

PP64. Investigation of the potential influence of soil contamination on the phytotoxic activity of the essential oil from *Solidago canadensis* L.

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Keywords: *Solidago canadensis*, phytotoxic activity, soil contamination, heavy metals

Solidago canadensis L. (Asteraceae) is one of the most aggressive European plant invaders [1]. It has caused serious harm to crop production, orchards, lawns, natural environments and a loss of biodiversity [2]. Like most plants, this species also produces secondary metabolites, which are released into the environment. Scientists believe that these chemicals could be behind the success of their invasion [3]. Great progress has been made over the past decades in the study of chemical composition of *S. canadensis*. Dominant chemical components had been investigated as saponins [4], polyphenols, flavonoids, organic acids [5] and essential oils [6,7]. Also, its biological activities were studied [8-10].

The aim of the present research was to determine the level of phytotoxic effect of essential oil (EO) hydrodistilled from the *S. canadensis* from three localities with different soil contamination. Cd, Pb, Cr and Cu amount were determined to decrease with the distance from the source of contamination. The quantity of EO increased with the higher level of heavy metals in soil. Phytotoxic activity of EO was tested on seeds of two dicotyledonous plant species (*Raphanus sativus* L. and *Lepidium sativum* L.) and the different effect was observed depending on EO concentrations and model plant seeds.

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Acknowledgments: The research was supported by the project ITMS: 26220120041 and ITMS: 26220220182.

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