

sequent defensive step that could be induced by the action of POX or CAT (Zacheo *et al.* 1997).

In our experiment, the concentration of H₂O₂ was increased rapidly the first and second days after inoculation, and subsequently, CAT activity increased three days after inoculation. It is supposed that the scavenging activity of CAT corresponds to the rapidity and intensity of H₂O₂ production. It was well established that CAT might be responsible for the removal of the excess of ROS during stress (Mittler 2002). However, the significant increase in CAT activity in the present study differs from the hardly distinguishable increase of this enzyme in tomato plants challenged with *M. incognita* (Rajasekhar *et al.* 1997; Anita *et al.* 2004). These differences in enzyme activity may be attributed to the resistance level of the challenged host plants (Zacheo *et al.* 1995; Rajasekhar *et al.* 1997; Tománková *et al.* 2006). Tománková *et al.* (2006) found that CAT activity differs among susceptible, moderately resistant, and highly resistant varieties of tomato plants against *Oidium neolycopersici* (the cause of powdery mildew), so activity of this enzyme showed higher accumulation in moderately resistant tomato. Zacheo *et al.* (1995) pointed out that there is a relationship between the activity of antioxidant enzymes and the resistance level of the host plants. It already has been shown that tomato cv. CALJN3 could be considered as a moderately resistant host for *M. javanica* (Maleki Ziarati 2006).

The present study revealed the involvement of elicitor-mediated induction of ROS and the scavenging enzymes in a resistant host plant (tomato cv. CALJN3) challenged with *M. javanica*. Further studies dealing other nematode species or different levels of resistance during a longer time period, are suggested. Such studies can provide for a better understanding of the potential contribution of ROS and antioxidant enzymes in the defense mechanisms of plants during compatible or incompatible interactions against plant-parasitic nematodes.

Acknowledgements

The authors are grateful to Mrs. Shina Zaman for her help with the statistical analysis of the data. The project was financially supported by the College of Aburairhan, Tehran University, Tehran (Iran).

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