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Phenolic Content and Antioxidant Capacity of Honey: Influence of Botanical and Geographical OriginAlan Budisavljevic¹, Ivana Sola¹, Valerija Vujcic¹, Rosa Nguyen², Jutta Ludwig-Muller², Gordana Rusak¹¹University of Zagreb, Faculty of Science, Department of Biology²Technische Universität Dresden, Faculty of Science, Institute of Botany

Phenolic compounds are among the major contributors to the antioxidant properties of honey, but their content is not thoroughly assessed when legal quality checks are performed. For this reason, there is no standardized methodological approach, and the data on the phenolic composition of many types of honey are still missing. In scope of this work we investigated the content of phenolic compounds and the antioxidant capacity of three types of honey – acacia (*Robinia pseudoacacia* L.), chestnut (*Castanea sativa* Mill.) and lime-tree (*Tilia* spp.) honey that originate from Croatia and Germany. Spectrophotometric methods for the determination of total phenolic compounds and antioxidant capacity, as well as high performance liquid chromatography analysis of flavonoids were performed. The Croatian honey samples had higher antioxidant capacity and quantitative content of total phenolics than the same botanical type of German honey samples, except for lime-tree whose amount of total phenolics did not differ significantly. According to its botanical origin, the chestnut honey had a higher antioxidant capacity (the only exception was ABTS measurement which did not yield significant difference between Croatian chestnut and acacia honey) and quantitative content of total phenolic compounds than the acacia or the lime-tree honey. The results imply that both the botanical and the geographical origin influence the final quality of honey in terms of its phenolic compounds and antioxidant capacity.

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