Disease Notes

Infection of Dogwood Fruit by *Colletotrichum acutatum* in Connecticut. V. L. Smith, Department of Plant Pathology and Ecology, The Connecticut Agricultural Experiment Station, New Haven 06504. Plant Dis. 77:536, 1993. Accepted for publication 13 January 1993.

Mature dogwood (*Cornus florida* L.) fruit from both landscape and woodland trees in New Haven County, Connecticut, in 1992 had large, irregular, black, sunken lesions on the calyx end. Discoloration extended to, but not into, the pericarp and not into the cotyledons. Abundant sporulation on the lesions occurred after 48 hr of incubation in a moist chamber. *Colletotrichum acutatum* J. H. Simmonds was isolated from infected fruit in all cases and was identified according to descriptions by Walker et al (2). Fifty freshly collected, unblemished dogwood fruit were inoculated on the calyx end with 10 μl of a spore suspension of 10^6 conidia of *C. acutatum* per milliliter, following surface disinfestation with 0.525% sodium hypochlorite. Fifty fruit used as controls received 10 μl of sterile distilled water. Within 2 wk at 25 C, all inoculated fruit showed lesions that were indistinguishable from natural infection, and the fungus sporulated on the rotted fruit. Fruit used as controls were mostly sound and undecayed; decay caused by *Botrytis* sp. occurred on seven fruit. Koch's postulates were completed by reisolating the fungus from inoculated fruit. The effect of *C. acutatum* infection on seed germination and seedling survival is unknown; however, *C. acutatum* was recently reported to cause twig blight of *C. florida* (1).

References: (1) D. O. Chellemi and G. Knox. Plant Dis. 77:100, 1993. (2) J. Walker et al. Mycol. Res. 95:1175, 1991.

Triticale Confirmed as a Host of the Viruslike Agent Causing Flame Chlorosis in Cereals. S. Haber and S. Prasar, Agriculture Canada Research Station, Winnipeg, MB R3T 2M9, and G. Murray, Department of Microbiology, University of Manitoba, Winnipeg R3T 2N2, Canada. Plant Dis. 77:536, 1993. Accepted for publication 17 December 1992.

Flame chlorosis is a soil-transmitted viruslike disease whose natural occurrence on barley in Manitoba, Canada, has been monitored since its discovery in 1985 (1). On the basis of symptoms, cytopathology, and hybridization to disease-specific RNA, flame chlorosis has also been identified in spring-seeded wheat and oats (1) and in two weed species of the subfamily Panicoideae (2). Triticale (× *Triticosecale* Wittmack 'Wapiti'), barley, wheat, oats, and rye were seeded in May 1992 in a field nursery with flame chlorosis; the nursery was previously planted to barley and wheat. As early as the one-leaf stage, symptoms of flame chlorosis were observed on barley, wheat, and triticale seedlings; the efficiency of transmission to oats is very low (1), and no oat plants with flame chlorosis were observed in the 1992 nursery. Flame chlorosis was confirmed in triticale by specific cytopathology, development of typical symptoms in later emerging leaves, and hybridization of symptomatic leaf extracts to flame chlorosis–specific RNA. These observations extend the known host range of the agent causing flame chlorosis in cereals.

References: (1) S. Haber et al. Can J. Plant Pathol. 13:241, 1991. (2) S. Haber and D. E. Harder. Can. J. Plant Pathol. 14:278, 1992.

First Report of Tomato Spotted Wilt Virus Infection of *Ficus* Species in Spain. A. Laviña and A. Batlle, Departament de Patologia Vegetal, Institut de Recerca i Tecnologia Agroalimentaries, 08348 Barcelona, Spain. Plant Dis. 77:536, 1993. Accepted for publication 2 November 1992.

In Spain, tomato spotted wilt virus (TSWV) was detected for the first time in three cultivars of *Ficus* spp.: *F. elastica* Roxb. ex Hornem. cvs. Decora and Variegata and *F. stipulata* Thunb. cv. Repens. Chlorotic and necrotic ring spots, leaf distortion, and tip necrosis developed in approximately 10,000 (30%) of *Ficus* plants derived from tissue culture and growing in a 3,000 m^2 commercial planting. Leaf distortion was most likely due to thrips damage. Leaf distortion and prominent bronzing were the first symptoms observed in May and June, when temperatures were approximately 25 C. These symptoms were less evident on new growth in July and August, when ambient temperatures were about 35 C. The symptoms reappeared as the temperatures decreased in September. TSWV was detected in young shoot tissue and in leaf lesions by means of double-antibody sandwich ELISA using polyclonal antisera to TSWV-L+I, TSWV-L, TSWV-B3, and TSWV-CNPH. Symptoms of TSWV infection developed in mechanically inoculated *Gomphrena globosa* L., *Lycopersicon esculentum* Mill., *Nicotiana benthamiana* Domin., *N. tabacum* L. 'Xanthi-nc', and *Petunia* × *hybrida* Hort. Vilm.-Andr. *Frankliniella occidentalis* (Pergande), a vector of TSWV, was also associated with the greenhouse plants.

Use of Biotinylated RNA Probes and Enzyme-Linked Immunosorbent Assays to Detect Soilborne Wheat Mosaic Virus in Field-Grown Red Winter Wheat. P. T. Himmel, L. L. Domier, and A. D. Hewings, USDA-ARS, Department of Plant Pathology, University of Illinois, Urbana 61801. Plant Dis. 77:536, 1993. Accepted for publication 20 December 1992.

Soilborne wheat mosaic virus (SBWMV) was detected in roots and shoots of field-grown soft red winter wheat by double-antibody sandwich enzyme-linked immunosorbent assay (DAS-ELISA [2]) and dot blot hybridization assays with a biotinylated RNA probe (1) in four resistant (Caldwell, Purdue 79424 H 1-20-2-74, IL 87-7394, and IL 85-2655) and four susceptible (Cardinal, Rosette, Michigan Amber, and Maryland 75-266-46) cultivars during 1990–1991. For dot blots, crude plant sap was denatured, spotted onto nitrocellulose filters (1) and hybridized to a biotinylated RNA probe transcribed in vitro from a randomly primed SBWMV cDNA clone. The chromagenic substrates, nitroblue tetrazolium and 5-bromo-4-chloro-3-indoyl phosphate, were substituted for the chemiluminescent (1). ELISA and dot blots both showed a higher incidence of SBWMV infection in susceptible cultivars than in resistant cultivars, confirming a previous report using DAS-ELISA alone (2). For both groups of cultivars, incidence of SBWMV infection was highest in roots before dormancy and in shoots after dormancy. A paired t test showed no significant difference in incidence of SBWMV determined by ELISA and dot blots, indicating that even with the chromogenic assay, the dot blot assay was as sensitive as ELISA for detecting SBWMV.

References: (1) H. Fouley et al. J. Virol. Methods 39:291, 1992. (2) P. T. Himmel et al. Plant Dis. 75:1008, 1991.

***Gaeumannomyces graminis* var. *graminis* Infecting St. Augustinegrass Selections in Southern California.** H. T. Wilkinson and D. Pedersen, Department of Plant Pathology, University of Illinois, Urbana 61801. Plant Dis. 77:536, 1993. Accepted for publication 28 December 1992.

A patch disease of St. Augustinegrass (*Stenotaphrum secundatum* (Walter) Kuntze) was observed in southern California in October 1991 at a site 32 km from the Pacific Ocean. The disease was observed after daily air temperatures averaged 25 ± 5 C for several weeks. The turf was routinely irrigated, resulting in continuously moist soil. A *Gaeumannomyces*-like fungus presumed to be *G. graminis* (Sacc.) Arx & D. Olivier var. *graminis* was isolated from all turf samples with yellowed leaves and root necrosis. The fungus produced extensive ectotrophic mycelia with distinctly lobed hyphopodia in culture and on the lower stems, roots, rhizomes, and stolons of infected St. Augustinegrass, as previously described (1,2). *G. g. graminis* was isolated from the following symptomatic selections of St. Augustinegrass: DelMar, Jade, Dalsa 8401, Mercedes, MSA (2, 11, 20), Bitterblue Standard, California Common, Scott's (138, 770, 2090), Sunclipse, Raleigh, Milberger M1, FX33, Seville, and Floratam. This is the first report of *G. g. graminis* infecting St. Augustinegrass in California.

References: (1) M. L. Elliott and P. J. Landschoot. Plant Dis. 75:238, 1991. (2) J. Walker. Trans. Br. Mycol. Soc. 58:427, 1972.

Corynespora Leaf Spot of Poinsettia in Louisiana. G. E. Holcomb, Department of Plant Pathology and Crop Physiology, and D. L. Fuller, Burden Research Plantation, Louisiana Agricultural Experiment Station, Louisiana State University Agricultural Center, Baton Rouge 70803. Plant Dis. 77:537, 1993. Accepted for publication 26 January 1993.

Leaf spots that ranged from brown, necrotic specks with chlorotic halos to brown target spots (8 mm in diameter) with halos were observed on small (12 cm tall) poinsettia (*Euphorbia pulcherrima* Willd. ex Klotzsch) plants from a commercial greenhouse in September 1992. Conidia of *Corynespora cassiicola* (Berk. & M. A. Curtis) C. T. Wei were observed on both upper and lower leaf spot surfaces. The fungus was isolated on 2% water agar and transferred to potato-dextrose agar, where it sporulated abundantly. Typical target spot lesions developed after about 10 days on healthy poinsettia plants that had been mist-inoculated with aqueous conidial suspensions. *C. cassiicola* was reisolated from lesions on these plants. This is the first report of target spot of poinsettia in Louisiana and the first report where the principal disease manifestion was leaf spots on immature plants rather than bract spots on more mature plants (1).

Reference: (1) A. R. Chase and G. W. Simone. Plant Dis. 70:1074, 1986.

First Report of Leaf Scald, Caused by *Xanthomonas albilineans*, of Sugarcane in Louisiana. M. P. Grisham and B. L. Legendre, USDA-ARS, Sugarcane Research Unit, Houma, LA 70361, and J. C. Comstock, USDA-ARS, Sugarcane Field Station, Canal Point, FL 33438. Plant Dis. 77:537, 1993. Accepted for publication 9 March 1993.

Mature sugarcane (*Saccharum* interspecific hybrids) stalks showing symptoms of leaf scald, caused by *Xanthomonas albilineans* (Ashby) Dowson, were observed on 3 November 1992 at the Sugarcane Research Unit's farm near Houma, Louisiana, and subsequently on three commercial farms. Chlorosis, necrotic lesions, and narrow white streaks on the leaves; side shoots resulting from germination of lateral buds; and reddening of vascular bundles were typical of the disease. Diagnosis was confirmed by tissue-blot immunoassay (antiserum to serovar 1 of *X. albilineans* provided by Anne Alvarez of the University of Hawaii). *X. albilineans* (verified by C. A. Clark of Louisiana State University) was isolated from internal stalk tissues and leaf tissue with white streaks. The leaf whorls of 2-mo-old sugarcane plants were cut approximately 5 cm above the terminal bud and inoculated with our isolate of *X. albilineans*. The pathogen was reisolated from typical narrow white streaks that appeared on the leaves after 2 wk. This is the first report of leaf scald of sugarcane in Louisiana. The disease can cause significant losses in cane yield and juice quality in susceptible cultivars.

First Report of Fusarium Wilt of Basil in California. R. M. Davis and K. D. Marshall, Department of Plant Pathology, University of California, Davis 95616, and J. Valencia, Cooperative Extension, Stanislaus County, Modesto, CA 95355. Plant Dis. 77:537, 1993. Accepted for publication 8 March 1993.

In 1992, severe losses occurred in several fields of basil (*Ocimum basilicum* L.) in Stanislaus and San Joaquin counties, California. Symptoms included wilting, partial to total defoliation, stem necrosis, and extensive vascular discoloration above and below the ground. Many plants died. *Fusarium oxysporum* Schlechtend.:Fr. was consistently recovered from stems of affected plants. Pathogenicity tests with four isolates were completed on 3-wk-old basil transplants dipped in aqueous suspensions of 1×10^3 or 10^6 conidia per milliliter. Noninoculated plants served as controls. Tests were repeated twice for each isolate. Within 2 wk, inoculated plants were wilted, stunted, and discolored internally. *F. oxysporum* was recovered from only the inoculated plants. This report of Fusarium wilt of basil in California follows the first U.S. report of the disease in 1990 in Massachusetts (1).

Reference: (1) R. L. Wick and P. Haviland. Plant Dis. 76:323, 1992.

A New Postharvest Disease of Citrus in California Caused by *Penicillium ulaiense*. G. J. Holmes and J. W. Eckert, Department of Plant Pathology, University of California, Riverside 92521; and J. I. Pitt, CSIRO Food Research Laboratory, P.O. Box 52, North Ryde, New South Wales, Australia 2113. Plant Dis. 77:537, 1993. Accepted for publication 23 February 1993.

A *Penicillium* sp. pathogenic to citrus fruits went unrecognized for many years in California. Persons familiar with green and blue molds of citrus, caused by *Penicillium digitatum* (Pers.:Fr.) Sacc. and *P. italicum* Wehmer, respectively, had mistaken the fungus for *P. italicum* and dismissed its unique features as variations due to particular environmental conditions. Interest in this fungus arose when it was found to be relatively insensitive to imazalil, thiabendazole, and *o*-phenylphenol, the three principal fungicides used in California citrus packinghouses. Koch's postulates were fulfilled, and the new pathogen was confirmed as a *Penicillium* sp., but it did not fit any species description in several monographs on this genus. Hsieh et al (1) had previously described a synnematous *Penicillium* sp., isolated from a rotting orange in Taiwan, which they named *P. ulaiense* Hsieh, Su, & Tzean. The unknown *Penicillium* sp. isolated in California matched well with the type culture of *P. ulaiense* with respect to growth rates on standard media, colony texture and color, and micromorphological features, and thus the two are considered synonymous. *P. ulaiense* is distinguished from *P. digitatum* by its blue-gray spore mass and from *P. italicum* by its ability to form synnemata (1–7 mm tall) with white stalks. These characteristics and a relatively slow growth rate (about 30–40% that of *P. italicum*) can be used to identify *P. ulaiense* on fruit, malt-extract agar, or potato-dextrose agar. The common name "whisker mold" of citrus is proposed, based on the whiskerlike appearance of the synnemata on fruit. *P. ulaiense* was isolated with great frequency in California citrus packinghouses. Thirty isolates were collected in April and May 1992 from grapefruit (*Citrus* × *paradisi* Macfady), orange (*C. sinensis* (L.) Osbeck), and lemon (*C. limon* (L.) N. L. Burm.) at eight different packinghouses in southern California. *P. ulaiense* was usually found in mixed infections with *P. digitatum*. In California, *P. ulaiense* has not been collected in citrus groves, despite numerous attempts to do so. Because isolates of *P. ulaiense* collected in California are resistant to postharvest citrus fungicides, selection pressure may be responsible for their detection in packinghouses only.

Reference: (1) H.-M. Hsieh et al. Trans. Mycol. Soc. Repub. China 2:157, 1987.

First Report of Phytophthora Root Rot, Caused by *Phytophthora cinnamomi*, on *Taxus* Species in Ohio. M. A. Ellis, S. A. Miller, and K. D. Cochran, Department of Plant Pathology, The Ohio State University, OARDC, Wooster 44691. Plant Dis. 77:537, 1993. Accepted for publication 28 December 1992.

During the summer of 1991, several accessions in the *Taxus* collection at Secrest Arboretum, OARDC, Wooster, Ohio, showed foliar chlorosis, reduced growth, and eventual dieback of the aerial portions of affected plants. In October 1991, *T. cuspidata* Siebold & Zucc. 'TV Spreading' and *T.* × *media* Rehd. 'F & F Compacta', 'Mitiska Upright', and 'Wilsonii' were dug and the roots examined. Brown to brick-red lesions were observed on roots of all plants showing aboveground symptoms. *Phytophthora cinnamomi* Rands was recovered from several lesions on each plant. Koch's postulates were completed by inoculating 2-yr-old transplants of *T.* × *media* 'Densiformis'. Bare-rooted plants were planted in pots in a peat-sand-soil mix containing oat kernels infested with *P. cinnamomi*; seedlings planted in soil containing noninfested oat kernels served as controls. The growing medium in pots was saturated with water each day, but plants were not maintained under flooded conditions. After 12 wk, all inoculated plants were dead, and *P. cinnamomi* was recovered from lesions on roots of all inoculated plants. Symptoms similar to those described for this disease are becoming increasingly common on *Taxus* spp. in many regions of Ohio. The disease has been reported in Indiana (1).

Reference: (1) L. R. Schreiber et al. Plant Dis. Rep. 43:814, 1959.