

Disease Notes

Outbreak of Brown Spot of Tobacco Caused by *Alternaria alternata* in Connecticut and Massachusetts

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In early August 2000, a leaf spot disease of broadleaf tobacco (*Nicotiana tabacum* L.) was widespread and severe in Connecticut and Massachusetts. The spots were roughly circular, with necrotic centers and concentric rings and often surrounded by a yellow halo. Spots ranged in size from small fleck symptoms (approximately 1 mm) to large lesions 1 to 3 cm in diameter. The putative tobacco brown spot pathogen, *Alternaria alternata* (Fr.:Fr.) Keissl., was isolated on potato-dextrose agar from symptomatic tissues after surface-sterilization for 30 s in 0.525% NaOCl. Brown conidia were produced in culture, often in chains. Conidia were variable in size, but tapered to a lighter colored short beak that was usually less than one quarter the length of the conidia (1). Healthy, detached broadleaf leaves (the first fully expanded leaves) were inoculated with 25 drops (45:1 each) of water alone or water containing 5.0×10^4 conidia combined from ten cultures (four leaves for each treatment). Drops were placed in the area between veins and allowed to air-dry for 3 h. Leaves were then misted and placed in a plastic bag in a growth chamber maintained at 24°C with 8 h light per day. Brown spot symptoms developed in 25% of the inoculated spots but not in areas of water controls after 11 days. Symptomatic tissue was surface-sterilized and *A. alternata* was consistently reisolated on potato-dextrose agar. Brown spot commonly occurs in the Connecticut River Valley on senescent leaves near the soil; however, in August 2000, symptoms were present on leaves of all ages. The greatly increased incidence and severity of brown spot were likely due to unusually wet conditions during the 2000 cropping season (2). In Windsor, CT, an average of 3 days per week of rain was recorded throughout the growing season. Brown spot symptoms render broadleaf tobacco leaves unsuitable for use as a natural leaf cigar wrapper and result in a complete loss of value. Data released by the New England National Agricultural Statistics Service on 1 September 2000 indicated that broadleaf tobacco losses in Connecticut and Massachusetts were at least 75 and 89% of the total acreage, respectively.

References: (1) G. B. Lucas. *Tob. Sci.* 15:37,1971. (2) J. R. Staveland and C. E. Main. *Phytopathology* 60:1591, 1970.

<http://www.apsnet.org/phyto/current/top.asp>