

Date	10.07.2025
Your sign	Sample 10
Packaging	30ml bottle
Geographical origin (declared)	Italy
Our sign	2025-XXXX
Date of analysis	10.07.2025

Report NIR Olive Oil Screening - Page 1 of 2, Sample No.

2025-XXXX

Sensory Profile		(Uncertainty)-RMSEP	If no defects	
Fruitiness [Range 0-10]	5,0	+/- 0,3	5,0	
Bitterness [Range 0-10]	3,1	+/- 0,3	3,1	
Pungency [Range 0-10]	3,4	+/- 0,3	3,4	
Harmony [Range 0-10]	6,4	+/- 0,3	6,4	
Flavor Green [Intensity, %]				
Flavor Ripe [Intensity, %]				
Sensory Defects			Green	
Sensory Defects evaluated by artificial intelligence (P>95%)	NO DEFECTS			
Sensory defect [Range 0-10]	0,0			
Adulteration				
Adulterated (unpermitted thermal treatment (>70 degrees celsius) or blending of olive oil with other refined foreign vegetable oils)	NEGATIVE			
If positive - Verification of the adulteration				
Quality				
Free Fatty Acids (FFA) [%] (ref. Meth. DGF-C-V-2, ISO 660, AOCS Cd 3d-63)	0,29	+/- 0,03		Legal Limit: 0,8%
Peroxide Value [meq O2/ kg] (ref. Meth. DGF-C-VI 2 Part 1 (Wheeler))	13,0	+/- 0,07		Legal Limit: 20 meq O2/kg
Spectrometry K232-Value	1,975	+/- 0,12		Legal Limit: 2,5
Spectrometry K270-Value	0,127	+/- 0,04		Legal Limit: 0,22
Pyropheophytins [%] (ref. Meth. DGF C-VI 15, ISO 29841)	8,9	+/- 0,33		Should be lower than 10%
1,2-Diglycerides [%] (ref Meth. DGF C-VI 16, ISO 29822)	66,9	+/- 0,58		Should be higher than 50%
Anisidine Value	6,2	+/- 0,25		
Alkyl Esters [mg/kg]	76,1	+/- 5,5		Legal Limit: 150 mg/ kg
Total Sterol Content [mg/kg]	882	+/- 12		
Phenolics (as Tyrosol and Hydroxy-Tyrosol) [mg/kg]	454	+/- 17		Health Claim:>250 mg/kg
Phenolics (Folin Ciocalteu) [mg/kg]	663	+/- 28		see EU 2017/2373 (14.12.2017)

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Identity		
Fatty acid composition [g/ 100g of fatty acids]		
Mono-unsaturated fatty acids (ref. Meth. DGF C-VI 11d; ISO 5509)	77,4	+/- 0,8
Poly-unsaturated fatty acids (ref. Meth. DGF C-VI 11d; ISO 5509)	8,4	+/- 0,7
Saturated fatty acids (ref. Meth. DGF C-VI 11d; ISO 5509)	14,3	+/- 0,8
Palmitic Acid (C16:0) (ref. Meth. DGF C-VI 11d; ISO 5509)	12,08	+/- 0,38
Palmitoleic Acid (C16:1 (9c) (ref. Meth. DGF C-VI 11d; ISO 5509)	0,85	+/- 0,04
Stearic Acid (C18:0) (ref. Meth. DGF C-VI 11d; ISO 5509)	2,91	+/- 0,03
Oleic Acid (C18:1 (9c) (ref. Meth. DGF C-VI 11d; ISO 5509)	73,81	+/- 0,3
Vaccenic Acid (C18:1 (11c) (ref. Meth. DGF C-VI 11d; ISO 5509)	2,07	+/- 0,09
Linoleic Acid (C18:2) (ref. Meth. DGF C-VI 11d; ISO 5509)	7,58	+/- 0,8
Linolenic Acid (C18:3) (ref. Meth. DGF C-VI 11d; ISO 5509)	0,72	+/- 0,16
Iodine Value	83,30	+/- 0,6

Classification acc. sensory test and chemical analysis	Extra virgin
(Please note: A sample cannot be marketed as "extra virgin" if it does not meet the analytical or sensory requirements of Regulation EU 2022/2105 and 2022/2104)	
Overall quality: Range 1 (=very bad) to 8 (=Premium)	Very good quality [6]
Country and region (statistically determined by artificial intelligence; Probability > 95%)	Italy; Apulia
Variety (statistically determined by artificial intelligence; Probability > 90%))	Coratina Ogliarola
Age [months] storage at dark, 15-18 degrees Celsius; determined by NIR	9,3 (± 1)
Remaining storage life at 20 degrees Celsius [months] (if no defects!!!)	11 Months

Software Version 22-06-2025 - Referenzdaten - 2011-2025

Remarks: All results of this report are based on the statistical evaluation of the NIRS measurements. In general these results correlate very well with the corresponding laboratory values.
A wrong identification cannot be excluded. A different identified origin than the labeled origin only means that the labeled origin could not be confirmed. The results are only representative for the analyzed sample.
This report has been automatically generated. All NIR methods were validated using the corresponding international standards in accordance to ISO 17025. All statistical evaluations have been executed on a P=95% level.

References

I.Willenberg, B.-Matthäus, C.Gertz: A New Statistical Approach to Describe the Quality of Extra Virgin Olive Oils Using Near Infrared Spectroscopy (NIR) and Traditional Analytical Parameters, Eur. J. Lipid Sci. Technol. 2018, 1800361
C.Gertz, A.Gertz, B.Matthäus, I.Willenberg: A Systematic Chemometric Approach to Identify the Geographical Origin of Olive Oils, Eur. J. Lipid Sci. Technol. 2019, Eur. J. Lipid Sci. Technol. 2019, 1900281
C.Gertz, B.Matthäus, I.Willenberg: Detection of Adulterated Extra Virgin Olive Oil Using Near Infrared Spectroscopy (NIR) and Traditional Analytical Parameters, Eur. J. Lipid Sci. Technol. 2020
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