

## Study of the adulteration of olive oil by Fourier Transform Infrared Spectroscopy and chemometric methods

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**ABSTRACT.** Because of the importance of oleiculture in the agricultural field, it is highly significant to study this culture in order to improve the outputs and to help the farmers to produce good quality of olive oil in Algeria. The prices of the olive oil are high compared to the other edible oils. Therefore, the temptation of not very scrupulous people to operate an adulteration by less expensive oils to increase the profits must be fought.

The objective of this work is to study and quantify the effect of edible oils addition; like sunflower oil, rapeseed oil, corn oil and soya oil on the spectroscopic characteristics of the olive oil. The Fourier Transform Infrared spectroscopy has been developed for analysing olive oil adulterated with edible oils. This technique is often used by combining chemometric methods to highlight the spectrum parties' modifications by even minor modifications of the composition. In order to quantify the edible oils percentage; an approach of adulteration prediction based on these two methods was developed.

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