Disease Notes

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Xanthomonas Blight of Onion in South Africa. J. J. Serfontein, Plant Protection Research Institute, Agricultural Research Council, Private Bag X134, Pretoria 0001, South Africa. Plant Dis. 85:442, 2001; published on-line as D-2001-0201-03N, 2001. Accepted for publication 18 December 2000.

During April 1999, a foliar blight of onion (*Allium cepa* L. 'Granex 33') was reported in an early commercial planting under center pivot irrigation in the Limpopo Valley of the Northern Province of South Africa. Regular fungicide sprays failed to inhibit the progress of the disease. Foliar symptoms started as water-soaked lesions that elongated and turned chlorotic followed by tissue collapse in some leaves. Leaves often collapsed at the point of infection. Bulb size was severely reduced and premature leaf death caused irregular maturation and bulb size in the field. The symptoms were similar to those of Xanthomonas blight, described on the same cultivar in Hawaii (1). Microscopic examination of hand cut sections trough lesion margins showed bacterial streaming. Isolation on semi-selective diagnostic milk Tween agar (2) yielded almost pure cultures of a typical xanthomonad. The mucoid, yellow pigmented bacterium was rod shaped, gram negative, catalase positive, oxidase negative, utilized glucose oxidatively, and was lypolytic (Tween 80), proteolytic (skimmed milk), and amolytic. Biolog GN Microplate profiles as read by the MicroLog database release 3.50 (Biolog, Hayward, CA) were similar to those of a pathovar (similarity indices of 0.29 to 0.71). Symptoms were successfully reproduced on glasshouse grown Granex 33 seedlings at the five-leaf stage by spray and syringe inoculations (1) and the pathogen reisolated as described above. Ten seedlings were used in the pathogenicity test, of which five served as controls. After inoculation, seedlings were covered overnight with plastic bags, after which bags were removed and seedlings grown in the greenhouse at 24 to 30ºC and natural light until symptom development. Attempts to isolate the pathogen from the seed lot used to plant the affected field were unsuccessful. The disease re-occurred in early plantings of Granex 33 on the same farm in April 2000 toward the end of an unusually wet summer rainy season. Damage caused by the disease was so severe in one early planting that it was plowed under. High temperatures and humid conditions combined with overhead irrigation could have enhanced disease development and spread during the early growth of the crop. No further spread was observed during cooler and drier weather later in the season.

References: (1) A. M. Alvarez et al. Phytopathology 68:1132, 1978. (2) T. Goszczynska and J. J. Serfontein. J. Microbiol. Methods 32:65, 1998.

First Report of Tomato Spotted Wilt Virus on Potatoes in Iran. R. Pourrahim, Sh. Farzadfar, A. A. Moini, and N. Shahraeen, Plant Virology Department, Plant Pests and Diseases Research Institute, P.O.Box 19395-1454, Tehran, Iran; and A. Ahoonmanesh, Plant Protection Department, Isfahan University of Technology, Isfahan, Iran. Plant Dis. 85:442, 2001; published on-line as D-2001-0206-01N, 2001. Accepted for publication 25 January 2001.

Severe leaf and stem necrosis before flowering was observed in potato (*Solanum tuberosum*) fields of Firouzkoh Province, Iran, during the summer of 1998. Infected plants died before the end of the growing season. Necrosis was more severe in cv. Agria than in cvs. Ajaxs and Arinda. A high population of *Thrips tabaci* was observed in August and September. *Tomato spotted wilt virus* (TSWV) (1) was detected in affected potatoes by using specific TSWV-IgG (from Bioreba) in double-antibody sandwich enzyme linked immunosorbent assay and by indicator plant reactions. Mechanical inoculation of indicator plants with leaf extracts of symptomatic potatoes produce necrotic local lesions in *Chenopodium quinoa*, *C. amaranticolor*, *Gomphrena globosa, Vicia faba*, *Vigna sinensis, Phaseolus aureus* var. *Gohar, P. vulgaris*, and *Petunia hybrida*. The virus caused systemic necrosis in *Capsicum frutescens*, *Datura stramonium*, *D. metel*, *Nicotiana glutinosa*, *N. rustica,* and *Trapaeolum majus,* preceded by systemic chlorotic spots. TSWV was reported from ornamental crops in Tehran and Absard areas near to Firouzkoh province (2), but this is the first report of TSWV occurrence on potatoes in Iran.

References: (1) T. S. Ie. Descriptions of Plant Viruses. No. 39, 1970. (2) A. A. Moeini, et al. Iran. J. Plant Pathol. (In press.)

New Hosts of the Parasitic Flowering Plant, *Alectra vogelii,* in Malawi. P. Subrahmanyam, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), P.O. Box 1096, Lilongwe, Malawi. Plant Dis. 85:442, 2001; published on-line as D-2001-0202-01N, 2001. Accepted for publication 15 January 2001.

Alectra vogelii Benth. (Family: Scrophulariaceae) is a vascular hemi-parasite of various leguminous crops in Africa, including peanut (*Arachis hypogaea*), bambara groundnut (*Vigna subterranea*), cowpea (*Vigna unguiculata*), common bean (*Phaseolus vulgaris*), soybean (*Glycine max*), and mung bean (*Vigna radiata*) (1). It is a common parasite of peanut in Angola, Burkina Faso, Malawi, Mozambique, Nigeria, Swaziland, Zambia, and Zimbabwe (2). During April and May 2000, *A. vogelii* was observed parasitizing several wild *Arachis* species in a field at the Chitedze Agricultural Research Station near Lilongwe, Malawi. These species were part of a germ plasm enhancement program that included *A. appressipila* (ICRISAT Groundnut Accession number [ICG] 8127), *A. batizocoi* (ICG 8124), *A. benensis* (ICG 13215), *A. cardenasii* (ICG 13164 and 13166), *A. correntina* (ICG 8918), *A. duranensis* (ICG 13200), *A. helodes* (ICG 8955 and 14917), *A. hoehnei* (ICG 13228), *A. magna* (ICG 8960), *A. pintoi* (ICG 13222 and 14914), *A. stenosperma* (ICG 13172 and 13223), and *A. valida* (ICG 13230). In addition, *A. vogelii* was observed on four unidentified *Arachis* species (ICG 13231, 14875, 14888, and 14907). Parasitized plants were less vigorous and connections between *A. vogelii* and host plants could be observed by carefully removing the soil in the root zone. Mature *A. vogelii* plants were 0.3 to 0.5 m and had multiple stems branching at the base. Subsoil plant parts were a deep orange color. Flowers were prominent lemon yellow with horseshoe-shaped stigmata and leaves were light green. This is the first report of *A. vogelii* parasitizing wild *Arachis* species.

References: (1) C. Parker. Crop Prot. 10:6-22, 1991. (2) P. Subrahmanyam. 1997. Parasitic flowering plants. Pages 70-71 in: Compendium of Peanut Diseases, 2nd Ed. N. Kokalis-Burelle, D. M. Porter, R. Rodriguez-Kabana, D. H. Smith, and P. Subrahmanyam, eds. American Phytopathological Society, St. Paul, MN.

First Report of Columbia Root Knot Nematode (*Meloidogyne chitwoodi*) in Potato in Texas. A. L. Szalanski, P. G. Mullin, T. S. Harris, and T. O. Powers, Department of Plant Pathology, University of Nebraska, Lincoln, 68583. Plant Dis. 85:442, 2001; published on-line as D-2001-0201-01N, 2001. Accepted for publication 18 December 2000.

Columbia root-knot nematode, *Meloidogyne chitwoodi* Golden et al. (1) was identified from potatoes, *Solanum tuberosum* L., collected from Dallam County, Texas in October 2000. Seed potatoes are the most likely source for this introduction. This nematode is currently found infecting potatoes grown in California, Colorado, Idaho, New Mexico, Nevada, Oregon, Utah, and Washington. Some countries prohibit import of both seed and table stock potatoes originating in states known to harbor *M. chitwoodi*. Lesions on the potatoes had discrete brown coloration with white central spots in the outer 1 cm of the tuber flesh. Female nematode densities averaged 3 per square centimeter of a potato section beneath the lesions. Nematodes were morphologically identified as *M. chitwoodi* based on the perineal pattern of mature females and the tail shape of juveniles per Golden et al. (1). Using polymerase chain reaction-RFLP of the rDNA ITS1 region and the mtDNA COII-16S rRNA region (2), individual juveniles were identified as *M. chitwoodi* based on their restriction fragment patterns. This is the first report of Columbia root-knot nematode infecting potatoes in Texas. The distribution of this nematode in potato fields throughout central United States should be determined.

References: (1) A. N. Golden et al. J. Nematol. 12:319, 1980. (2) T. O. Powers and T. S. Harris. J. Nematol. 25:1, 1993.