

POSTER SESSION ABSTRACTS
Session CS2 Pathogenesis and symbiosis
CS2M128

Monday 4th April
14:00 - 16:00

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Evaluation of the suppressiveness of Italian soils and selection of potential biocontrol agents against *Fusarium oxysporum* f.sp. *lycopersici* on tomato

The soil-borne pathogen *Fusarium oxysporum* f.sp. *lycopersici* (FOL) is responsible for vascular wilts on tomato plants, causing severe economic losses. Biotic and abiotic components of soil could influence the disease development. The use of suppressive soils in the control of a large number of diseases is known, as well as their use for screening potential biocontrol agents (BCAs). The suppressiveness against FOL of two soils from northern Italy was compared with an artificial substrate based on peat and perlite, on susceptible seed of tomato (*Lycopersicon esculentum*) cv Cuore di Bue. Twenty-day-old seedlings were transplanted into soils inoculated with 3×10^4 chlamydospores per gram of soil. The disease index, ranging 0 to 100, was assigned 35 days after transplant and inoculation. Sterilized inoculated and not inoculated soils were used as control. One soil (Leca), previously cultivated with basil, significantly decreased the severity of the disease compared to the second one. When both soils were sterilized, the Leca one completely lost its suppressiveness against fusarium wilts. Forty fungal isolates were collected and tested, in in vitro and in vivo assays, as potential BCAs against FOL. Some strains of *Fusarium* spp. and *Trichoderma* spp. associated to the soil Leca partially explained the suppressiveness of the soil. Some BCAs were able to inhibit the growth and the conidia germination of the pathogen and to reduce the wilt symptoms on the tomato plants. The effect of some BCAs on the modulation of pathogenicity genes of FOL was also considered.
