

Short Article

EVALUATION OF PEROXIDASE ACTIVITY IN TWO RESISTANT AND SUSCEPTIBLE SESAME GERMPLASMS TO FUSARIUM DAMPING-OFF CAUSED BY *Fusarium oxysporum* f.sp. *sesami**

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Abstract

Sesame damping-off caused by *Fusarium oxysporum* f.sp. *sesami* is one of the most important diseases of *Sesamum indicum* L. in the world. In this work, the activity of peroxidase enzyme was assayed as a resistance mechanism in Asfij local germplasm (Bahabad, Yazd province) as resistant and Kahnoj local germplasm (Kerman province) as susceptible germplasm. Fifteen isolates of causal agent were isolated from sesame farms in Yazd province and one isolate with the highest pathogenicity potential was selected and used to determine host range. Among ten species of several plant families that were artificially inoculated with this pathogen, only sesame showed disease symptoms. Evaluation of peroxidase activity in tolerant and susceptible germplasms in 2, 4, 6, 8, 10 and 12 days after inoculation with *Fusarium oxysporum* f. sp. *sesami* showed that peroxidase enzyme activity increases in resistant germplasm with highest level in 4 days after inoculation. The activity of peroxidase was decreased 4 days after inoculation. In susceptible germplasm, enzyme activity was increased slightly in low quantity. In conclusion the results show that peroxidase activity play probable role in induction of plant resistance against outbreak of plant pathogens.

Keywords: *Fusarium oxysporum* f.sp. *sesami*, Local germplasm, Peroxidase.

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