

Laser diode to detect falsifications in the labeling of EVOO

Researchers from the Complutense University of Madrid (UCM) and the Scintillon Institute of the United States have designed a sensor that allows detecting falsifications in the containers of olive oil labeled as extra virgin or with Protected Designation of Origin (PDO).

This tool, whose application has been presented in the magazine Talanta, allows to distinguish apparently similar oils but with notable quality differences. This is possible thanks to the use of laser diodes, since the adulterated oils have a slightly different emission of fluorescence to pure extra virgin olive oils, as reported by the UCM.

Both in its use and in its construction, with a 3D printer, the tool has a reduced cost. "Other clear advantages of our study is the possibility of carrying out measurements in situ, since the equipment is portable, the size of a briefcase, in addition to generating responses in real time", explained José S. Torrecilla, Professor and Researcher of the Department of Chemical Engineering and Materials of the UCM.

Analysis with chaotic algorithms

To carry out the study, researchers have made mixtures between monovarietal oils with PDO with other oils with PDO, but outside their date of preferential consumption. All these oils have been purchased in the supermarket linear.

Subsequently, blends of oils containing between 1 and 17% by weight of the oil outside the preferred consumption date were made. Finally, the measurements were made with the sensor that was manufactured with a 3D printer and the results obtained were analyzed by means of chaotic algorithms.

"This technique is available to be used at any time, it would only require oils in moments prior to packaging for quality controls or after packaging to locate brands and/or fraudulent producers," concluded the UCM researcher.

Lien article : <https://en.mercacei.com/noticia/1875/news/laser-diode-to-detect-falsifications-in-the-labeling-of-evoo.html>

