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Control of soil-borne plant pathogens by microorganisms isolated from suppressive composts

M. Gullino (1), M. Pugliese (2), A. Garibaldi (2) (1) University of Torino, Grugliasco Torino, ITALY; (2) Agroinnova University of Torino, Grugliasco (TO), ITALY

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Composts showed to be suppressive against several plant pathogens in various cropping systems. Microbiological composition is one of the most important aspect for compost suppressiveness. The objective of the present work was to isolate microorganisms from a suppressive compost and to test them for their activity against soil-borne pathogens. A compost originated from green wastes, organic domestic wastes and urban sludges that showed a good suppressive activity in previous trials was used as source of microorganisms. Serial diluted suspensions of compost samples were plated on five different media: selective for *Fusarium* sp., selective for *Trichoderma* sp., selective for oomycetes, potato dextrose agar (PDA) for isolation of fungi, lysogeny broth (LB) for isolation of bacteria. Colonies were isolated from plates and tested under laboratory conditions on tomato seedlings growing on perlite medium in Petri plates infected with *Fusarium oxysporum* f. sp. *radicis-lycopersici* and compared to a commercial antagonist (*Streptomyces griseovidis*, Mycostop, Bioplanet). Among them, those microorganisms showing a biocontrol activity were assessed also under greenhouse condition on three pathosystems: *Fusarium oxysporum* f. sp. *basilici*, *Phytophthora nicotianae* and *Rhizoctonia solani*. None of the microorganisms was able to control the three soil-borne pathogens and only a few to control *R. solani*.