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## Mineral profile of Croatian honey and differences due to its geographical origin

N. Uršulin-Trstenjak, D. Levanić, L. Primorac, J. Bošnjir, N. Vahčić, G. Šarić

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The proportions of twelve minerals were determined in 200 samples of the black locust honey from five Croatian regions during two seasons. The average proportions were dominated by that of K (205.57–428.05 mg/kg), followed by Ca (33.53–329.00 mg/kg) and Na (23.34–218.04 mg/kg), which was in percentages as follows: K 31.69–81.34%, Ca 6.51–35.56%, and Na 7.36–23.65%. Melissopalynological and physico-chemical analysis of honey confirmed its general quality requirements and botanical origin. One-factor analysis of variance showed a significant differences between the regions in each season based on the average proportions of macro and micro elements except for Mn and Cd in season 2 ( $P < 0.05$ ). t-Test enabled an insight into the significance of differences between the seasons within each region based on the average proportions of macro and micro elements. Principal components analysis (PCA) showed that Al (Bjelovar-Bilogora), Fe (Bjelovar-Bilogora and Istria), Cu (Eastern Croatia), and K (Istria) could present mineral substances typical for the black locust honey of each region.

**Keywords:**

honey; Croatia; minerals; geographical origin

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