

Article

Impact of Different Wood Types on the Chemical Composition and Sensory Profile of Aged Tsipouro: A Comparative Study

Athanassios Karathanos ¹, Georgia Soultani ², Nikolaos Kontoudakis ^{3,*} and Yorgos Kotseridis ¹

¹ Laboratory of Enology and Alcoholic Drinks, Department of Food Science and Human Nutrition, Agricultural University of Athens, 11855 Athens, Greece; athankarath@yahoo.gr (A.K.); ykotseridis@aua.gr (Y.K.)

² Department of Chemistry, National and Kapodistrian University of Athens, 15771 Athens, Greece; gesoultan@chem.uoa.gr

³ Department of Agricultural Biotechnology and Oenology, Democritus University of Thrace, 66100 Drama, Greece

* Correspondence: kontoudakis@vo.duth.gr



Figure S1. Distribution of (a) *Quercus trojana* (*Q. trojana* subsp. *trojana* (or *Q. macedonica*) with green colour, and *Q. trojana* subsp. *euboica* with violet colour, (b) *Quercus petraea*, (c) *Castanea sativa* (probable native range and isolated population with green colour and introduced and naturalized range and isolated population since Neolithic with light brown colour). Picture and relative information from https://commons.wikimedia.org/wiki/File:Quercus_trojana_range.svg; https://upload.wikimedia.org/wikipedia/commons/7/7d/Quercus_petraea_range.svg; https://commons.wikimedia.org/wiki/File:Castanea_sativa_range.svg.



Figure S2. Picture of the traditional simple distillation without rectification copper-made alembic of 130 L composed of a gas heating system, a boiler, a still head and a cooling system.



Figure S3. Cutting process of the different type of woods (a) and (b) at cubs of dimensions $2.0 \times 2.0 \times 1.0$ cm (c). Toasting process of wood cubes (d).

Table S1. Mean values of sensory attributes of tsipouro marc spirits aged for 5 years without wood contact (Control) and while in contact with France oak (FO), American oak (AO), Greek oak (GO) and Greek chestnut (GC). All data are expressed as the average of 3 samples \pm standard deviation. Different Latin letters indicate statistical differences ($p < 0.05$).

Sensory attributes	Control	FO	AO	GO	GC
Floral (rose)	4.1 \pm 1.0a	2.5 \pm 1.0b	1.9 \pm 0.8ab	2.1 \pm 1.1b	2.0 \pm 0.9b
Citrus (bergamot)	3.1 \pm 1.2a	2.5 \pm 0.9a	2.4 \pm 1.1a	2.6 \pm 1.3a	2.4 \pm 1.2a
Dry fruits (apricot, plum, raisins, fig)	2.3 \pm 1.0a	3.1 \pm 1.1a	3.1 \pm 0.0a	2.9 \pm 1.0a	3.0 \pm 0.9a
Vanilla	1.6 \pm 0.8a	2.9 \pm 1.0b	2.9 \pm 1.1b	3.1 \pm 0.9b	2.7 \pm 1.1b
Honey	1.9 \pm 0.7a	2.4 \pm 0.8a	2.4 \pm 1.0a	2.4 \pm 1.3a	2.6 \pm 0.9a
Caramel	1.3 \pm 0.4a	2.8 \pm 0.8b	2.9 \pm 1.0b	2.8 \pm 0.9b	2.6 \pm 1.0b
Wood	1.0 \pm 0.1a	2.8 \pm 0.9b	2.8 \pm 0.9b	2.6 \pm 1.2b	2.6 \pm 1.0b
Spicy (cinnamon, allspice, pepper, clove)	1.5 \pm 0.7a	2.7 \pm 0.9b	2.6 \pm 1.0b	2.7 \pm 1.0b	2.6 \pm 1.1b
Smoke (tobacco)	1.1 \pm 0.3a	2.4 \pm 1.2b	2.6 \pm 1.1b	2.3 \pm 1.2b	2.4 \pm 1.2b
Roast (coffee, hazelnut)	1.0 \pm 0.1a	2.7 \pm 1.3b	2.6 \pm 1.5b	2.4 \pm 1.0b	2.8 \pm 1.3b
Chocolate	1.1 \pm 0.5a	3.1 \pm 1.3b	3.1 \pm 1.2b	2.9 \pm 1.3b	2.8 \pm 1.4b
Coconut	1.1 \pm 0.3a	2.8 \pm 0.7b	3.6 \pm 0.8b	2.9 \pm 0.7b	1.3 \pm 0.5a
Overall assessment (harmony, balance)	3.4 \pm 0.8a	3.8 \pm 0.5a	3.5 \pm 0.6a	4.0 \pm 0.6a	3.7 \pm 0.5a