SPECIES COMPOSITION OF *TRICHODERMA* COMMUNITIES IN HUNGARIAN SOILS USED FOR VEGETABLE CULTIVATION

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ABSTRACT

Species of the genus *Trichoderma* are commonly found free-living fungi in soil and root-ecosystems. It is known that the rhizosphere of agricultural soils is an ideal source of beneficial *Trichoderma* strains with biocontrol potential, as some of the strains showed excellent antagonistic abilities against plant pathogenic fungi. Others are able to improve plant growth, root in particular, promoting drought resistance in some crops.

Biodiversity of *Trichoderma* isolates from the rizosphere of different vegetables (pepper, tomato, carrot, salad, spinach, pumpkin, cabbage, kohlrabi, parsley, celery, potato and bean) in garden soil samples collected at different locations in Hungary (Szeged-Szíksóstó, Balástya, Hódmezővásárhely, Szentes, Veszprém, Ózd) was comparatively examined during this study. *Trichoderma* strains were isolated directly from the chopped roots of the examined vegetables on dichloran - Rose Bengal medium. DNA isolation and PCR amplification of the internal transcribed spacer (ITS1-5.8S rDNA-ITS2) region have been used for the identification of the isolates and for the investigation of their biodiversity. *Trichoderma* isolates were identified based on their ITS sequences with the aid of the barcoding program *TrichO*KEY 2.0 available online at the home page of the International Subcommission on *Trichoderma* and *Hypocrea* Taxonomy (www.isth.info).

Among the detected isolates, species known as promising biocontrol agents (*T. harzianum, T. virens, T. atroviride, T. asperellum*) could be identified. Data about the biodiversity of the genus *Trichoderma* in vegetable rhizosphere and surveying the *in vitro* antagonistic abilities of the isolated *Trichoderma* strains may reveal potential biocontrol agents against plant pathogenic fungi.

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