

# **Organoleptic Assessment of “Extra Virgin” Olive Oil combined with Sensory Evaluation of Harmony and Persistency including Aroma Description**

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Official organoleptic assessment of Olive Oil is based on the standards of the International Olive Council (IOC) respectively on the EC Regulation 640/2008 of the European Commission. Main focus of this Regulation lies on the verification of the classification of Olive Oil. The test procedure (Panel Test) is based on the detection of certain negative attributes as well as the intensity measurement of fruitiness besides bitterness and pungency. This sensory evaluation leads to the classification of Olive Oil as either “Extra Virgin”, “Virgin”, “Ordinary” or “Lampant”. In case of the grade “Extra Virgin” the minimal request is a median of defects not above zero (= 0) and a median of fruitiness above zero (> 0).

But - sensory quality characteristics of Olive Oil are definitely capable to exceed what can be explained with merely the grade “Extra Virgin”. The basic test procedure (Panel Test) therefore was extended by the attributes “Harmony” and “Persistency” as well as certain Aroma Descriptors that might occur in Olive Oil. This new objective methodology was cross-validated by the German (DOP) and the Swiss Olive Oil Panel (SOP) and allows as well a sensory differentiation of Olive Oils on a very high quality level as a differentiation of Olive Oils below standard level. The attribute “Harmony” explains the degree of balance of all positive characteristics or – in case of lower quality – the degree of disharmonic balance, including olfactory, tactile and kinesthetic stimuli. It is evaluated on a 10 cm scale that leads from “totally disharmonious” over “standard harmony” to “top harmony” / “top oils”. The attribute “Persistency” explains the lasting nature of all positive characteristics, including olfactory, gustatory, tactile and kinesthetic stimuli. Like “Harmony” it is evaluated on a 10 cm scale, but in this case the scale leads from “not persistent” over “standard persistency” to “very long persistency”. The robust coefficient of variation (Cv<sub>r</sub>) of “Harmony” and “Persistency” has to be below 10%, single results that exceed a standard deviation of 1.5 have to be eliminated as outliers and the minimum number of valid results must be at least 6.

Aromatic components are scaled on a four-point scale from zero to three (0 = not detectable, 1 = slightly, 2 = noticeable, 3 = intense) and can be divided in two main groups of components: green and ripe ones. Within the group of “green” attributes you can find for example: freshly mown grass, nuts (nut-, almond- or pine-skin), vegetables (green tomato, artichoke etc.), fruit (green apple, banana), herbs, citrus etc. Within the group of “ripe” attributes you can find for example: nuts (nut-, almond- or pine-kernel), vegetables (ripe tomato, cooked artichoke), fruit (ripe apple, banana), mushrooms, melon, candied fruit etc.