

Short Communication

Effect of extracellular fluid of *Trichoderma* and *Talaromyces flavus* isolates against *Gaeumannomyces graminis* var. *tritici* causal agent of wheat take-all disease

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Abstract

Wheat take-all, caused by *Gaeumannomyces graminis* var. *tritici*, has been observed in recent years in different areas of Iran. In this study, in order to investigate the possibility of biological control of pathogen, seven isolates *Trichoderma* include *T. harzianum* S, *T. harzianum* A, *T. harzianum* M, *T. koningi*, *T. longibrachiatum* and *T. virens* and four isolates of *Talaromyces* include *Talaromyces flavus* 134, *Talaromyces flavus* 136, *Talaromyces flavus* 75 and *Talaromyces flavus* 60 used against the pathogen by extracellular fluid method in vitro condition. The experiment was arranged as randomized complete design with 3 replication. The effect of extracellular fluid of antagonistic isolates on mycelia growth of *Ggt* indicated that the extracellular fluid of *Talaromyces flavus* 136, *T. harzianum* and *T. harzianum* S isolates the rate of 5 ml after 72 hours of rate (41/51, 40/88 and 37/73 %) and *T. longibrachiatum* isolate at rate of 10 ml at two times of measurement (52/83 and 52/38%) had the most inhibition effect on the growth of pathogen. This study has been the first study related to biological control of wheat take-all by *T. flavus*.

Key words: *Trichoderma*, *Talaromyces flavus*, Extracellular fluid, Take-all