

# Isotopic Characterization of Italian Industrial Hemp (*Cannabis sativa* L.) Intended for Food Use: A First Exploratory Study

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**Table S1.** Sampling locations with altitude and extension of hemp fields considered in this study, method of cultivation employed, varieties cultivated, and year of sampling. It should be noted that it was not possible to collect the whole hemp plant in each area, and the sampling period differed from Southern to Northern Italy, according to the stage of maturation of the crops.

<i>Region</i>	<i>Location</i>	<i>Altitude a.s.l.</i>	<i>Type of sample</i>	<i>Cultivation method</i>	<i>Varieties cultivated*</i>	<i>Hectares</i>	<i>Year of sampling</i>
<b><i>Piedmont</i></b>	Baceno (VB)	850 m	Inflorescences	Organic	Carmagnola, Finola	0.1	2019
<b><i>Trentino-South Tyrol</i></b>	Predaia (TN)	830 m	Inflorescences, seeds, oils	Organic <sup>a</sup>	Finola	0.4	2019
	Altopiano della Vigolana (TN)	750 m	Inflorescences, seeds	Organic <sup>a</sup>	Finola	0.4	2019
<b><i>Veneto</i></b>	Borgo Valbelluna (BL)	700 m	Inflorescences	Conventional	Carmagnola, CS, Finola	0.1	2018
	Seren del Grappa (BL)	560 m	Inflorescences, seeds	Organic	Futura 75	0.3	2019
<b><i>Friuli Venezia Giulia</i></b>	Tolmezzo (UD)	380 m	Inflorescences	Conventional	Codimono	0.4	2018
	Verzegnis (UD)	320 m	Roots, stems, inflorescences	Conventional	Codimono, Fedora 17, Felina 32, Férimon, Futura 75, Zenit	0.2	2018
	Gemona del Friuli (UD)	190 m	Roots, stems, inflorescences	Conventional	Codimono, Fedora 17, Felina 32, Férimon, Futura 75, Zenit	0.1	2018
	Udine	100 m	Roots, stems, inflorescences, seeds	Conventional Organic <sup>b</sup>	Futura 75, Zenit	0.5	2019
	Campoformido (UD)	75 m	Roots, stems, inflorescences	Organic	Codimono, Fedora 17, Felina 32, Férimon, Futura 75, Zenit	0.1	2018
<b><i>Emilia Romagna</i></b>	Piacenza	65 m	Stems, inflorescences, seeds	Conventional	Fibrol 79, Futura 75	1.0	2019
	Jolanda di Savoia (FE)	4 m	Inflorescences, oils	Organic	Futura 75, Uso - 31, Zenit	4.0	2018
<b><i>the Marche</i></b>	Jesi (AN)	70 m	Inflorescences, seeds, oils	Conventional	Carmagnola, Futura 75	12.0	2019
<b><i>Sardinia</i></b>	Sassari	150 m	Inflorescences, seeds, oils	Organic	Secuieni jubileu, Uso - 31	5.0	2019
<b><i>Sicily</i></b>	Caltagirone (CT)	287 m	Roots, stems, inflorescences, seeds, oils	Organic	Futura 75	1.5	2019

\*Listed within the admitted agricultural species by the European Commission in the EU Plant variety database; <sup>a</sup> in conversion; <sup>b</sup> not declared.

EU Plant variety database: [https://ec.europa.eu/food/plant/plant\\_propagation\\_material/plant\\_variety\\_catalogues\\_databases/search/public/index.cfm](https://ec.europa.eu/food/plant/plant_propagation_material/plant_variety_catalogues_databases/search/public/index.cfm). Accessed on 13 December 2021.

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### **Sample Pre-treatment Procedure and Decontamination Process**

After being freeze-dried at  $-40^{\circ}\text{C}$  and 0.5 mbar for 48 hours with a Modulyo<sup>®</sup> Freeze-Dryer (Edwards Ltd., Crawley, UK), the pooled samples were homogenized and ground by a mixer mill MM 400 (Retsch GmbH, Haan, Germany), equipped with two polytetrafluoroethylene jars and grinder spheres. The grinder was used with an oscillation frequency of  $28\text{ s}^{-1}$  with grinding times varying according to the firmness of the different matrices: 22 min for the root samples, 15 min for the stem samples, and 10 min for the inflorescence and seed samples.

At the beginning and after every single process of grinding, jars and spheres were cleaned carefully with ultrapure water (18.2 M $\Omega$  cm resistivity at  $25^{\circ}\text{C}$ ,  $1\text{ }\mu\text{g L}^{-1}$  Total Organic Carbon, produced using a Purelab Ultra System, Elga LabWater – Veolia Water VWS Ltd., High Wycombe, UK) and a 2% solution (v/v) of hydrochloric acid (Ultra purity Acids-UpA<sup>™</sup>, Romil Ltd., Cambridge, UK), then rinsed with ultrapure water and left under laminar flow hood overnight. The powdered samples were finally stored in 50 mL polypropylene tubes at room temperature.

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