

Macrophomina phaseolina on the Tropical Cover Crop *Mucuna pruriens* var. *utilis*. D. K. Berner, A. S. Killani, E. Aigbokhan, and D. C. Couper, International Institute of Tropical Agriculture, PMB 5320, Oyo Road, Ibadan, Nigeria. Plant Dis. 76:1283, 1992. Accepted for publication 13 July 1992.

During the rainy season of 1991, severely reduced plant stands and severely stunted plants were observed in several fields of the cover crop *Mucuna pruriens* (L.) DC. var. *utilis* (Wallich ex Wight) Baker ex Burck at the International Institute of Tropical Agriculture in Ibadan, Nigeria. Initial outbreak of symptoms followed a brief dry period, and subsequently more than 75% of the crop was lost. When the sites were replanted, the mucuna was again severely affected, although there was no dry period. Stunted plants had necrotic crowns and numerous necrotic lesions along the roots and runners. Only *Macrophomina phaseolina* (Tassi) Goidanich was consistently isolated from these lesions. Infestations of sterilized soil with a drench of a homogenized *M. phaseolina* culture, isolated from a symptomatic plant, resulted in poor seedling emergence in the screenhouse. Necrotic root symptoms were evident on emerged seedlings as well as on older mucuna plants taken from infested pots. *M. phaseolina* was reisolated and Koch's postulates proved. Tropical farm management increasingly relies on *M. p. utilis* as a rotational cover crop to restore fertility after cereal cultivation. This first report of the pathogenicity of *M. phaseolina* on mucuna indicates a potentially serious threat to this rotation.

Two Diseases of Alfalfa Caused by *Rhizoctonia solani* AG-1 and AG-4. P. C. Vincelli, Department of Plant Pathology, University of Kentucky, Lexington 40546, and L. J. Herr, Department of Plant Pathology, The Ohio State University, Wooster 44691. Plant Dis. 76:1283, 1992. Accepted for publication 19 August 1992.

Separate outbreaks of web blight of foliage and stem canker on basal portions of shoots were observed in numerous fields of alfalfa (*Medicago sativa* L.) during warm, wet conditions in Kentucky during 1991-1992. Isolations consistently yielded *Rhizoctonia*-like fungi. Isolates from plants with symptoms of web blight (three isolates) and stem canker (four isolates) were characterized as *R. solani* Kühn AG-1 IB and AG-4, respectively (1). To test pathogenicity of web blight isolates, mycelial fragments were suspended in distilled water and sprayed onto potted 5-mo-old alfalfa cv. Buffalo plants, which were incubated under moist conditions at 30/26 C day/night; web blight was observed after 4 days. For stem canker isolates, colonized, dried wheat grain was sprinkled onto the soil surface of potted plants, which were incubated under moist conditions at 28/22 C; stem cankers were observed after 7 days. For both diseases, *R. solani* was reisolated from diseased tissues. Both web blight and stem canker have been reported on alfalfa, but AG types of *R. solani* have not. Although outbreaks of stem canker were observed in a variety of rotation sequences and tillage systems, most of the severe outbreaks occurred in new seedings where the previous crop was a grass. Although we have not documented stand loss after an outbreak of *Rhizoctonia* stem canker of alfalfa, such a result seems possible, since *R. solani* AG-4 also infects alfalfa taproots.

Reference: (1) A. Ogoshi. Fitopatol. Bras. 10:371, 1985.

***Puccinia coronata* on Barley.** Y. Jin and B. J. Steffenson, Department of Plant Pathology, North Dakota State University, Fargo 58105; and L. E. Oberthur and P. S. Baenziger, Department of Agronomy, University of Nebraska, Lincoln 68583. Plant Dis. 76:1283, 1992. Accepted for publication 31 August 1992.

In 1991, winter barley (*Hordeum vulgare* L.) planted in a nursery near Clay Center, Nebraska, was heavily infected by a rust pathogen. Disease severity ranged from 21 to 90% in plots and averaged 46% in the nursery. The rust also was found on spring barley, foxtail barley

(*H. jubatum* L.), quackgrass (*Elytrigia repens* (L.) Nevski), and common buckthorn (*Rhamnus cathartica* L.) in the Red River Valley region of North Dakota, South Dakota, and Minnesota in 1992. Most of 30 barley genotypes tested for disease reaction to a single-pustule isolate of the rust fungus in the greenhouse were susceptible at all growth stages up to maturity. Infection occurred on leaves, leaf sheaths, awns, and peduncles. In addition to being highly virulent on cultivated and wild species of *Hordeum*, this rust pathogen is virulent on *Secale* and many gramineous species. On barley, newly formed uredinia were elongate and light orange, and the teliospore apical cell had four to six appendages up to 46 μ m long. Uredial characteristics, teliospore morphology, and host range indicated that the rust was a putative variety of *Puccinia coronata* Corda and differed from *P. coronata* var. *avenae* W.P. Fraser & Ledingham (cause of crown rust of oat) by having low pathogenicity on *Avena* spp., darker urediniospores, and longer telial appendages. Because of high virulence on barley and a wide host range, this rust could become a problem in barley production.

First Appearance of Fire Blight, Caused by *Erwinia amylovora*, on Quince and Pear in Yugoslavia. M. Arsenijević and M. Panić, Faculty of Agriculture, 21000 Novi Sad and Zemun, Yugoslavia. Plant Dis. 76:1283, 1992. Accepted for publication 17 January 1992.

Symptoms of fire blight were first observed on pears (*Pyrus communis* L.) in Macedonia in late 1989, and in 1990 a severe epidemic developed in pears and quince (*Cydonia oblonga* Mill.) for the first time in many parts of Yugoslavia. Pear trees (58 ha) were uprooted in Bosanska Gradiska; quince trees (28 ha) in Kavadarci and pear trees (26 ha) in Radovis, Macedonia; and quince trees (1.3 ha) and individual pear trees in Sabac, Serbia. A number of white bacterial colonies were isolated from lesions on diseased trees; the bacteria were rod-shaped, gram-negative, and motile with peritrichous flagella. All strains induced a hypersensitive reaction in tobacco and pelargonium leaves, necrotic areas on inoculated green pear fruit, and fire blight symptoms on quince and pear shoots. A milky white bacterial exudate developed on necrotic tissue of inoculated green pear fruit. Strains were positive for levan and catalase production and for gelatin liquefaction and negative for oxidase, starch hydrolysis, indole, and H₂S production from peptone. The strains also reacted positively in slide agglutination tests with an antiserum produced from an authentic strain of *Erwinia amylovora* (Burrill) Winslow et al. The bacterium was identified as *E. amylovora* and is a new pathogen of pomaceous trees in Yugoslavia.

First Report of Bacterial Leaf Spot of Castor Bean in Yugoslavia. M. Arsenijević and S. Masirević, Faculty of Agriculture, 21000 Novi Sad, Yugoslavia, and M. Goto, Faculty of Agriculture, Shizuoka University, 836 Ohya, Shizuoka 422, Japan. Plant Dis. 76:1283, 1992. Accepted for publication 17 January 1992.

In 1990, a bacterial leaf spot of castor bean (*Ricinus communis* L.) was observed for the first time in a breeding field at the Research Institute of Field and Vegetable Crops, Novi Sad, Yugoslavia. The spots varied in size, were surrounded by halos, and became necrotic. More than 20 strains of the pathogen were isolated from lesions on diseased leaves. The nonsporulating, gram-negative, rod-shaped bacterium formed white colonies and produced fluorescent pigment on King's medium B. Infiltration of bacterial suspensions into pelargonium leaves and bean pods produced typical hypersensitive reactions. Reactions in LOPAT tests were +, -, -, -, and +, respectively. On the basis of these results and the formation of halos around necrotic lesions on inoculated castor bean leaves, we concluded the causal agent was a pathovar of *Pseudomonas syringae* van Hall. *P. s. ricini* was first described in Romania (1) in 1986 and is the likely incitant of bacterial leaf spot of castor bean in Yugoslavia.

Reference: (1) C. Stancescu and I. Zurini. An. Inst. Cercet. Prot. Plant. 19:43, 1986.