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Disease Notes

Fusarium Wilt Caused by *Fusarium oxysporum* on Lettuce in Espirito Santo, Brazil

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Plants of lettuce cv. Salad Regina that showed symptoms of a wilt disease were observed in commercial fields in the Marechal Floriano and Caxixe production regions in the highlands of Espirito Santo State (ES), Brazil. Wilted plants were first observed during the 2000 cropping season (June to September) when temperatures were between 26 and 34°C. Outbreaks of wilt in the Caxixe Region also occurred in the last 2 years on cultivars of the Lisa type. Symptoms were observed on seedlings and adult plants. Affected plants appeared wilted, showed red-to-brown discoloration of vascular tissues, were stunted, and developed yellow leaves that had brown or black streaks in the vascular system. The vascular streaks in the yellow leaves were continuous from the red-brown vascular discoloration in the crown. A *Fusarium* sp. was consistently and readily isolated by plating surface-sterilized (with NaOCl) root and crown tissue segments from symptomatic plants onto lactic-acid-amended potato dextrose agar and a *Fusarium*-selective medium (4). To complete Koch's postulates, a single hyphal tip of the isolated fungi was transferred to carnation leaf agar. Micro- and macroconidia formed abundantly within 8 days and matched the description of *Fusarium oxysporum* Schlechtend. Fr. Two- to three-week-old lettuce seedlings of each of six cultivars (Monalisa AG-819, Grand Rapids Nacional, Regina, Carolina AG-576, Vitória, and Grandes Lagos), representing the range of lettuce genetic diversity typically planted in Espirito Santo, were inoculated with the isolated fungus by dipping the roots of each plant in a spore suspension (1×10^5 CFU/ml) or planting the seedlings in a steam-sterilized soil infested with the fungus at 1×10^5 conidia/ml potting medium. Ten inoculated seedlings of each cultivar were arranged in a completely randomized design and placed in a greenhouse (26 ± 2°C) to allow development of the infectious agent. Ten noninoculated plants of each cultivar served as control treatments. Wilt symptoms developed on all inoculated plants 20 to 30 days after inoculation, and infected plants showed the same symptoms as observed on the original plants from which the

pathogen was isolated. Noninoculated plants remained symptomless. *F. oxysporum* was consistently reisolated from the inoculated seedlings. The pathogenicity test was conducted twice. A wilt of lettuce attributed to *F. oxysporum* f. sp. *lactucae* was previously reported in Japan (3) and later in the United States where the disease was attributed to *F. oxysporum* f. sp. *lactucum* (2). In 2002, a lettuce wilt caused by *F. oxysporum* f. sp. *lactucae* was reported in Italy (1). Studies are being carried out to determine the *formae speciales* of these Brazilian lettuce isolates of *F. oxysporum*. To our knowledge, this is the first report of *F. oxysporum* on cultivated lettuce in Brazil.

References**:** (1) A. Garibaldi et al. Plant Dis. 86:1052, 2002. (2) J. C. Hubbard and J. S. Gerik. Plant Dis. 77:750, 1993. (3) T. Matuo and S. Motohashi. Trans. Mycol. Soc. Jpn. 8:13,1967. (4) J. A. Ventura. Rev. Ann. Patologia de Plantas 7:271, 1999.