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Metal uptake of different buckwheat cultivars (*Fagopyrum esculentum* L.Moench)

Gordana Racić¹, Emilija Svirčev², Biljana Bajić³, Marijana Janić², Milana Kostić³,
Dejana Panković¹, Neda Mimica-Dukić²

¹Faculty of Ecological Agriculture, Educons University, ²Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, ³ABioTechLab,Sremska

Abstract

Common buckwheat (*Fagopyrum esculentum* Moench) is a fast-growing pseudo cereal rich in beneficial biologically and nutritive important components making it important in food supply of fast-growing world population.

The aim of this study was to determine the concentration of Cd, Co, Cu, Cr, Fe, Mn, Ni, and Zn in non-hulled and hulled seed of in field grown buckwheat (*Fagopyrum esculentum* Moench) cultivars by ICP-OES method.

Experiment was conducted at experimental open field at Nenadic (Sombor). Fourteen different cultivars (Oberon, B. Petrovac exp 1., Darja 1, Populacija B.T., Novosadska plus, Češka, Bamby, Novosadska, B. Petrovac exp 2., B. Petrovac exp 3., K-11, Bily, Ajda and Darja 2) were sown in 3 m long rows with 25 cm of inter-row spacing and 15 cm spacing between plants in the row. The standard growing technique was applied.

Results showed that buckwheat samples are a rich source of several minerals (Fe, Mn, Cu, and Zn). Concentrations of iron and copper among examined cultivars in general were similar between hulled and non-hulled seeds. Concentration of Mn was between 10 and 40 % higher in non-hulled seeds, whereas cultivar Novosadska plus has the highest concentration 16.33 mg/kg. However, concentration of Zn was higher in hulled seeds, for cultivar K-11 was highest 19.53 mg/kg.

Examined buckwheat cultivars, both hulled and non-hulled, in terms of micro and macro nutrient content reveal importance of using wholegrain food in consumption of world population.

Keywords: buckwheat, nutrients, seed, metals, ICP/OES