

عنوان مقاله:

Induction of resistance in tomato against root-knot nematode *Meloidogyne javanica* with salicylic acid

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خلاصه مقاله:

The effect of salicylic acid (SA) on induction of resistance against root-knot nematode (*Meloidogyne javanica*) and the effect of *M. javanica* to induce biochemical defense responses in tomato (*Solanum lycopersicum* L.) roots at six-leaf stage were investigated. Meanwhile, the effect of different concentrations of SA on mortality of second stage juveniles of *M. javanica* was examined. Changes in the activity of cytoplasmic peroxidase (POX), catalase (CAT) and phenylalanine ammonia lyase (PAL) enzymes in the roots of tomato seedlings were measured during seven successive days after inoculation with *M. javanica* in greenhouse. SA was used as soil drench and leaf spray. The efficiency of treatments were evaluated by measuring diameter of galls, number of galls per plant, number of egg masses per plant, number of eggs per individual egg mass, root and foliage fresh weights. The results showed that use of SA as soil drench and leaf spray significantly reduce diameter of galls 28% and 32%, number of galls per plant 40% and 44%, number of egg masses per plant 45% and 49% and number of eggs per individual egg mass 53% and 55% compared to control (inoculated with nematode only). The activity of the enzymes (POX, CAT and PAL) increased in comparison with plants treated with distilled water. The maximum level of larva mortality was observed at 7 mM SA with no significant difference at concentration of 6 mM. SA caused 21.2% mortality of larvae at concentration of 5 mM.

کلمات کلیدی:

Salicylic acid, *Meloidogyne javanica*, Peroxidase, Catalase, Phenylalanine ammonia lyase

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