

# **Stability of High Oleic Vegetable Oils Towards Light Exposure**

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Oxidation products of edible fats and oils play a decisive role in terms of their sensory quality. Therefore, the inhibition of lipid oxidation is very important for the application of edible fats and oils in food processing in order to produce high quality food products.

In the present study the influence of light on the oxidative stability of high oleic vegetable oils (sunflower and rapeseed oil) compared to their conventional counterparts was investigated. For the light irradiation experiments a xenon test instrument (SUNTEST CPS+, Atlas Material Testing Technology, Chicago, USA) was applied. Two different light intensities ( $275 \text{ W/m}^2$  and  $765 \text{ W/m}^2$ ) were applied and sampling was performed after 0, 2, 4, 6, 10, 12, 18 and 24 hours.

For the quality assessment of the investigated edible oils quality parameters such as induction time determined with a Metrohm Rancimat Model 617 (Metrohm, Herisau, Switzerland), peroxide value and anisidine value (both determined using a FOODLABfat device, CDR S.r.l., Florence, Italy) were measured. Furthermore the total antioxidative capacity of the edible oils was established by means of a radical assay (DPPH) and a photochemical device using photochemiluminescence (PhotoChem, Analytik Jena AG, Jena, Germany).

Results showed higher oxidative stability of the high oleic edible oil varieties towards light exposure in terms of induction time and total antioxidative capacity.