



LABORATORY OF  
EBLOKO.GR S.A.

Quality Analysis by the Food Chemistry  
Laboratory of ebloko.gr S.A.

**PASSAVAS ESTATE PREMIUM  
EXTRA VIRGIN OLIVE OIL  
EXCLUSIVE EDITION**



LABORATORY OF  
EBLOKO.GR S.A.

Quality Analysis by the Food Chemistry  
Laboratory of ebloko.gr S.A.

**PASSAVAS ESTATE PREMIUM  
EXTRA VIRGIN OLIVE OIL  
EXCLUSIVE EDITION**

Parameter	Value (EVOO limits)	Importance	Methodology
<b>Acidity (% w/w)</b>	0.32 ± 0.01 (< 0.8)	The main quality index for olive oil classification. It corresponds to the free fatty acid content.	In house method BLK315 based on Com. Reg. (EEC) No 2568/91 Annex II
<b>Peroxide Number (mEq O2/kg)</b>	6.26 ± 0.13 (< 20)	Indicator of the oxidation level. It cumulatively represents the "age" of olive oil, the level of rancidity, as well as whether the product was properly stored.	In house method BLK317 based on Com. Reg. (EEC) No 2568/91 Annex III
<b>K232</b>	1.67 ± 0.04 (< 2.5)	It refers to primary oxidation products. In addition to the probability of adulteration, it also indicates the degree of improper storage or inappropriate extraction methods.	In house method BLK322 based on Com. Reg. (EEC) No 2568/91 Annex IX
<b>K268</b>	0.16 ± 0.01 (< 0.22)	Indicator of the product "age", but also of the deliberate mixing with lower quality olive oil. It refers to secondary oxidation products that usually exist in low quality olive oils.	In house method BLK323 based on Com. Reg. (EEC) No 2568/91 Annex IX
<b> ΔK </b>	0.005 (< 0.01)	General indicator of adulteration with lower quality olive oils.	In house method BLK324 based on Com. Reg. (EEC) No 2568/91 Annex IX
<b>Density (g/L)</b>	902.1 (900 – 910)	Represents the correct proportion of the constituent fatty acid triglycerides and their minimum total content in olive oil (99% w/w). Deviations indicate probable adulteration of the product.	
<b>Waxes (mg/kg)</b>	<u>C42 - C46</u> 5.6 ± 0.5 (< 150)  <u>C40 - C46</u> 51.8 ± 8.0 (< 250)	Quantified as the sum of C40, C42, C44, C46 wax esters. They are a natural product in olive skin and are solubilized during extraction, yielding a negative impact on the quality of the olive oil, causing cloudiness upon precipitation.	International Olive Oil Council. COI/T.20/Doc. no.28/Rev. 2 2017 (GC-FID)
<b>Biophenols (mg/kg, tyrosol equivalent)</b>	697.4 ± 32.6 (> 250)	Substances with high antioxidant activity and the main bioactive ingredients of olive oil with proven health claims. The minimum recommended daily allowance for biophenols is 5 mg. The suggested minimum daily consumption of olive oil is 20 g, so an olive oil with substantial health benefits should have a minimum of 250 mg polyphenols (Biophenols) per kg to cover the above daily needs.	In house method BLK405 based on Folin-Ciocalteu assay (tyrosol equivalents)

#### Lipid Analysis

Fatty acid esters (% by weight)	PASSAVAS ESTATE Value	Ranges for EVOO
<b>Oleic (C18:1 cis)</b>	71.81 ± 0.02	<b>55.0 - 83.0</b>
<b>Palmitic (C16:0)</b>	13.12 ± 0.05	<b>7.5 - 20.0</b>
<b>Linoleic (C18:2 cis)</b>	7.42 ± 0.01	<b>2.5 - 21.0</b>
<b>Stearic (C18:0)</b>	3.39 ± 0.06	<b>0.5 - 6.0</b>
<b>Palmitoleic (C16:1 cis)</b>	0.83 ± 0.01	<b>0.3 - 3.5</b>
<b>α-Linolenic (C18:3 n3)</b>	0.83 ± 0.01	<b>&lt; 1.00</b>
<b>Arachidic (C20:0)</b>	0.49 ± 0.02	<b>&lt; 0.80</b>
<b>cis-10-Heptadecenoic (C17:1 cis)</b>	0.10 ± 0.01	<b>&lt; 0.60</b>
<b>Eicosenoic (cis-11) (C20:1 cis)</b>	0.29 ± 0.01	<b>&lt; 0.50</b>
<b>Heptadecanoic (C17:0)</b>	0.09 ± 0.01	<b>&lt; 0.40</b>
<b>Behenic (C22:0)</b>	0.06 ± 0.01	<b>&lt; 0.20</b>
<b>Lignoceric (C24:0)</b>	0.11 ± 0.01	<b>&lt; 0.20</b>
<b>Myristic(C14:0)</b>	0.02 ± 0.01	<b>&lt; 0.05</b>
<b>Mono-unsaturated trans</b>	0.02 ± 0.01	<b>&lt; 0.05</b>
<b>Poly-unsaturated trans</b>	0.01 ± 0.01	<b>&lt; 0.05</b>

Methodology: International Olive Oil Council. COI/T.20/Doc. no.33/Rev. 1 2017 (GC-FID)

#### Specific Biophenol Analysis

Phenol	mg/kg olive oil
<b>3-Hydroxy-tyrosol</b>	6.63 ± 0.39
<b>Tyrosol</b>	6.26 ± 0.13
<b>Oleacein</b>	41.20 ± 0.26
<b>Oleocanthal</b>	132.00 ± 0.66
<b>Oleuropein aglycon</b>	81.46 ± 1.55
<b>Luteolin</b>	2.30 ± 0.17
<b>Apigenin</b>	0.41 ± 0.01

Methodology: International Olive Oil Council. COI/T.20/Doc. no.29/Rev. 1 2017 (HPLC)

**Quality assurance declaration:** The above results were obtained by applying the corresponding methodology suggested by the International Olive Council guidelines (<http://www.internationaloliveoil.org/>), as well as in-house developed methods based on the relevant international scientific literature.

