

## عنوان مقاله:

Anti-oxidative Response of Bacillus thuringiensis-Primed Tomato Plants to Fusarium oxysporum f. sp. lycopersici

## محل انتشار:

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## خلاصه مقاله:

Under global warmth conditions, it is expected that tomato yield will reduce due to insect pests and fungal diseases such as fusarium wilt. Using of biological control agents is effective in the control of both groups as regard as an ecofriendly and economically rational practice. Here, Bacillus thuringiensis (Bt) was used to study its capability to prime tomato resistance against fusarium wilt caused by the fungus Fusarium oxysporum f. sp. lycopersici (Fol). Priming of tomato cv. Falat C.H. seedlings was performed at ۴-۵ leaf stage and leaf samples were analyzed ۳، ۱۸، ۲۴، ۴۸ and ۷۲ hours after fungal treatment (hat). The rate of hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) and changes in the relative transcription of the antioxidant enzyme genes such as superoxide dismutase (SOD), catalase (CAT), and glutathione S-transferase (GST) were evaluated using qRT-PCR. No significant change was observed in the relative transcription of the CAT gene. The relative transcription of SOD, and GST genes was increased with time in the treated plants compared to control plants. The highest rate of relative transcription of SOD was found at ۱۸ and ۲۴ hat, and for GST at ۱۸ and ۷۲ hat. The increment of genes transcripts was in agreement with the reduced level of H<sub>2</sub>O<sub>2</sub> in Bt-primed plants. These results are in accordance with the effectiveness of Bt in the induction of tomato systemic resistance to the F. oxysporum f. sp. lycopersici.

## کلمات کلیدی:

Biocontrol, Catalase, qRT-PCR, Stress, wilt

## لینک ثابت مقاله در پایگاه سیویلیکا:

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