

## First Report of Target Spot of Tobacco Caused by *Rhizoctonia solani* (AG-3) in Massachusetts

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In June 2010, shade-grown cigar wrapper tobacco (*Nicotiana tabacum* L.) plants in Hampshire County, Massachusetts were observed with leaf lesion symptoms that ranged from small (2 to 3 mm) water-soaked spots to larger (2 to 3 cm) lesions. Lesions had a pattern of concentric rings, necrotic centers and tears in the centers, and margins that often resulted in a shot-hole appearance. Some lesions had chlorotic halos. *Rhizoctonia solani* Kuhn (*Thanatephorus cucumeris* A.B. Frank) was isolated from lesions and identified on the basis of mycelial characteristics including multinucleate cells, septate hyphae wider than 7  $\mu\text{m}$  and hyphal branches occurring at approximately right angles, and constricted at the base (3). Eight-week-old, potted tobacco plants were each inoculated either by spraying with a mycelial suspension ( $1 \times 10^5$  CFU) (five plants) or by placing colonized half-strength potato dextrose agar (PDA) plugs (0.2 cm) of an isolate of *R. solani* recovered from tobacco onto leaves (five plants) or with water or half-strength PDA plugs alone (five plants each). The plants were placed in plastic bags in a 24°C growth chamber and misted. After 2 days, the bags were removed and the potted plants were placed in trays filled with water to a depth of 1 cm in the growth chamber. After 8 days, the pathogen was reisolated from inoculated plants exhibiting water-soaked spots as disease symptoms. Leaves inoculated with water or half-strength PDA plugs alone were not diseased. DNA was extracted from the *R. solani* isolate and the nuclear ribosomal internal transcribed spacer (ITS) region was amplified and sequenced (GenBank Accession No. HQ241274). The ITS sequence confirmed our identification of this new isolate as *R. solani* anastomosis group (AG) 3. This disease had been previously reported on tobacco from South America, South Africa, the southern United States (1), and Canada (2). To our knowledge, this is the first report of this disease in cigar wrapper tobacco in New England. The humid environmental conditions under which shade tobacco is grown make this new disease a significant threat for the Massachusetts and Connecticut growing area.

*References:* (1) J. S. Johnk et al. *Phytopathology* 83:854, 1993 (2) R. D. Reeleder et al. *Plant Dis.* 80:712, 1996. (3) B. Sneh et al. *Identification of Rhizoctonia species.* The American Phytopathological Society, St. Paul, MN, 1991.