Olive Oil Testing

The EU has adopted regulations No 2568/91, 29/2012 and supplementary provisions to ensure certain quality requirements in line with an increased consumption of olive oil within Europe.

Eurofins offers olive oil testing for compliance with legal requirements and European standards or according to individual requirements and customer-specific problems.

In addition, Eurofins has integrated further analysis parameters to enable additional reports. Eurofins offers advice on compliance with a range of European and international legal regulations, directives, provisions and recommendations regarding physical, chemical and sensory testing as well as labelling checks. Eurofins also offers support in the production of specifications and test plans.

Our experience in the field of olive oil analysis is continually expanded through membership in the relevant bodies, regular participation in ring trials, such as SSOG, FAPAS, DGF, LVU and our continued affiliation to sensory panels.

Identity

Determining the identity of olive oil is used to clarify whether it is actually a pure olive oil.

It is also possible to obtain first findings about the category of the olive oil submitted, such as, for instance, extra virgin olive oil:

- Organoleptic testing (acc. to legislation (EEC) No 2568/91 with 8 – 12 tasters)
- Fatty acid composition, including *trans* fatty acids
- Triglyceride composition
- Sterol composition
- ECN 42

Quality

The quality parameters in olive oil analysis are used, among other things, to assess the degree of freshness and provide further information on the olive oil category (including thermal treatment, if applicable):

- Peroxide value
- Free fatty acids
- K-values
- Alkyl esters
- Wax content
- 1,2-diacylglycerols and 1,3-diacylglycerols
- Pyropheophytins
- Biophenols (antioxidant ingredients)
- Stigmasta-3,5-diene

Authenticity

The olive oil origin can be determined by 1H-NMR spectroscopy. The method is based on a data-base of reference samples from various countries of origin collected over several years. Currently, olive oil from the most important countries of origin Italy, Spain and Greece can be analysed. The method is accredited as "Eurofins Profiling (Olive Oil Screening)" according to ISO 17025.

Contaminants and Residues

The following analysis parameters help to check contamination during production, processing and storage of olive oil:

- Polycyclic aromatic hydrocarbons (PAHs)
- Plasticisers (phthalates)
- Pesticides (e.g. pyrethroids, organochloro- and organophosphorus pesticides, poly-chlorinated biphenyls, nitrogen-containing pesticides)
- Heavy metals, such as cadmium, lead, mercury
- 3-MCPD-esters and related substances, such as glycidyl esters
- Mineral oil (MOSH, POSH, MOAH)
- Volatile chlorinated hydrocarbons
- BTEXS (benzene, toluene, xylene, ethyl benzene, styrene)
- Dioxins / furans / dioxin-like PCB

Additional Screening

- Labelling check
- Sensory and analytical testing of relevant storage
- Sensory, chemical and analytical testing of packaging materials
- Micro- and molecular-biological testing
- Development of customer-specific testing methods

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Eurofins Food & Feed Testing Germany
service@eurofins.de – www.eurofins.de