An Olive Oil Day is held each year to present important updates from OOCC's contracted researchers.

A list of current projects and a complete archive of past OOCC research reports can be found on the website at **www.oliveoilcommission.org/research/**.

OOCC Workshops

How to Produce, Evaluate and Protect High Quality Extra Virgin Olive Oil

Using research funds, the OOCC has been holding a series of workshops to educate all sectors of the olive oil supply chain on best practices to enhance quality and extend shelf life. These workshops are free to attend for both OOCC and non-OOCC members. They cover activities in orchard management, harvest, packaging, milling, storage, transportation and display. The workshops focus on improving and protecting olive oil and explain how testing can be a valuable tool to evaluate quality and predict shelf life.

The next workshop will be held as part of the OOCC Olive Oil Day on March 5th in Stockton.

Coming Soon: Your Guide to Growing Olive Oil

The OOCC is currently working on a series of literature reviews to determine the most up-to-date research findings in important olive oil production practices. The goal will be to develop resources for California olive oil growers in the following topics:

Canopy Management

Irrigation

Fertilizer

Alternative Pesticides

Talking About the OOCC

The OOCC is working to educate restaurants, retailers and media about the benefits of purchasing California olive oil because it can be trusted.

Olive Oil Commission of California | **Website**

Spreading the word about the California olive oil industry's efforts to produce quality olive oil and verify its authenticity is an important function of the OOCC.

Initially, the OOCC communications efforts were targeted exclusively at the industry itself because the OOCC was not created to administer promotional programs. However, in 2016 the OOCC Board gained authority to conduct outreach activities toward audiences outside the industry including retailers, restaurants and consumer media. The goal of OOCC's outreach is to educate target audiences about the mandatory government sampling and testing program that ensures California olive oil can be trusted.

The primary mode of communications for the OOCC is its website at **www.oliveoilcommission.org**. The website serves as a resource to explain the activities of the OOCC and to provide members access to important information.

Additionally, the OOCC issues an e-newsletter available to any interested party. The newsletters are distributed twice per month and contain news and updates about the OOCC and its various research projects. The organization also distributes press releases to consumer and grower media outlets and participates in trade shows.

Anyone interested in receiving the bimonthly OOCC e-newsletter can sign up at:

www.oliveoilcommission.org/newsletter

What you will find on the OOCC website

- An archive of all OOCC funding research
- Summary tables of California olive oil standards
- Learn how to become a voluntary member of the OOCC

OOCC Leadership

The OOCC operates with oversight from the California Department of Food and Agriculture. A board of directors is voted in to represent olive oil producers around the state. The Board provides direction for all OOCC activities and approves spending. Additionally, the OOCC has an Advisory Board which is comprised of olive oil producers with fewer than 5,000 gallon per year. The Advisory Board was formed so that producers who are not mandated by law to participate in the OOCC program are represented. Daily activities of the organization are handled by Agriculture Association Management Services in Sacramento, CA under the leadership of Chris Zanobini.

Members

Liz Tagami
Lucero Olive Oil

Larry Maben
Maben Family LLC.

Adam Englehardt
Boundary Bend Olives

Samantha Dorsey
McEvoy of Marin LLC.

Jeff Colombini
Lodi Farming

Richard Marchini
Marchini Ag

Alternate

Adam Kennedy

Greg Kelley
California Olive Ranch

Matt Lohse
California Olive Ranch

Deborah Rogers
McEvoy of Marin LLC

Pat Ricchiuti
P-R Farms, Inc.

Rolland Rosenthal
Cal Rose, Inc.

Handlers

Jim Lipman
California Olive Ranch

Jim Etters
Seka Hills Olive MIll

Brady Whitlow
Corto Olive LP

Handlers

Mary Mori
California Olive Ranch

Ciriaco Chavez
Boundary Bend Olives

Vincent Ricchiuti
ENZO Olive Oil Company

Public

Bruce Golino
Santa Cruz Olive Tree Nursery

Alternate

Sandy Sonnenfelt
Market Hall Foods

Advisory Board

Albert Katz-Chair
Katz Farms

Amy Bridge Day
Mad Dog Mesa

Patricia Calvert
Ciarlo Fruit and Nut, LLC

Pamela Marvel
Grumpy Goats Farm

Robert Roos
Homestead Olive Ranch

Mark Sievers
Il Fiorello Olive Oil Company

Kathryn Tomajan
Fat Gold

Members in Good Standing

OOCC Members work hard to ensure their products meet California quality standards and are accurately labeled. The program is mandatory for producers with more than 5,000 gallons of olive oil per year and smaller producers may participate in the government sampling and testing program on a voluntary basis. Companies who satisfy all requirements of the OOCC are considered Members in Good Standing. The OOCC provides a certificate of membership each year verifying the company's status as a member; members may use the OOCC logo on their packaging and a list of OOCC members is posted on the OOCC website. Below is a list of the OOCC Members in Good Standing for the current year.

Bariani Olive Oil
Boundary Bend/ Cobram Estate
California Olive Ranch
Ciarlo Fruit and Nut*
Corto Olive Co.
Enzo Olive Oil
Katz Farm*
Il Fiorello Olive Oil*
La Panza Ranch
Lucero Olive Oil
McEvoy of Marin
Nick Sciabica and Sons
Old Chatham Ranch*
Pepper Oaks Farm
Seka Hills
The Mill at Kings River
The Olive Press

*Producer's annual olive oil volume does not exceed 5,000 per year and is participating in the OOCC program on a voluntary basis

Financials

The OOCC is funded through an assessment paid on each gallon of olive oil produced by members. The OOCC Board has the authority to set the assessment rate and approve spending. Below is a breakdown of income and spending for OOCC activities over the past five years.

	2014-15 Year End	2015-16 Year End	2016-17 Year End	2017-18 Year End	2018-19 Budget
Actual in Gallons	2,148,113	3,696,771	2,547,004	3,377,129	2,500,000
Assessment Rate	0.16	0.14	0.14	0.14	0.14
Carry Forward	$ -	$ 57,338	$ 345,604	$ 258,781	$ 242,283
Assessments	$ 343,698	$ 517,548	$ 356,581	$ 472,798	$ 350,000
Other	$ 17,075	$ -	$ 6,453	$ (6,274)	
Total Income and Carry Forward	**$ 360,773**	**$ 574,886**	**$ 708,637**	**$ 725,305**	**$ 592,283**
Administration	$ 177,717	$ 81,819	$ 93,750	$ 96,754	$ 104,500
Professional Fees	$ 6,038	$ 7,944	$ 21,135	$ 14,443	$ 21,000
Operations	$ 14,244	$ 14,254	$ 11,209	$ 9,953	$ 15,500
Travel and Meetings	$ 2,400	$ 5,389	$ 4,347	$ 5,153	$ 7,500
Testing Expense	$ 46,224	$ 39,020	$ 63,665	$ 97,384	$ 70,000
Research	$ 42,325	$ 72,984	$ 194,958	$ 164,755	$ 123,850
Outreach	$ 14,488	$ 7,871	$ 60,792	$ 94,581	$ 75,000
Total Expenses	**$ 303,435**	**$ 229,281**	**$ 449,856**	**$ 483,022**	**$ 417,350**
Carry Forward	$ 57,338	$ 345,605	$ 258,781	$ 242,283	$ 174,933

SAVE THE DATE

California Olive Oil Day

Sponsored by the
Olive Oil Commission of
California

WHEN

March 5, 2019

WHERE

Robert J. Cabral Ag Center
2101 East Earhart Ave., #100
Stockton, CA 95206

AGENDA

9:00 – 12:00PM
Presentations on OOCC
Funded Research:

- UC Davis Olive Center Reports
- Olive Knot
- Peacock Spot/Neofabraea
- Literature Reviews: carbaryl alternatives for black scale, canopy management

12:00PM – 1:00PM
LUNCH

1:00 – 4:00PM
Quality Workshop:
How to Produce, Evaluate and Protect High Quality Extra Virgin Olive Oil