Disease Notes *(continued)*

First Report of Root Rot Caused by *Rhizoctonia solani* AG-10 on Canola in Washington State. K. L. Schroeder, Department of Plant Pathology, Washington State University, Pullman 99164-6430; and T. C. Paulitz, USDA-ARS, Pullman, WA 99164-6430. Plant Dis. 96:584, 2012; published online as http://dx.doi.org/10.1094/PDIS-09-11-0809-PDN. Accepted for publication 23 January 2012.

Canola (*Brassica napus* L) production has gained renewed interest in Washington State over the past few years, primarily for the purpose of producing biofuel. Plants were observed to be showing symptoms of Rhizoctonia root rot and postemergence damping-off. In many cases, this was due to *Rhizoctonia solani* AG-2-1, which was previously documented (4). However, additional plants were occasionally observed that were stunted and had reduced vigor, but lacked the distinctive severe stem damage and postemergence damping-off, which are both symptoms of infection with *R. solani* AG-2-1. Isolates of *R. solani* AG-10 were collected from symptomatic plants or baited from root zone soil at various dryland production locations in eastern Washington, including sites near Colfax, Pullman, and Walla Walla. Initial identification was determined by quantitative (Q)-PCR using *R. solani* AG-10 specific primers (3). The identity was verified by sequencing random isolates identified by Q-PCR (GenBank Accessions Nos. JQ068147, JQ068148 and JQ068149). All sequenced isolates had 99% identity to previously reported isolates of *R. solani* AG-10. Six isolates were chosen to test pathogenicity on canola plants in the greenhouse. Sterilized oats were inoculated with each of six isolates of *R. solani* AG-10 and grown for 4 weeks. The soil was infested with ground oat inoculum (1% wt/wt) and spring canola cv. Sunrise was seeded into 3.8 × 21-cm containers. After 3 weeks of incubation at 15°C, plants were harvested and assessed. Emergence was reduced in the infested soil with 73 to 93% (average 81%) emergence compared with 100% emergence in the noninfested soil. There was no evidence of postemergence damping-off. However, all six isolates of *R. solani* AG-10 significantly reduced the plant height and top dry weights compared with the noninfested controls. The plant height in infested soil was 28 to 42% (average 34%) shorter and top dry weights were 37 to 70% (average 54%) lower than in noninfested soil. Roots of infected plants had a light brown discoloration along with reduced length and fewer lateral roots. Additional host plants were tested, including wheat (*Triticum aestivum* L.), barley (*Hordeum vulgare* L.), pea (*Pisum sativum* L.), chickpea (*Cicer arietinum* L.), and lentil (*Lens culinaris* Medik.). There was no significant reduction in plant height or plant dry weight for any of these hosts. *R. solani* AG-10 was previously found to be weakly virulent on canola and other cruciferous hosts in Australia (1,2). To our knowledge, this is the first report of *R. solani* AG-10 causing disease on canola in Washington State.

Reference: (1) R. K. Khangura et al. Plant Dis. 83:714, 1999. (2) G. C. MacNish et al. Australas. Plant Pathol. 24:252, 1995. (3) P. A. Okubara et al. Phytopathology 98:837, 2008. (4) T. C. Paulitz et al. Plant Dis. 90:829, 2006.

First Report of *Fusarium verticillioides* Causing Stalk and Root Rot of Sorghum in Spain. D. Palmero, J. Gil-Serna, and L. Gálvez, Universidad Politécnica de Madrid (UPM), EUIT Agrícola, Ciudad Universitaria s/n. 28040 Madrid, Spain; M. D. Curt, Universidad Politécnica de Madrid (UPM), ETSI Agrónomos, Ciudad Universitaria s/n. 28040 Madrid, Spain; and M. De Cara and J. Tello, Universidad de Almería (UAL), Departmento Producción Vegetal, Cañada de San Urbano s/n. 04120 Almería, Spain. Plant Dis. 96:584, 2012; published online as http://dx.doi.org/10.1094/PDIS-11-11-0958-PDN. Accepted for publication 25 January 2012.

Sweet sorghum (*Sorghum bicolor* L.) is considered one of the most promising crops for bioethanol production in many countries and is a focus of bioenergy research worldwide. In July 2011, plants of the sweet sorghum cv. Suchro 506 in Oropesa (Toledo, Spain, 40.048577°N, 5.360298°W) (European Datum 1950 UTM zone 30 N) were observed with severe wilting. Upon examination, the lower internodes were found to be straw colored. When the plant was split, the internal pith was reddish, soft, and disintegrating. Small pieces of symptomatic stems and roots were surface disinfected in sodium hypochlorite (0.5% wt/vol) for 2 min and air dried. The sections were then placed on either PDA (potato dextrose agar) medium or Komada agar and incubated for 5 days at 25°C. Isolations from diseased stem and root tissue consistently yielded *Fusarium verticillioides* (Sacc.) Nirenberg (3). The small, hyaline, mostly single-celled, oval to club-shaped microconidia of *F. verticillioides* were produced in long catenate chains arising from monophialides. PCR amplification of the ITS1-5.8S-ITS2 was performed using the primers and protocols described elsewhere (4) and the fragments obtained were subsequently sequenced in both directions. Sequences were deposited in the EMBL Sequence Database (Accession Nos. HE652878, HE652879, HE652880, and HE652881). Four of the recovered *F. verticilliodes* isolates were tested in pathogenicity assays. One-week-old cultures of each isolate were homogenized in 400 ml of sterile water and 200 ml were used to inoculate water-growth-chamber-grown plants in 500-ml pots. Two pots each with three plants of cv. Suchro 506 were inoculated for each isolate. Water with sterile PDA was used as a control. All plants were kept at 20 to 25°C under a photoperiod of 14 h at 12,000 lux. After 21 days, above- and belowground parts were dried for 24 h at 60°C. Total length and dry weight of both sections were obtained. Inoculated plants produced root rot symptoms characteristic of *F. verticillioides* with dark red discolorations of the cortex of seedling roots (1), whereas the plants watered with water containing only PDA did not produce symptoms. Inoculated plants also had a decrease in dry weight for above- and belowground sections (P = 0.05) compared with the control with 43 and 47% reductions, respectively. The length of aerial parts was approximately 5% less in inoculated plants compared with control plants. *F. verticillioides* was reisolated from all inoculated plants. Sorghum stalk and root rot caused by *F. verticillioides* has been reported in different countries including India (2) and the United States (3). To our knowledge, this is the first report of *F. verticillioides* causing stalk and root rot of sorghum in Spain. An increase of production of this crop is expected to meet targets of the renewable energy share in Spain and any disease compromising yield may be a threat to this endeavour.

References: (1) R. A. Frederiksen and G. N. Odvody. Compendium of Sorghum Diseases. The American Phytopathological Society. St. Paul, MN, 2000. (2) N. N. Khune et al. Indian Phytopathol. 37:316, 1984. (3) J. F. Leslie and B. A. Summerell. The *Fusarium* Laboratory Manual. Blackwell Publishing, Ames, IA, 2006. (4) T. J. White et al. PCR Protocols: A Guide to Methods and Applications. M. A. Innis et al., eds. Academic Press, New York, 1990.

First Report of Volutella Blight on Pachysandra Caused by *Volutella pachysandricola* in China. Q. Bai and Y. Xie, Laboratory of Plant Pathology, College of Agronomy, Jilin Agricultural University, Changchun 130118, Jilin Province, P. R. China; R. Dong, College of Horticulture, Jilin Agricultural University, Changchun 130118, Jilin Province, P.R. China; J. Gao, Laboratory of Plant Pathology, College of Agronomy, Jilin Agricultural University, Changchun 130118, Jilin Province, P.R. China; and Y. Li, Engineering Research Center of Chinese Ministry of Education for Edible and Medicinal Fungi, Jilin Agricultural University, Changchun 130118, Jilin Province, P. R. China and Laboratory of Plant Pathology, College of Agronomy, Jilin Agricultural University, Changchun 130118, Jilin Province, P. R. China. Plant Dis. 96:584, 2012; published online as http://dx.doi.org/10.1094/PDIS-11-11-0997. Accepted for publication 30 December 2011.

Pachysandra (*Pachysandra terminalis*, Buxaceae) and Japanese Pachysandra, also called Japanese Spurge, is a woody ornamental groundcover plant distributed mostly in Zhejiang, Guizhou, Henan, Hubei, Sichuan, Shanxi, and Gansu provinces in China. In April 2010, *P. terminalis* asymptomatic plants were shipped from Beijing Botanical Garden Institute of Botany Chinese Academy of Science to the garden nursery of Jilin Agricultural University (43°48′N, 125°23′E), Jilin Province. In June 2011, Volutella blight (sometimes called leaf blight and stem canker) of *P. terminalis* was observed on these plants. Infected leaves showed circular or irregular, tan-to-brown spots often with concentric rings and dark margins. The spots eventually grew and coalesced until the entire leaf died. Cankers appeared as greenish brown and water-soaked diseased areas, subsequently turning brown or black, and shriveled and often girdled the stems and stolons. During wet, humid weather in autumn, reddish orange, cushion-like fruiting structures of the fungus appeared on the stem cankers and undersides of leaf spots. Symptoms of the disease were consistent with previous descriptions (2–4). Five isolates were obtained from necrotic tissue of leaf spots and cankers of stems and stolons and cultured on potato dextrose agar. The colony surface was salmon colored and slimy. Conidia were hyaline, one celled, spindle shaped, and 12.57 to 22.23 × 3.33 to 4.15 μm with rounded ends. Morphological characteristics of the fungus were consistent with the description by Dodge (2), and the fungus was identified as *Volutella pachysandricola* (telemorph *Pseudonectria pachysandricola*). The internal transcribed spacer (ITS) regions of the nuclear rDNA were amplified using