

Disease Notes

Outbreak of Bacterial Blight of Soybean at Alabama A&M Soybean Research Field Plots and Vicinity in 1986. R. P. Pacumbaba, Department of Plant and Soil Sciences, Alabama A&M University, Normal 35762. *Plant Disease* 71:557, 1987. Accepted for publication 6 February 1987.

In 1986, an outbreak of bacterial blight of soybean, caused by *Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye & Wilkie, occurred in the soybean (*Glycine max* (L.) Merr.) research field plots of Alabama A&M University and surrounding counties of northern Alabama. Most of the soybean plants in the crossing blocks were severely infected. The disease was most severe in the cultivars Bragg, Essex, Peking, Crawford, Stevens, Bay, Dare, Braxton, Pershing, Bradley, Haberlandt, Nathan, Ark Hill, Arksoy, Ring Around 401, Easy Cook, and Pioneer 953. In the surrounding fields of northern Alabama, bacterial blight was severe in the cultivars Braxton, Coker 156, Coker 237, Essex, and Forrest. The cultivars Centennial and Davis were resistant to the disease. Disease ratings ranged from 6 to 8 (0 = no infection, 9 = 90% disease and defoliation), with infestations ranging from 50 to 100%.

First Report of Rhizomania of Sugar Beet from Texas. J. E. Duffus and H. Y. Liu, Sugarbeet Production Research Unit, USDA-ARS, Salinas, CA 93905. *Plant Disease* 71:557, 1987. Accepted for publication 11 March 1987.

Rhizomania, one of the most destructive diseases of sugar beet (*Beta vulgaris* L.), was found in the sugar beet growing area of the Texas Panhandle near Hereford in 1985. Rhizomania is caused by beet necrotic yellow vein virus (BNYVV), which is vectored by the soilborne fungus *Polymyxa betae* Keskin. The disease was first found in the Western Hemisphere in California during 1983 (1). Rhizomania was identified in Texas by the characteristic symptoms (root stunting, proliferation of lateral rootlets, and darkened vascular rings) and the presence of BNYVV and *P. betae* in the roots of affected sugar beet plants. BNYVV reacted in ELISA tests with antiserum to Japanese, French, and California isolates of the virus, and characteristic virus particles were observed by electron microscopy of plant tissue dips. The disease was found in three fields in 1985 and in two additional fields in 1986. These fields represent less than 400 ha of the approximately 15,200-ha production area.

Reference: (1) J. E. Duffus et al. *Plant Dis.* 68:251, 1984.

Systemic Infection of Cowpea by Two Isolates of Brome Mosaic Virus. R. A. Valverde, Department of Plant Pathology, University of California, Davis 95616. *Plant Disease* 71:557, 1987. Accepted for publication 11 March 1987.

The reaction of 20 cowpea (*Vigna unguiculata* (L.) Walp. subsp. *unguiculata*) lines to three brome mosaic virus (BMV) isolates (BMV-1, BMV-2, and BMV-type [ATCC PV47]) (1) was evaluated after mechanical inoculation. Only one cowpea line, Tvu 612, developed necrotic local lesions and systemic mosaic after inoculation with BMV-1 or BMV-2. This same line reacted with only a few necrotic lesions and no systemic infection after inoculation with BMV-type. The two isolates infecting cowpea systemically were back-inoculated to barley, then reisolated. These two isolates were confirmed by host reaction, serology, and electrophoretic analysis of their double-stranded RNAs before and after passage through cowpea. The isolates showed no differences in serological properties or in mobilities of double-stranded RNAs. Symptoms induced by BMV-1 and BMV-2 on barley did not change after passage through cowpea. This is the first report of BMV causing systemic infection in a legume.

Reference: (1) R. A. Valverde. *Plant Dis.* 67:1194, 1983.

Stem Canker of Black Walnut Caused by *Fusarium solani* in Kansas. N. Tisserat, Department of Plant Pathology, Kansas State University, Manhattan 66506. *Plant Disease* 71:557, 1987. Accepted for publication 11 March 1987.

In April 1985, multiple trunk and branch cankers were noted on 64 of 184 trees in a 7-yr-old black walnut (*Juglans nigra* L.) plantation near Hutchinson, Kansas. The annual stem cankers often were more than 1 m long and occasionally extended to the soil line. Necrotic bark on the canker faces commonly sloughed off, exposing discolored sapwood. *Fusarium solani* (Mart.) Appel & Wollenw. emend. Syd. & Hans. (identified by T. A. Toussoun, Pennsylvania State University) was consistently isolated from the sapwood and cambium near the canker margins. Four-month-old black walnut trees were inoculated by inserting potato-dextrose agar containing mycelium and spores of *F. solani* into wounds made in the bark. Inoculated trees developed sunken, black elongate cankers within 1 mo; *F. solani* was reisolated from the canker margins. Symptoms of the disease are similar to those on black walnut caused by *F. sporotrichioides* Sherb., *F. lateritium* Nees, and *F. oxysporum* Schl. (1,2). This is the first report of a canker disease of black walnut incited by *F. solani*.

References: (1) J. E. Cummings and J. E. Kuntz. *Phytopathology* 75:1279, 1985. (2) K. J. Kessler, Jr. *Plant Dis. Rep.* 58:1044, 1974.

Infection of *Capsicum frutescens* with Potato Virus Y^N and Tobacco Etch Virus in the Sudan. P. R. Mills, Department of Agriculture for Northern Ireland, Belfast BT9 5PX, and A. G. M. Abdul-Magid, Faculty of Agriculture, Shambat, Khartoum North, Sudan. *Plant Disease* 71:557, 1987. Accepted for publication 4 February 1987.

Capsicum frutescens L. is an important cash crop grown on the banks of the Nile in the Sudan. Many cultivars have a high percentage (up to 100% and commonly over 50%) of stunted plants with severe leaf malformation and reduced fruiting. These symptoms occur throughout the year but are particularly evident and severe during the coldest part of the year (November–April) when aphid activity and density are at their peak. Symptomatic plants of the popular cultivar Zalingae, a small-fruited, pointed, pungent pepper type, were shown to contain potato virus Y^N (PVY^N) and tobacco etch virus (TEV) by electron microscopy, aphid transmission, indicator plants, and ELISA. Indirect ELISA using protein A-coated microtiter plates followed by antiserum, sap, antiserum, and protein A conjugated with alkaline phosphatase was used to detect TEV. DAS-ELISA was used to detect PVY^N. Transmission by manual inoculation of both these viruses to healthy *C. frutescens* plants induced similar symptoms. This is the first report of TEV in the Sudan.

First Report of Cowpea Mild Mottle Virus on Bean and Mung Bean in Tanzania. G. I. Mink, Irrigated Agriculture Research and Extension Center, Washington State University, Prosser 99350, and C. L. Keswani, Plant Protection Research Institute, Causeway, Zimbabwe. *Plant Disease* 71:557, 1987. Accepted for publication 23 March 1987.

Using indirect enzyme-linked immunosorbent assay and an antiserum provided by A. Brunt, we detected cowpea mild mottle virus (CMMV), a carlavirus, in leaf tissue from three bean (*Phaseolus vulgaris* L.) and two mung bean (*P. mungo* L.) plants collected on the Sokoine University research farm located near Morogoro, Tanzania. Typical carlavirus particles with modal lengths of 600–650 nm were observed in leaf-dip preparations from infected bean and mung bean tissues. Mild but distinct vein-clearing and mottle were observed on both infected mung bean plants. No symptom attributable to CMMV was found on the three infected bean plants. CMMV was not detected in over 100 bean leaf samples tested from private farms and research stations in other areas of Tanzania and Kenya. Occurrence of CMMV only in and near plots of imported germ plasm suggested that the virus was introduced into the area through infected mung bean seed lots from India and subsequently spread to a few nearby bean plants. No residual mung bean seed was available.