Disease Notes

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First Report of Leaf Rust of Blueberry Caused by *Pucciniastrum vaccinii* in Argentina. G. Dal Bello and A. Perelló. Facultad de Ciencias Agrarias y Forestales de la Universidad Nacional de La Plata, Fitopatología, CIC-CONICET. 60 y 119 (1900) La Plata, Buenos Aires, Argentina. Plant Dis. 82:1062, 1998; published on-line as D-1998-0619-01N. 1998. Accepted for publication 16 June 1998.

During March, 1997, a leaf rust was observed on *Vaccinium corymbosum* L. cv. Bluegold in Argentina. Leaf lesions began as chlorotic flecks that expanded and developed into necrotic spots with several uredinia. The typical orange pustules of the disease developed mostly on the abaxial sides of leaves. Urediniospores were elliptical to obovate (17 to 28 × 11 to 23 µm) and finely verrucose. Telia were round, covered by the epidermis, slightly elevated, and brown to black. Teliospores were sessile and oblong to columnar (7 to 11 × 14 to 17 µm) with two or more vertical cell walls, and were smooth and brown. Urediniospore and teliospore morphology and dimensions were consistent with the description of *Pucciniastrum vaccinii* (G. Wint.) Jørst (syn. *P. myrtilli* Arth.) (1). A pathogenicity test was conducted with 18-month-old cv. Bluegold plants. Fully expanded leaves were sprayed, using a hand-held sprayer, with freshly collected urediniospores (1 mg of spores per ml of 0.05% water solution of Tween 20), covered with plastic bags, and placed in a growth chamber at 20°C for 48 h with 12 h of light per day. The plastic bags were then removed and the plants mantained in a greenhouse. After 10 days, orange rust pustules similar to the original symptoms developed on all plants. As the rust was not reported on ornamental Ericaceae in Argentina, and hemlock, the alternate host, is not present in the area, it is suggested that *P. vaccinii* is cycling on blueberry. This is the first report of *P. vaccinii* on blueberry in Argentina.

Reference: (1) P. R. Bristow and A. W. Stretch. 1995. Pages 20-22 in: Compendium of Blueberry and Cranberry Diseases. F. L. Caruso and D. C. Ramsdell, eds. American Phytopathological Society, St. Paul, MN.

* **First Report of *Fusarium sambucinum, F. oxysporum,* and *F. subglutinans* Associated with Stem Decay of *Amaranthus hybridus* in South Africa.** J. T. Blodgett and W. J. Swart. Department of Plant Pathology; and S. vdM. Louw, Department of Zoology and Entomology, University of the Free State, Bloemfontein 9300, South Africa. Plant Dis. 82:1062, 1998; published on-line as D-1998-0622-01N, 1998. Accepted for publication 18 June 1998.

Amaranthus hybridus (common name: amaranth) is a fast-growing crop with nutritious leaves and seeds that is cultivated in semi-arid regions throughout the world. In South Africa, cultivation of this crop as a leafy vegetable is increasing. In autumn 1997, extensive tissue discoloration and decay were observed in branches, stems, and root collars of mature *A. hybridus* in Bloemfontein, Free State Province. Symptoms included discolored phloem, xylem, and pith, black cankers, and weakened stems prone to wind breakage. Examination of these tissues revealed larval galleries of the pigweed weevil (*Hypolixus haerens*), the main insect pest of *A. hybridus* in South Africa (1). Six-month-old *A. hybridus* stems were split and small samples of discolored tissue adjacent to the larval galleries of each stem and the associated larvae were placed aseptically on corn-meal agar containing streptomycin and incubated for 4 to 7 days. The seven fungi most frequently isolated from discolored stem tissues (n = 166) were *Fusarium subglutinans* (46%), a *Phomopsis* sp. (11%), *Alternaria alternata* (10%), *F. oxysporum* (9%), *F. solani* (5%), a *Phoma* sp. (5%), and *F. sambucinum* (4%). The nine fungi most frequently isolated from larvae (n = 90) were *F. subglutinans* (46%), *F. solani* (8%), *F. equiseti* (8%), *F. oxysporum* (7%), *A. alternata* (6%), a *Phomopsis* sp. (4%), *F. proliferatum* (3%), *F. sambucinum* (2%), and a *Phoma* sp. (2%). Stems of greenhouse-grown *A. hybridus* were inoculated with the seven most common species isolated from the discolored stem tissues. One isolate of each species was used. Inoculations involved wounding stems by removing approximately 36 mm^2 of the epidermis 5 cm above the soil, placing a colonized water agar plug on the wound, and wrapping Parafilm around the stems at the wound site. Wounded and nonwounded (untreated) controls were also included. A noncolonized water agar plug was applied to wounded controls but not to nonwounded controls. Ten plants per isolate and 10 wounded and nonwounded control plants were used in each of two separate trials (180 total plants). Treatments were assigned randomly. Four weeks after inoculation, canker lengths were measured and stem sections were surface disinfected and transferred to water agar plates. The presence of the fungi was confirmed after 20 days. Only *F. sambucinum, F. oxysporum,* and *F. subglutinans* caused cankers with frequencies of 100, 100, and 65% (n = 20), and mean lesion lengths of 30, 26, and 10 mm, respectively. Lesions were never observed on either of the controls. Discoloration and cankers were similar to that observed in the field. *F. sambucinum, F. oxysporum,* and *F. subglutinans* were recovered from 65, 50, and 60% of the tissues, respectively, and none of the *Fusarium* spp. were recovered from the control treatments (n = 20 for all). In artificial inoculations, these species can act as pathogens independent of the pigweed weevil and are likely the cause of the discoloration, decay, and cankers observed in branches, stems, and root collars of mature *A. hybridus*. However, there are no prior reports of a *Fusarium* sp. causing disease on *A. hybridus,* and *H. haerens* larvae were observed in all symptomatic stems in the field. Further studies are needed to determine the potential for significant disease loss associated with this insect-fungal association and the potential role of these fungi in further weakening *Amaranthus* stems that are colonized by *H. haerens*.

Reference: (1) S. vdM. Louw et al. Afr. Crop Sci. J. 3:93, 1995.

Leafroll Virus Is Common in Cultivated American Grapevines in Western New York. W. F. Wilcox, Z.-Y. Jiang, and D. Gonsalves, Department of Plant Pathology, Cornell University, New York State Agricultural Experiment Station, Geneva 14456. Plant Dis. 82:1062, 1998; published on-line as D-1998-0702-01N, 1998. Accepted for publication 30 June 1998.

American grapevines (*Vitis labrusca* L. 'Niagara'; *Vitis* × *labruscana* L. H. Bailey 'Concord' and 'Catawba'; *V. labrusca* × *V. riparia* Michx. 'Elvira') from 24 vineyards in the New York portion of the Lake Erie production region (>13,000 ha cultivated) were tested to explore a possible relationship between virus infection and an unexplained fruit set malady in the district. One-year-old cane segments were collected 4 to 6 weeks before budbreak from 65 individual vines, which previously had been identified as malady positive or negative. Preparations from bark scrapings were tested for the presence of double-stranded (ds) RNA and for fan leaf degeneration virus, tobacco streak virus, and grapevine leafroll associated closterovirus-3 (GLRaV-3) by enzyme-linked immunosorbent assay (ELISA). Mechanical transmission of other potential viruses to *Chenopodium quinoa* was attempted with sap extracted from young shoots forced from intact segments of sampled canes. GLRaV-3 was detected in 17 (26%) of the sampled vines from eight (33%) of the vineyards, but there was no apparent relationship between infected vines and the fruit set malady. Vines of all four cultivars were infected. dsRNA was detected in all 17 samples positive for GLRaV-3 plus four additional samples. No other viruses were detected. Near harvest, nine vines (from two vineyards) previously testing positive for GLRaV-3 were examined and retested; all nine tested positive again, although none showed any overt symptoms of viral infection. This is believed to be the first report of GLRaV-3 from American grape vineyards in New York. The source of these infections is unknown: all vines were self rooted, the individual vineyards had been planted independently at different times, and *V. vinifera* and its hybrids are rare in the district. Wild grapevines (primarily *V. riparia*) are abundant in the region, although it has been reported that leafroll disease does not occur naturally in wild North American grapes (1). Nevertheless, our results indicate that cultivated American grapevines can be common reservoirs of GLRaV-3, and furthermore suggest the need to reassess the possibility that wild grapes also may serve as reservoirs of the virus. Trials are currently underway to determine possible effects of GLRaV-3 on cv. Concord, the most widely planted variety in the region.

Reference: (1) A. C. Goheen. 1988. Leafroll. Page 52 in: Compendium of Grape Diseases. R. C. Pearson and A. C. Goheen, eds. American Phytopathological Society, St. Paul, MN.

(*Disease Notes* continued on next page)

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