

Imported olive oil quality unreliable, study finds

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(PhysOrg.com) -- Nearly three-quarters of the samples of top-selling imported olive oil brands failed international extra virgin standards, according to a new report by researchers at the University of California, Davis, and in Australia.

“The United States is the third-largest consumer of olive oil in the world,” said Dan Flynn, executive director of the UC Davis Olive Center. “While there are many excellent imported and domestic olive oils available, our tests indicate that there are serious quality problems out there.”

In this second and final report in a yearlong study of extra virgin olive oil sold at retail, the research team examined 134 samples of eight high-volume brands of olive oil, purchased in major supermarkets throughout California. Sensory and chemical tests were conducted by the UC Davis Olive Center and the Australian Oils Research Laboratory.

Extra virgin is the top grade of olive oil, evaluated according to standards established by the International Olive Council and the United States Department of Agriculture. To be considered extra virgin, the oils must have no sensory defects such as rancidity. They also must offer some fruity flavor and aroma and meet very specific chemistry-based criteria.

During the study, all tests were performed “blind,” meaning the researchers and technical personnel did not know the brand name or country of origin of the sampled olive oils.

Top-selling brands showed quality problems

The report revealed that 73 percent (66 of 90 samples) of the five top-selling imported brands failed international sensory standards for extra virgin olive oil by failing two International Olive Council-accredited taste panels. The samples had objectionable sensory attributes such as rancidity and “fustiness,” a fermentation defect.

The same five brands failed sensory tests at the same 73-percent rate (11 of 15 samples) in a UC Davis report released in July 2010. Of the samples that failed both sensory panels, 35 percent also failed an International Olive Council standard for ultraviolet absorption. The report states that the council’s other common chemical standards were not useful in confirming negative sensory results.

Some brands did well

None of the Californian and Australian olive oil samples failed both sensory panels, and just 11 percent of a high-volume premium Italian brand failed both sensory panels.

The California and Australian brands passed all of the International Olive Council chemical tests used in the study, and just 11 percent of the premium Italian brand failed one of the IOC chemical tests.

Standards could be improved

Two tests for standards that have not been adopted by the International Olive Council yielded results that supported the negative sensory results. These tests, known as diacylglycerol content and pyropheophytin, have been adopted in Germany and Australia. They confirmed negative sensory results among the olive oils sampled in this study, with 65

percent of the samples failing the diacylglycerol test and 49 percent failing the pyropheophytin test.

In the report, the researchers suggested that International Olive Council and U.S. Department of Agriculture standards would be more effective in assessing and enforcing olive oil quality if they included the German/Australian tests.

“The best [extra virgin](#) oil will smell and taste fresh,” said Flynn. He added that quality oils often show the most recent harvest year on the bottle, and have containers that protect the oil from light and are not dusty or shopworn.

The report recommends that further research should be conducted to investigate chemical markers for sensory defects and determine the effects of minor [olive-oil](#) constituents on the oil’s flavor and stability. The researchers also suggest that chemical profiles of California olive oils should be analyzed.

More information: The new report is available online at olivecenter.ucdavis.edu

Provided by UC Davis

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