

Effect of Root or Foliar Application of Soluble Silicon on Plant Growth, Fruit Quality and Anthracnose Development of Capsicum

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ABSTRACT: *This study was conducted to investigate the effect of root and foliar application of soluble silicon on plant growth, fruit quality parameters and anthracnose disease development in fruits of Capsicum annuum L. 'Muria F1'. Silicon as potassium silicate (75 mg/l) was provided to root by amending the nutrient solution (T Root) or to foliage by spraying (T Foliar) as two separate treatments. Control plants were not treated with Si. Disease resistance in fruits was assessed by artificial inoculation of Colletotrichum gloeosporioides. The fruits harvested from T Root or T Foliar treated plants developed significantly smaller lesions (67% and 39%, respectively) than those harvested from the control, and also disease incidence was delayed by 2 days in both root and foliar treatments compared to the control. Plant growth and fruit quality parameters were not significantly affected by Si treatments except for firmness and cuticle thickness of fruits which were significantly greater in both T Root and T Foliar treated fruits than in the control. Increase in fruit firmness and cuticle thickness possibly may be attributed to mechanical strength occurred by Si treatment. Sensory evaluation carried out by a trained panel revealed that there was no significant difference in sensory properties among the Si treated and control fruits. However, the effect of Si root treatment was significantly higher than the that of foliar spray against the disease.*

Keywords: Anthracnose, Capsicum annuum L., Colletotrichum gloeosporioides, Silicon

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