

Epidemiology and Effects of *Verticillium* Wilt on Yield of Olive Trees (cvs. Barnea and Souri) Irrigated with Saline Water in Israel

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Epidemiology of *Verticillium dahliae* on olive trees (cvs. 'Barnea' and 'Souri') irrigated with saline water was studied over a period of 3 years. Disease incidence in cv. Barnea increased from 18.9% to 40.5% in the first year, while disease severity decreased from 4.2 to 2.4 (on a scale of 2–10). In the first month after pruning of diseased branches (June 1999), disease incidence was 26.9% and it increased to 60.6% by May 2000. No changes in disease severity were observed from this time until the end of the study. In cv. Souri, disease incidence doubled during the 3 years of the study (from 22.1% to 44.8%), and disease severity increased from 2.4 to 2.9. The disease caused significant reduction of yield in cv. Barnea in 1999 and 2000 (48.3% and 12.0%, respectively). In cv. Souri yield was measured only in 2001, where a reduction of 66.8% was observed. *V. dahliae* was isolated from both diseased and symptomless trees. A significant decrease in the isolation rate of *V. dahliae* from diseased cv. Barnea trees occurred between the first year (47.9%) and the third year (5.3%); positive isolations were obtained in all seasons, without differences between seasons. In cv. Souri, the fungus was isolated in significantly higher rates during the winter and spring (55% and 50%, respectively). Our findings strongly support the assumption that natural recovery occurs in cv. Barnea 4–5 years after planting, but not in cv. Souri.

KEY WORDS: *Olea europaea*; *Verticillium* wilt; saline-water irrigation; seasonal effect; pruning influence.

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