Dinamika toksičnih teških metala kadmija, kroma i olova u intenzivnom nasadu jabuke

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Sažetak

Cilj ovog istraživanja je bio ispitati sadržaj toksičnih teških metala Cd, Cr i Pb u intenzivnom nasadu jabuke sorte Idared, smještenom na području općine Goražde, te utvrditi njihovu akumulaciju u plodovima jabuke. Sadržaj Cd, Cr i Pb u ispitivanim uzorcima tla i plodova jabuke određen je metodom atomske apsorpcijske spektrofotometrije. Prosječni sadržaj kadmija u ispitivanom tlu je iznosio 0.15, kroma 43.98, a olova 47.48 mg kg^{-1} suhe tvari. Akumulacija navedenih elemenata u plodovima jabuke je bila izuzetno niska. Prisutnost olova i kadmija u plodovima jabuke nije niti determinirana, dok je utvrđeni sadržaj kroma bio znatno ispod graničnih vrijednosti, propisanih od strane WTO (Svjetske zdravstvene organizacije). Rezultati istraživanja su pokazali da se tlo na ispitivanom lokalitetu može smatrati pogodnim za proizvodnju zdravstveno ispravnih plodova jabuke, pod uvjetom da se uzgoj obavlja u skladu s principima integrirane proizvodnje.

Ključne riječi: tlo, plod, teški metali

Dynamics of toxic heavy metals cadmium, chromium and lead in intensive apple orchards

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Summary

The aim of this study was to examine the content of heavy metals Cd, Cr and Pb in soil of apple orchards located in the community Goražde and to determine the accumulation of these elements in apple fruits. The content of Cd, Cr and Pb in soil samples and apple fruits was determined by atomic absorption spectrophotometry. Average content of Cd in examined soil was 0.15, for Cr 43.98 and for Pb 47.48 mg kg-1 of dry matter. The accumulation of these elements in apple fruits was extremely low. The presence of cadmium and lead in apple fruits was not determined, while the chromium content was significantly below the limits prescribed by the WTO (World Health Organization). The research results showed that the soil on the examined location can be considered as suitable for the production of healthy apple fruits, provided that the cultivation is done in accordance with the principles of integrated production.

Key words: soil, fruit, heavy metals