Disease Notes

Yellow Tuft of Kentucky Bluegrass Sod Identified in Illinois. H. T. Wilkinson and D. Pedersen, Department of Plant Pathology, University of Illinois, Urbana 61801. Plant Dis. 77:647, 1993. Accepted for publication 28 January 1993.

Yellow tuft, i.e., downy mildew caused by *Sclerophthora macrospora* (Sacc.) Thirumalachar, C. G. Shaw, and Narasimhan, was observed in July and August of 1992 in Kentucky bluegrass (*Poa pratensis* L.) sod fields in Illinois. The sod was 18 mo old and growing on soil used continuously for sod production the previous 5 yr. Tufts (5–15 cm in diameter) of diseased turf were observed at three field locations and collectively represented approximately 3 ha (7 acres); about 10% of that turf was affected. Excessive soil moisture for 4 wk and daily air temperatures ranging from 15 to 26 C preceded disease development. Distribution of diseased tufts of grass reflected the direction of mower movement in the fields. The tufts of yellow grass grew faster than adjacent turf, and there was extensive proliferation of shoots from crowns. Lower leaf, crown, and root tissues were heavily colonized by intercellular hyphae. Oospores were abundant in infected crown and root tissues. The hyphae, oospores, and sporangia matched those previously described by Dernoeden and Jackson (1).

Reference: (1) P. H. Dernoeden and N. Jackson. Phytopathology 70:1009, 1980.

Occurrence of Cleistothecia of *Sphaerotheca fuliginea* on Pumpkin in Indiana. R. X. Latin, Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN 47907-1155. Plant Dis. 77:647, 1993. Accepted for publication 14 December 1992.

Powdery mildew of cucurbits caused by *Sphaerotheca fuliginea* (Schlechtend.:Fr.) Pollacci occurs annually on muskmelons, pumpkins, and squash in Indiana. Most observations of *S. fuliginea* in the United States involve the conidial stage, and reports of the sexual stage are rare (1). Cleistothecia containing a single ascus with eight ascospores were observed on pumpkin leaves and petioles in two fields in mid-September 1992. The fields were located in central and northwestern Indiana and were heavily infested at the time cleistothecia were observed. Powdery mildew was detected initially in both fields approximately 6 wk earlier, but no cleistothecia were observed at that time. This is the first published report of the sexual stage of *S. fuliginea* in Indiana. The presence of cleistothecia suggests that the pathogen may perennate on crop residue in midwestern states and that initial outbreaks each summer are caused by endemic strains of the pathogen. The existence of indigenous, genetically diverse populations of *S. fuliginea* may help explain regional differences in the efficacy of triadimefon (Bayleton) for control of powdery mildew.

Reference: (1) M. T. McGrath. Plant Dis. 75:1075, 1991.

First Report of *Fusarium solani* Blue Isolate, a Causal Agent of Sudden Death Syndrome of Soybeans, Recovered from Soybean Cyst Nematode Eggs. P. A. Donald, T. L. Niblack, and J. A. Wrather, Department of Plant Pathology, University of Missouri, Columbia 65211. Plant Dis. 77:647, 1993. Accepted for publication 2 February 1993.

Sudden death syndrome (SDS) of soybean (*Glycine max* (L.) Merr.) is caused by a blue isolate of *Fusarium solani* (Mart). Sacc. designated FS-A (2). The soybean cyst nematode (SCN), *Heterodera glycines* Ichinohe, may interact with FS-A in SDS but is not required for disease development (2). *F. solani* has been identified from field-collected SCN cysts, but whether the isolates were FS-A was not determined (1). Furthermore, FS-A has not been demonstrated to infect SCN eggs. In a survey for fungi that infect SCN eggs, soil was collected from research plots planted to soybean cv. Williams 82. Cysts were extracted from the soil, and a subsample of the eggs was plated on water agar. Eggs containing mycelium after 1 wk were transferred to potato-dextrose agar and incubated for 10 days at 22–25 C under fluorescent light, after which the fungi were identified. In 1991, FS-A, identified by colony morphology, was isolated from three of approximately 3,000 eggs examined from 24 soil samples collected during the growing season from plots near Baring, Missouri. FS-A was not recovered from any of the samples collected in 1990. FS-B (non-blue isolate), also identified by colony morphology, was recovered in approximately 4% of the eggs with mycelial growth. Mycelium was found in 2.3% of the eggs examined. The following fungi were identified from SCN eggs at the Baring site: *Phoma* sp., *Epicoccum* sp., *Fusarium* spp., *Trichoderma* sp., and *Alternaria* sp. The effect of *F. solani* infection on subsequent development of eggs has not been determined.

References: (1) G. Morgan-Jones et al. Nematropica 11:155, 1981. (2) K. W. Roy et al. Phytopathology 79:191, 1989.

First Report of *Tubakia dryina* on *Quercus cerris*. A. Belisario, Agricultural and Forest Research Center, Via di Casalotti, 300 00166 Rome, Italy. Plant Dis. 77:647, 1993. Accepted for publication 29 December 1992.

In early summer 1991, leaf blotches were observed on 5-yr-old European turkey oak (*Quercus cerris* L.) trees in a multispecific plantation of the Agricultural and Forest Research Center in Rome; *Q. ilex* L. and *Q. pubescens* Willd. trees in the plantation were not affected. The lesions were large, irregular, and elongate; mainly followed the midrib and veins; and turned from pale green or yellow to reddish brown with a darker, well-defined edge. Affected leaves dried in about 20 days. Black pycnothyria were present mainly on the abaxial surface along the midrib. Isolations from diseased tissue and from single conidia onto carrot agar and potato-dextrose agar yielded colonies with white to gray concentric circles of mycelium and scattered black conidial masses. Cultural characteristics and morphology of pycnothyria (produced only on natural leaf lesions) and conidia were within the range reported for *Tubakia dryina* (Sacc.) Sutton (2). Koch's postulates were fulfilled by spraying a conidial suspension (10^6/ml of conidia produced in vitro) on healthy shoots of 5-yr-old European turkey oaks. After about 20 days, the fungus was reisolated from newly developed blotches similar to those first observed. *T. dryina* has been associated with foliar diseases of various deciduous trees, mainly several species of oak (1). This is the first report of *T. dryina* on *Q. cerris*.

References: (1) G. P. Munkvold and D. Neely. Plant Dis. 74:518, 1990. (2) T. Yokoyama and K. Tubaki. Osaka Inst. Ferm. Res. Comm. 5:43, 1971.

First Report of Corn Cyst Nematode (*Heterodera zeae*) in Virginia. J. D. Eisenback, D. M. Reaver, and E. L. Stromberg, Department of Plant Pathology, Physiology and Weed Science, Virginia Polytechnic Institute and State University, Blacksburg 24061. Plant Dis. 77:647, 1993. Accepted for publication 28 December 1992.

Heterodera zeae Koshy, Swarup & Sethi (1) was isolated from the roots of corn (*Zea mays* L.) from a farm in Cumberland County, Virginia, in early October 1992. Approximately 150 cysts were recovered from 500 cm^3 of soil collected from around roots of corn plants. Species identification, confirmed by L. R. Krusberg, University of Maryland, was based on morphology of mature cysts and second-stage juveniles. Infected corn appeared severely stunted. However, high population densities of the stubby root nematode *Paratrichodorus christiei* (Allen) Siddiqi were also present, and the root systems may have suffered from soil compaction. The field in which *H. zeae* was found produced 120 bu in 1991 with the application of a nematicide but only 20 bu in 1992 without a nematicide. The corn cyst nematode is widely scattered in India, where it causes serious economic injury to corn. This nematode was first reported in Maryland in 1981 (2), where natural field infestations have not been shown to cause reduction in yields. The effect and distribution of this nematode on corn grown in Virginia remain to be determined.

References: (1) P. K. Koshy et al. Nematologica 16:511, 1970. (2) S. Sardanelli et al. Plant Dis. 65:622, 1981.

Salute to APS Sustaining Associates

This section is designed to help APS members understand more about APS Sustaining Associates. Information is supplied by company representatives. Each month features different companies. A complete listing appears in each issue of *Phytopathology*.

Busch Agricultural Resources, Inc. Contact: Kathryne L. Everts, Cereal Pathologist, 3515 E. County Road 52, Ft. Collins, CO 80524; 303/221-5622, Fax: 303/482-5965. Busch Agricultural Resources is the agricultural subsidiary of Anheuser-Busch, Inc., and the supplier of the malted barley, hops, and rice used in the brewing of Anheuser-Busch beers. Its efforts are concentrated into six major areas of operation: malting barley; hops contracting and production; rice contracting, milling, and marketing; land application and turf marketing; agricultural research in barley, rice, and hops; and a grain/seed operation network for the contracting, processing, and storage of malting barley and seed.

Calgene, Inc. Contact: Deanna Johnson, 1920 Fifth St., Davis, CA 95616; 916/753-6313. Calgene was founded in 1980 to develop and commercialize new crop varieties and plant products through the use of recombinant DNA and related technologies. Calgene conducts research and development under contract with other corporations, in joint ventures, and on its own behalf. Calgene is developing new crop varieties with commercially useful traits. Product focuses are agronomic qualities, improved carbohydrate metabolism, and altered vegetable oil biosynthesis. In 1989, Calgene conducted eight different field trials of genetically engineered plants, demonstrating resistance to the herbicide bromoxynil in cotton and tomato, virus resistance in potato, and reduced fruit softening in tomato.

Cereal Research Institute. Contact: Library, P.O. Box 391, 6701 Szeged, Hungary.

Chevron Chemical Company. Contact: Mel Garbett, 6001 Bollinger Canyon Rd., San Ramon, CA 94583-0947. Ortho Consumer Products Division, a division of Chevron Chemical Company, is a leading supplier of consumer lawn and garden chemical products across the United States. Ortho represents over 200 products in outdoor insecticides, fungicides, weed killers, plant foods, and indoor household insecticides. These products, along with Ortho's library of do-it-yourself reference books on gardening and home improvement, can be found in retail outlets that carry lawn and garden product categories. Products are assured through the division's product development research laboratories and field research stations, which test products under actual use conditions in various climates.

CIBA-GEIGY Corp. Contact: Haney B. Camp, Agric. Div., P.O. Box 18300, Greensboro, NC 27419-8300; 919/632-2731. CIBA-GEIGY Corp. is the U.S. subsidiary of one of the largest chemical companies in the world, CIBA-GEIGY Ltd., headquartered in Basel, Switzerland. The Agricultural Division of the U.S. company is situated in Greensboro, NC, and has been an important member of the agricultural industry for more than 30 years, manufacturing and distributing herbicides, growth regulators, insecticides, and fungicides. Among the latter are metalaxyl, sold as Apron (seed dressing); Ridomil (soil and foliar fungicide); Subdue (for ornamentals and turf); and propiconazole, sold as Tilt (row crops), Orbit (fruit crops), and Banner (for ornamentals and turf). There are several newer products in development which the company plans to integrate with the principles of integrated crop management.

Compliance Services Int'l. Contact: Olaf Ribeiro, 950 Pacific Avenue #700, Tacoma, WA 98402.

Conviron. Contact: Joseph Hildebrand, Sales Manager, 167 Weaverville Hwy., Asheville, NC 28804; 800/368-9132, Fax: 704/658-3445. Conviron has been in the business of manufacturing environmental chambers for the agricultural research community for over 25 years. Conviron has established a worldwide reputation as a leading supplier of plant growth chambers and rooms, humidity incubators, seed germinators, tissue culture rooms, and chambers, with equipment installed in over 70 countries. All products feature microprocessor controls to ensure maximum flexibility in programming of temperature, humidity, CO_2, and light intensity levels required for agricultural research in education and industry.