

Uticaj NPK đubriva i AminoTotal fertilizera na sastav etarskog ulja divlje nane (*Mentha spicata*)

Predmet ovog rada bio je ispitivanje uticaja faktora – NPK đubriva, AminoTotal[®] fertilizera i njihove kombinacije na prinos i hemijski sastav etarskog ulja divlje nane *Mentha spicata*. Etarsko ulje dobijeno je metodom hidroddestilacije u aparaturi po Unger-u, a zatim analizirano na gasnom hromatografu i masenom spektrometru (GC-MS). Na osnovu dobijenih hromatograma kod kontrolne grupe je identifikovano 15 komponenti etarskog ulja, u grupi tretiranoj NPK đubrivom 20, AminoTotal[®] fertilizerom 21, a kombinacijom đubriva i fertilizera 15, pri čemu su najzastupljenija jedinjenja bila D-karvon, limonen i germakren. Sadržaj etarskog ulja bio je 0.95% za kontrolnu grupu, dok je za grupe tretirane NPK đubrivom, fertilizerom i njihovom kombinacijom iznosio $0.50 \pm 0.09\%$, $0.87 \pm 0.08\%$ i $0.18 \pm 0.08\%$, respektivno. Iz dobijenih rezultata može se zaključiti da kontrolna grupa ima znatno veći prinos i sadržaj glavnih sastojaka etarskog ulja. S obzirom na to da divlja nana predstavlja važnu biljnu sirovinu za farmaceutsku, kozmetičku i prehrambenu industriju, rezultati ovog istraživanja mogu biti od značaja za način tretmana biljke prilikom uzgoja. Dalja istraživanja bi mogla biti usmerena na ispitivanje uticaja drugih faktora na prinos i sastav ovog etarskog ulja, što može biti od ekonomskog značaja pri procesu proizvodnje.

Effects of NPK Manure and AminoTotal Fertilizer on the Composition of the Spearmint (*Mentha spicata*) Essential Oil

The topic of this paper is the analysis of the effect of certain factors – NPK manure, AminoTotal[®] fertilizer, and a combination of the two, on the yield and chemical composition of wild spearmint, *Mentha spicata*, essential oil. The essential oil was obtained through hydrodistillation using the Unger-type apparatus, and then it was analysed using a gas chromatograph and mass spectrometer (GC-MS). Based on the obtained chromatograms, in the control group 15 components of the essential oil were identified, in the group treated with NPK manure 20, with AminoTotal[®] fertilizer 21, and with a combination of manure and fertilizer 15, and the most present compounds were D-carvone, limonene, and germacrene. The content of the essential oil was 0.95% for the control group, while for the groups treated with NPK manure, fertilizer, and a combination was $0.50 \pm 0.09\%$, $0.87 \pm 0.08\%$, and $0.18 \pm 0.08\%$, respectively. Based on the obtained results it can be concluded that the control group has a significantly higher yield and content of main essential oil ingredients. Considering the fact that wild spearmint is an important raw material for the pharmaceutical, cosmetic, and food industry, the result of this research can be significant for the way that the plant is treated in the cultivation process. Further research could be aimed at examining the influence of other factors on the yield and content of this essential oil, which can have economic significance for the production process.

Milica Savić (1997), Vlasotince, Milorada Veličkovića 100, učenica 2. razreda Gimnazije „Stevan Jakovljević“ u Vlasotincu

MENTOR: Dušan Vlajin, Medicinski fakultet Univerziteta u Beogradu