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Evaluation of the effect of time and temperature on extra virgin olive oils through spectroscopic measurements-Distribution monitoring

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A solive oil plays a major role in the Mediterranean diet, it is relevant to understand as best as possible the effect of time and temperature on the product. These two phenomena will be present in any distribution stage, such as from mill-to-storage, form storage-to-shop, or shelf-life, and both negatively affect the quality of the oil. In this research, three extra virgin olive oils (EVOOs) have been analyzed using absorption spectroscopy for nearly three months and at three different temperatures (3°C, room temperature, and 40°C), attaining information regarding the degradation rate of the samples. Apart from proving the deleterious effect of these parameters, several models based on artificial neural networks have been proposed to provide the period of time and the temperature that an EVOO sample has gone through, potentially reaching an estimate about how the product has been handled. A tool as such would be of great interest to determine how well an olive oil is being treated during the distribution chain, as it would enable the location of stages that greatly affect the quality of the product.

Biography

John C Cancilla is currently finishing his PhD research from the Complutense University of Madrid. He has published over 15 papers in prestigious journals within the computational artificial intelligence scope, designing compelling applications in multiple fields such as biomedicine, chemistry, and food technology.

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