Impact of the use of Trichoderma spp. on greenhouse tomato crop and the bio control of late blight caused by Phytophthora infestans (Mont.) of Bary.

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Abstract

As a part of the search for alternative methods that reduce the use of fertilizers and fungicides, the present work focused on the study of bio-stimulant and antifungal effects of two antagonist isolates collected from Algerian rhizosphere of tomato culture: *T. asperellum* and *T. atroviride*. The study was based on the evaluation of vegetative growth of tomato plants, yield of their fruit and the impact of their use on total polyphenol and foliar pigments contenents. Moreover, the biocontrol of downy mildew was assessed by *in vivo* antagonist activity on foliar discs of detached leaves of tomato against *Phytophthora infestans* (Mont.) de Bary. The results showed the biostimulant effect of these two isolates, particularly *T. atroviride*. The total polyphenols and leaf pigments contenents were significantly better on leaves of plants treated with *T. atroviride*. In addition, this study confirmed the antagonist activity of the two *Trichoderma* isolates against *Phytophthora infestans,* with the predominance of *T. atroviride*.

Keywords: Keywords: Trichoderma atroviride, Trichoderma asperellum, Biostimulant and elicitor effects, Lycopersicum esculentum Mill., Phytophthora infestans.

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