

## Study finds 82 percent of avocado oil rancid or mixed with other oils

June 16 2020, by Diane Nelson

---



Credit: CC0 Public Domain

Consumer demand is rising for all things avocado, including oil made from the fruit. Avocado oil is a great source of vitamins, minerals and the type of fats associated with reducing the risk of heart disease, stroke

and diabetes. But according to new research from food science experts at the University of California, Davis, the vast majority of avocado oil sold in the U.S. is of poor quality, mislabeled or adulterated with other oils.

In the country's first extensive study of commercial [avocado](#) oil quality and purity, UC Davis researchers report that at least 82 percent of [test samples](#) were either stale before expiration date or mixed with other oils. In three cases, bottles labeled as "pure" or "extra virgin" avocado oil contained near 100 percent soybean oil, an oil commonly used in processed foods that's much less expensive to produce.

"I was surprised some of the samples didn't contain any avocado oil," said Selina Wang, Cooperative Extension specialist in the Department of Food Science and Technology, who led the study recently published in the journal *Food Control*. "Most people who buy avocado oil are interested in the health benefits, as well as the mild, fresh flavor, and are willing to pay more for the product. But because there are no standards to determine if an avocado oil is of the quality and purity advertised, no one is regulating false or misleading labels. These findings highlight the urgent need for standards to protect consumers and establish a level playing field to support the continuing growth of the avocado oil industry."

## **Testing domestic and imported brands**

Wang and Hilary Green, a Ph.D. candidate in Wang's lab, analyzed various chemical parameters of 22 domestic and imported avocado oil samples, which included all the brands they could find in local stores and online. Wang and Green received a \$25,000 grant from Dipasa U.S., part of the Dipasa Group, a sesame-seed and avocado-oil processor and supplier based in Mexico.

"In addition to testing commercial brands, we also bought avocados and

extracted our own oil in the lab, so we would know, chemically, what pure avocado oil looks like," Wang said.

Test samples included oils of various prices, some labeled extra virgin or refined. Virgin oil is supposed to be extracted from fresh fruit using only mechanical means, and refined oil is processed with heat or chemicals to remove any flaws.

Fifteen of the samples were oxidized before the expiration date. Oil loses its flavor and health benefits when it oxidizes, which happens over time and when exposed to too much light, heat or air. Six samples were mixed with large amounts of other oils, including sunflower, safflower and soybean oil.

Only two brands produced samples that were pure and nonoxidized. Those were Chosen Foods and Marianne's Avocado Oil, both refined avocado oils made in Mexico. Among the virgin grades, CalPure produced in California was pure and fresher than the other samples in the same grade.

## **A push for standards**

Ensuring quality is important for consumers, retailers, producers and people throughout the avocado oil industry. Retailers want to sell quality products, shoppers want to get their money's worth and honest producers want to keep fraudulent and low-quality oil out of the marketplace.

But since avocado oil is relatively new on the scene, the Food and Drug Administration has not yet adopted "standards of identity," which are basic food standards designed to protect consumers from being cheated by inferior products or confused by misleading labels. Over the last 80 years, the FDA has issued standards of identity for hundreds of products, like whiskey, chocolate, juices and mayonnaise. Without standards, the

FDA has no means to regulate avocado oil quality and authenticity.

Avocado oil isn't the only product without enforceable standards. Honey, spices and ground coffee are other common examples. Foods that fetch a higher price are especially ripe for manipulating, especially when adulterations can be too subtle to detect outside a lab.

Wang is working to develop faster, better and cheaper chemical methods to detect adulteration so bulk buyers can test avocado oil before selling it. She is also evaluating more samples, performing shelf-life studies to see how time and storage affect quality, and encouraging FDA officials to establish reasonable standards for avocado oil.

Wang has experience collaborating with industry and the FDA. Ten years ago, she analyzed the quality and purity of [extra virgin](#) olive oil and discovered that most of what was being sold in the U.S. was actually a much lower grade. Her research sparked a cascade of responses that led California to establish one of the world's most stringent standards for different grades of olive oil. The FDA is working with importers and domestic producers to develop standards of identity for olive oil.

"Consumers seeking the [health benefits](#) of avocado oil deserve to get what they think they are buying," Wang said. "Working together with the industry, we can establish standards and make sure customers are getting high-quality, authentic avocado oil and the companies are competing on a level playing field."

## **Tips for consumers**

- The flavor of virgin avocado oil can differ by varieties and region. In general, authentic, fresh, virgin avocado oil tastes grassy, buttery and a little bit like mushrooms.
- Virgin avocado oil should be green in color, whereas refined

avocado oil is light yellow and almost clear due to pigments removed during refining.

- Even good oil becomes rancid with time. It's important to purchase a reasonable size that can be finished before the oil oxidizes. Store the oil away from light and heat. A cool, dark cabinet is a good choice, rather than next to the stove.
- How do you know if the oil is rancid? It starts to smell stale, sort of like play dough.
- When possible, choose an oil that's closest to the harvest/production time to ensure maximum freshness. The "best before date" is not always a reliable indicator of quality.

**More information:** Hilary S. Green et al. First report on quality and purity evaluations of avocado oil sold in the US, *Food Control* (2020). [DOI: 10.1016/j.foodcont.2020.107328](https://doi.org/10.1016/j.foodcont.2020.107328)

Provided by UC Davis

Citation: Study finds 82 percent of avocado oil rancid or mixed with other oils (2020, June 16) retrieved 5 May 2024 from <https://phys.org/news/2020-06-percent-avocado-oil-rancid-oils.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.