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MEDEO

Development and Assessment of Methods for the Detection of Adulteration of Olive Oil with Hazelnut Oil.

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http://www.cica.es/aliens/igmedeo/

Olive oil constitutes the *basic income* source for around *2.7 million families*, of which around two million live in the southern EU, predominantly in the *less-favoured regions*. Olive oil is a fundamental part of the farmers' incomes and plays an important role in preventing serious desertification. All market prospects present *olive oil* as a *promising sector* for sustainable development in the Mediterranean basin. These favourable prospects, which are encouraging many Mediterranean countries to invest in the olive oil sector, are *embittered* with the *propaganda* of *olive oils adulterated with hazelnut oils* whose detection is still a problem. The image of uncontrolled adulteration into the world market poses a considerable risk to the opportunity for both economic growth and social welfare in many Mediterranean countries. This *procedure* is also *harmful for consumers* who buy olive oil for its sensory quality *and health* benefits, and are surprised to receive oil that does not have them.

The Intervention Board's Anti-Fraud Unit, OLAF, and Customs and Excise, are actively involved in the prevention and detection of fraud in the olive oil sector, to protect the payments of subsidised productions and export refunds. More recently it has been reported that quantities of *hazelnut oil* are being imported into the European Community seemingly up until now *not* being *declared* to Customs and Excise. It is suspected that it is being *used to adulterate olive oils* bottled within the Community, which are then sold to a range of supermarkets and shops, as well as to wholesalers who in turn supply the catering trade.

The EU Agriculture Directorate, OLAF and the Customs authorities urgently need the research community to provide methods, which can be adopted into legislation. In this context, the project will aim to provide reliable methods that can be used by regulatory agencies to detect the addition of hazelnut oil to olive oil, and thereby monitor compliance with Regulation 2568/91 as amended. In a short time period, the designated ***protocols*** can be transferred ***to governmental institutions***, international and national organisations, and imported industries for the ***rapid detection*** of olive oil ***adulteration*** with hazelnut oil.

The ***aim*** of the **MEDEO** ***project*** is *to* ***develop techniques*** that are still capable of ***detecting*** fraudulently labelled samples of *olive oils containing* ***hazelnut oil*** and to produce measures to counteract this sophisticated *fraud that means*, in economical terms, *a loss around 4 million euros per year.* Hitherto ***no official methods exist that can detect this adulteration*** at the concentration of interest (e.g. 2-20%) when considering conventional

purity parameters, while published in-house methodologies, based on either minor or major compounds, have shown less reproducibility in blind trial studies, or require more investigation.

This *project analyses* the *problem* from a multidisciplinary viewpoint. Samples, representing *all possible mixtures of olive oil categories* with raw and refined hazelnut oils, will be analysed *by* ***the latest state-of-the-art techniques*** e.g. GC-MS, LC-GC, ^{18}O and ^{2}H-SIRMS, NMR, FT-Raman, and other methods that are in development by the leading research laboratories in this area. *Synergetic effects* of the exchange of information *between* the analytical *groups* (e.g. separation and spectrometric techniques) will allow going beyond the current research in the applications, e.g. triglyceride methodologies. The project has among its objectives to design protocols, validate the methods to internationally agreed methodologies, and give courses to analysts.

16 partners of 7 EU countries constitute the MEDEO consortium (CSIC, CSL, EUROFINS, JRC-IHCP, BOKU, NHRF, CRAGx, UCL, ISE, SSOG, CNR, IOOC, ANDOLEUM, UCM, AOCS, OLAF). These work-packages cover the objectives and technologies described above. The ***consortium*** is constituted by a blend of talents working at *accredited research institutions* and *universities, international organisations* and a group of *co-operative societies* that will also be the feedback with current olive oil market problems.

For more informations, could you contact :

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