

Poster

Determination of adulteration of extra-virgin olive oil



José Santiago Torrecilla, Ana Moral Rama y José Manuel Carrizosa Miguel*

Departamento de Ingeniería Química, Ciudad Universitaria 28040 - MADRID

Departamento de biología molecular e ingeniería bioquímica, Carretera de Utrera km 1 41318 - SEVILLA

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Se entrega con el visto bueno de mi tutora interna

ABSTRACT

Motivation: This essay was made with the purpose of find some methods for the detection and determination of adulteration of extra-virgin olive oil (EVOO). It was sought a fast, cheap and effective method for the detection of adulteration, in order to it would be available to all producers and sellers of the different varieties and apellations of EVOO.

Methods: For this work we try out three methods of determination the adulteration. First of all, we prepared the samples with which we would work. Different mixtures were elaborated in order to emulate a sample of adulterated EVOO. The samples contained a mixture of EVOO with a percentage of volume of a determinated adulterant. The adulterants were: corn oil, sunflower oil, refined olive oil and pomace oil. The percentage of adulterant oscillated within 0 to 20%. Beyond a percentage of 20% the organoleptic properties change at the point that is measurable to taste. Furthemore, we prepared binary mixtures, with EVOO and one adulterant, and ternary mixtures, with EVOO and two adulterants. Then, we used a thermometer to measure of stabilization time. Secondly we employed a refractive index measurer. And finally, we measured the absorbance of the mixtures with an spectrophotometer.

Results: Neither the stabilization time and the measurement of the refractive index were approved for the work because of their erratic results. Data given by the measurement of absorbance implied a clear difference between the different percentages of mixtures and furthermore between the different adulterants.

Conclusions: We concluded that, in the first place, measurement of stabilization time is complicated because of the estrict temperature conditions in the room. In the second place, Data of the refractive index were overly erratic to consider them. And after all, the data given by the spetrophotometer made us out that it would be the best candidate to the determination of EVOO adulterated in plant. Moreover, with this technique could be possible determinate the adulterant incorporated in the mixture.

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