



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The Effect of Salicylic Acid and Endomycorrhizal Fungus *Glomus etunicatum* on Plant Development of Tomatoes and Fusarium Wilt Caused by *Fusarium oxysporum* f.sp *lycopersici*

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Abstract: The effect of salicylic acid (SA) and *Glomus etunicatum* (GE) on plant development of tomatoes and infection potential of wilt disease *Fusarium oxysporum* f.sp *lycopersici* (Fol) were studied. The effects of different SA concentrations on mycelial development of Fol were tested in vitro and two concentrations of SA and GE were included in pot experiment. SA completely inhibited the mycelial development of Fol in vitro at concentrations from 0.6 mM to 1.0 mM and ED50 value was found as 0.51 mM. GE could increase dry weight of plant, length of shoot and root growth irrespective whether Fol infected the tomato plants. The root colonization by GE was determined as 62.3% when the Fol was absent and as 53.2% when the plants were infected. However, in different combinations of GE and SA, the root colonization was determined between 19.1 and 34.2%. In pot experiments, the combination of GE and 1 mM SA had the highest effect on infection of Fusarium wilt and disease severity was reduced by 70%. Results indicate that GE increases the growth of tomato plants, and could be used against Fusarium wilt of tomato. While SA is effective against the pathogen, the root colonization of GE is, however, affected negatively by SA.

Key Words: Tomato, *Fusarium oxysporum* f.sp. *lycopersici*, *Glomus etunicatum* induced resistance, salicylic acid

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