Poster

Evaluation of the organoleptic quality of virgin olive oils using an electronic olfactory system

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ABSTRACT

Motivation: The quality of olive oil is defined by physicochemical and organoleptic parameters; Organoleptics analysis are made from an official panel test compound between 8 to 12 specialists. This method to classify oils is subjective because of human factor. Its essential to implement a system that performs the sensory analysis in an objective and fast method, such as the electronic olfactory system (EOS), which consists of a set of sensors that detect the volatiles of each sample of olive oil and catalogues them.

Methods: The electronic olfactory system used was the EOS 835, which is composed of a chamber with 4-6 metal oxide semiconductor sensors, calibrated to olive analysis, which capture the volatiles present in the sample and respond with a resistance variation. This system requires previous training for the subsequent classification of oil samples. The data obtained are treated by principal component analysis (PCA) to evaluate the quality of the measurements and classification.

Conclusions: The development of this system can provide a portable, easy-to-use and low-cost tool that can be used to ensure the accurate classification of olive oil.

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