Influence of Rate of Soil Fertilization on Alternaria Leaf Blight (*Alternaria dauci*) in Carrots

H. Vintal,[1] E. Ben-Noon,[2] E. Shlevin,[2] U. Yermiyahu,[3] D. Shtienberg[1] and A. Dinoor[2]

The possibility of suppressing *Alternaria dauci* (Kühn) Groves & Skolko, the causal agent of Alternaria leaf blight in carrot, by excess application of fertilizer was examined in greenhouse and field experiments. Reducing the rate of fertilization by one half from the optimal rate (100 ppm N, 19 ppm P and 74 ppm K) resulted in a 23–30% increase in the severity of Alternaria leaf blight. However, doubling the rate of fertilization resulted in only a 10–15% decrease in disease severity. Inoculating with different concentrations of *A. dauci* spores (10^3 or 10^4 spores/ml) did not alter the response of the plants to the fertilization rate, although significantly higher disease severity was observed in plants inoculated with the higher spore concentration. These results were corroborated in the field, where neither disease severity nor harvested yield was significantly affected by tripling the amount of soil fertilization. Application of foliar fungicides, on the other hand, had substantial effects on both disease and yield. Therefore, it was concluded that carrot crops should be fertilized and maintained for optimum yield, and that *A. dauci* should be managed by properly timed applications of fungicides during the growing season.
KEY WORDS: Alternaria leaf blight; *Alternaria dauci*; fertilizer; IPM.

Contribution no. 533/99 from the Inst. of Plant Protection, Agricultural Research Organization. Received May 3, 1999; received in final form May 28, 1999; http://www.phytoparasitica.org posting June xx, 1999.
[1]Dept. of Plant Pathology, ARO, The Volcani Center, Bet Dagan 50250, Israel [Fax:+972-3-9683543; e-mail: danish@netvision.net.il].
[2]Dept. of Plant Pathology and Microbiology, The Hebrew University of Jerusalem, Faculty of Agriculture, Rehovot 76100, Israel [Fax:+972-8-9466794; e-mail: dinoor@agri.huji.ac.il].
[3]ARO, Gilat Experiment Station, Mobile Post Negev 2, 85280, Israel [Fax:+972-7-9926485; e-mail: uriyer@volcani.agri.gov.il].