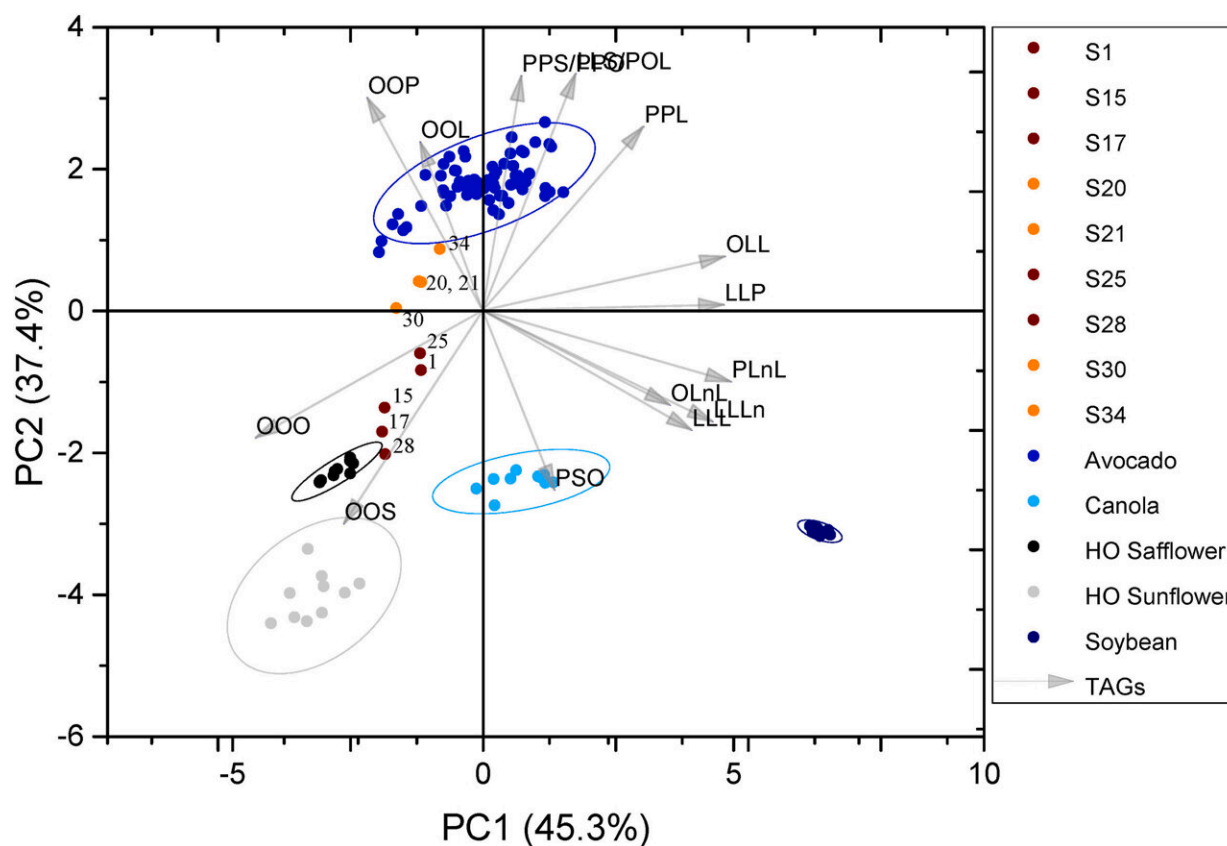


Nearly 70% of private label avocado oil rancid or mixed with other oils, find researchers

May 24 2023, by Tiffany Dobbyn



PCA plot using triacylglycerols as variables, where each three-letter code represents a triacylglycerol and each letter represents a fatty acid (O for oleic, P for palmitic, L for linoleic, Ln for linolenic, and S for stearic). A select set of samples (1, 15, 17, 20, 21, 25, 28, 30, and 34) were overlaid on the PCA plot developed in Green et al. (2020) and Green and Wang (2023b) to determine their purity, which is assessed by their location on the PCA. Credit: *Food Control*

(2023). DOI: 10.1016/j.foodcont.2023.109837

Avocado oil has become a popular choice for many people in recent years because of its heart-healthy benefits and versatility in cooking. However, not all avocado oil products on store shelves are created equal. Some products are labeled as "pure" avocado oil when they contain other oils or additives. No enforceable standards defining the chemical and physical characteristics of avocado oil exist yet.

Researchers at the University of California, Davis, analyzed samples of 36 private label [avocado](#) oil products and graded them based on quality and purity. Private label products are made by a third-party processor and sold under a grocery store or retailer brand label. Their findings, published in the journal *Food Control*, show that 31% of the samples tested were pure, and 36% were of advertised quality. Quality refers to whether the oil is fresh or has gone bad due to aging, heat or light exposure. For purity, researchers measured [fatty acids](#), sterols and other components that differentiate avocado oil from other oils.

The study included oils purchased from 19 retailers in the U.S. and Canada with various price points. They found that lower-priced oils were more likely to be tainted with other oils.

"We found that low-cost products indicate a higher probability for adulteration, but high cost didn't guarantee purity or quality," said Selina Wang, associate professor of Cooperative Extension in the Department of Food Science and Technology. She and Hilary Green, a postdoctoral researcher at UC Davis, co-authored the paper.

Researchers also identified certain chemical markers in avocado oil that professional retail buyers can use to make more informed decisions

when it comes to choosing suppliers. This way, consumers can feel confident about the products they buy.

This is the second comprehensive study conducted by UC Davis researchers on the quality of avocado oil sold in the U.S. The first study released in 2020 found that many of the test samples were of poor quality, mislabeled or adulterated with other oils.

"This study demonstrates that although progress is being made in standard development since our first market study in 2020, there are still issues with purity in avocado oil and these issues extend significantly into private label oils," Wang said.

Avocado oil standards

Since the release of the first UC Davis study, Wang said there's been a coordinated effort by researchers, industry leaders and [government agencies](#) to establish enforceable standards. The Avocado Oil Expert Group was formed in collaboration with the American Oil Chemists' Society to discuss potential standards and future research projects.

Wang's research group has been studying how natural factors like different types of avocados, harvest times, geographic origins and processing methods could affect the chemical composition of avocado oil. They want to create standards that will accommodate natural variations while detecting any adulterations.

Wang hopes that the study's findings will contribute to the establishment of standards that benefit both consumers and avocado oil producers who want to compete in a fair market.

"I'm very optimistic for the future of the avocado oil industry," Wang said. "It's a high-value product with high consumer demand, similar to

what I saw with [olive oil](#) 10 years ago. Olive oil quality and purity have improved significantly, which is where I see avocado oil going, if we can establish fair standards and eliminate fraudulent products."

More information: Hilary S. Green et al, Purity and quality of private labelled avocado oil, *Food Control* (2023). [DOI: 10.1016/j.foodcont.2023.109837](#)

Provided by UC Davis

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