MINERAL COMPOSITION OF TWO PEPPER CULTIVARS (*CAPSICUM ANNUUM* L) FROM SERBIA AT THREE RIPENING STAGES

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Abstract

The aim of this study was to evaluate mineral composition of two commonly cultivated pepper varieties from Serbia (cultivars *Kalifornijska* and *Slonovo uvo*), at three ripening stages. Concentration of macro (K, Ca, Mg, Na) and micro elements (Zn, Fe, Mn, Cu, B, Cr, Mo, Se, Li, Al), and heavy metals (Pb, Hg, Cd, As, Ni) was determined, using AAS and ICP-MS, after microwave-assisted digestion. Relative standard deviations of AAS and ICP-MS measurements, for the most of analyzed elements, were between 0.08 - 9.28 %, indicating that precision was satisfactory. Potassium was the most abundant element in all samples, followed by Mg and Ca. Among the investigated micro elements the average content of zinc was the highest, followed by iron, for most of analyzed samples. Zinc and iron were followed by copper, manganese and boron. Semi-mature peppers of cultivar *Kalifornijska* were richer in K, Ca, Mg, Fe and Zn compared to other maturity stages. For cultivar *Slonovo uvo* results were different compared to cultivar *Kalifornijska*. The content of K and Ni increased with ripening of fruit, while the content of magnesium decreased with ripening of fruit, which was not case for cultivar *Kalifornijska*. The higher values of Mg, Fe, Zn; lower values of Ca and higher values of Cu in cultivar *Slonovo uvo* were reported by different authors for other pepper varieties.

Keywords: *pepper, mineral composition, maturity stage, AAS, ICP-MS.*