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Beneficial effects of *Trichoderma harzianum* 6776 on tomato

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Several registered *Trichoderma*-based products are available on the market as biopesticides. In addition to biocontrol activity these fungi can stimulate plant growth, an interesting feature that can be commercially exploited to improve plants production. In the present work, the effects of *Trichoderma harzianum* 6776 on tomato are reported, in order to present a new potential beneficial isolate to be employed as active ingredients in new biofertilizers and/or biopesticides. The ability to significantly stimulate tomato plant development was confirmed by several experiments performed under greenhouse conditions according to the standard procedure for production of plantlets to be transplanted. Different tomato cultivars and tomato rootstocks were evaluated. *T. harzianum* 6776 was obtained by fermentation of organic matter derived from food industry and was added as fresh biomass to the peat based tomato growth substrate at the final concentration of 10%. The biostimulating activity resulted in higher stem height and diameter, and increased fresh and dry weight compared with controls on all the tested cultivars. To explain the biostimulating activity of our *Trichoderma*, improvement of nutrient uptake by the plant and secondary metabolites profile of our isolate are under evaluation. Preliminary biocontrol experiments showed that *T. harzianum* 6776 was able to reduce plant mortality due to *Fusarium oxysporum* f. sp. *radicis-lycopersici* and *Rhizoctonia solani* and gave promising results against *Fusarium oxysporum* f. sp. *lycopersici.*