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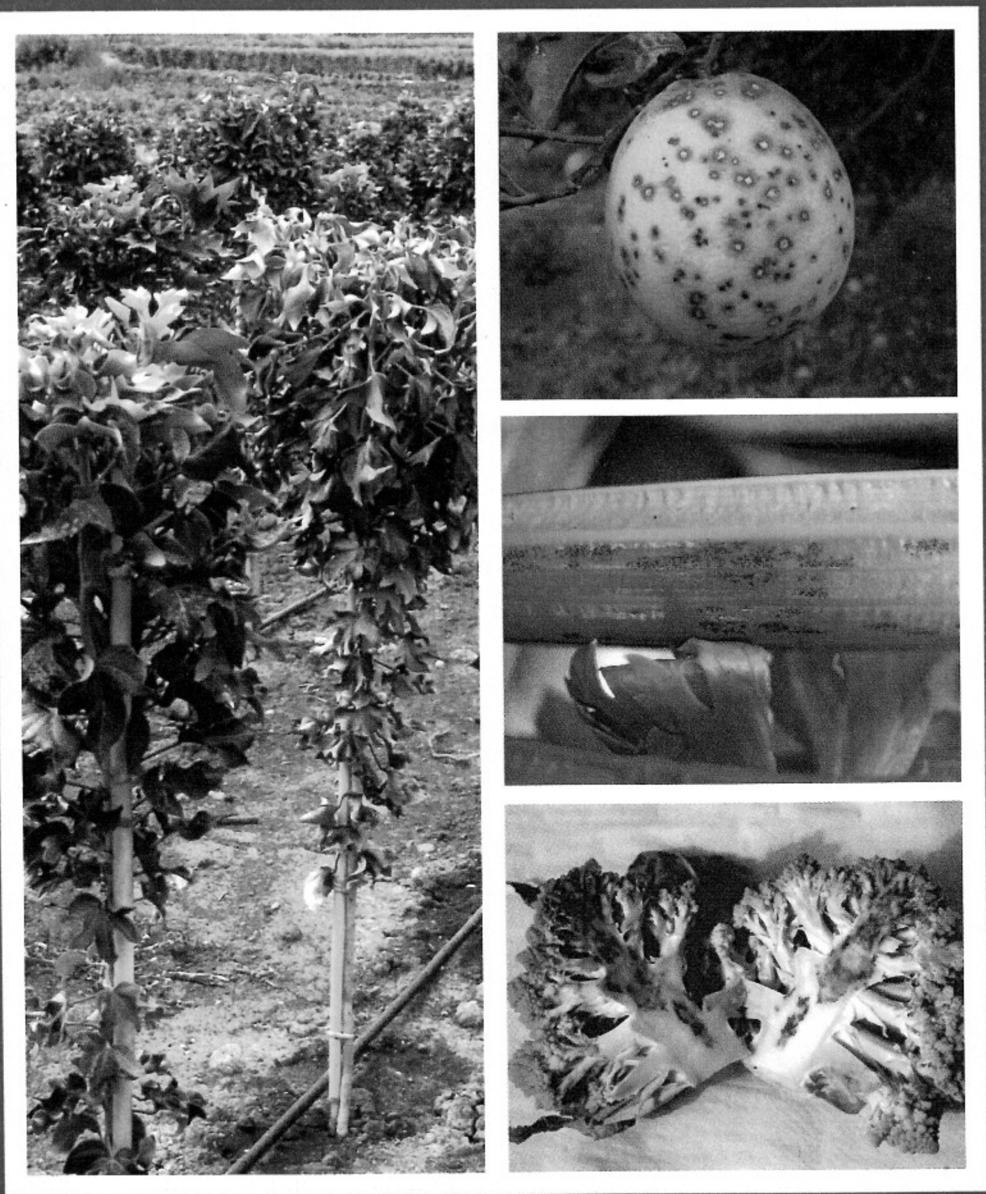

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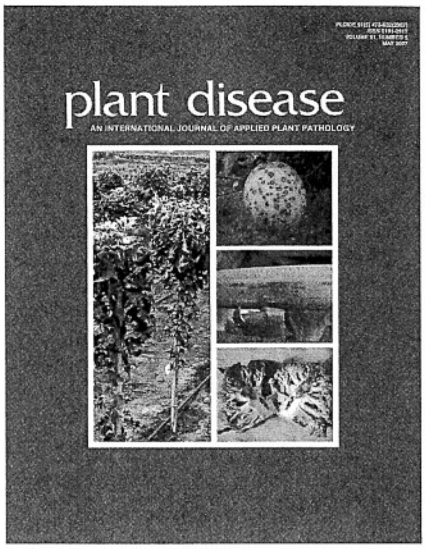

COVER

(*Clockwise from upper right*): Hard spot type lesions of black spot on citrus caused by *Guignardia citricarpa* (photo by N. A. Peres, see page 525); late blight of celery caused by *Septoria apiicola* (courtesy R. S. Bounds and M. K. Hausbeck, see page 532); head rot of cauliflower caused by *Pseudomonas fluorescens* (courtesy P. Lo Cantore, see page 638); southern blight of English ivy caused by *Sclerotium rolfsii* (courtesy S. O. Cacciola, see page 635).

The description of the bottom image on the April cover should be "brown rot on cherry caused by *Monilinia fructicola*."

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FOCUS

FEATURE

RESEARCH

Disease Notes (*continued*)

e-Xtra*

First Report of Head Rot of *Brassica oleracea* convar. *botrytis* var. *italica* Caused by *Pseudomonas fluorescens* in Southern Italy. P. Lo Cantore and N. S. Iacobellis. Dipartimento di Biologia, Difesa e Biotecnologie Agro-Forestali, Università degli Studi della Basilicata, Viale dell'Ateneo Lucano 10, 85100 Potenza, Italy. Plant Dis. 91:638, 2007; published online as doi:10.1094/PDIS-91-5-0638A. Accepted for publication 8 February 2007.

During the winter of 2004, symptoms were observed in commercial cauliflower (*Brassica oleracea* L. convar. *botrytis* (L.) Alef. var. *italica*) fields of "romanesco" type (cv. Navona) in Apulia, southern Italy. These symptoms were noted on inflorescences that were almost ready for harvest, and a bacterial etiology was suspected. In particular, the corymbs showed water-soaked and brown discolored areas which then rotted. The above alterations involved the whole inflorescences, or in some cases, only a few florets. Longitudinal sections of the symptomatic inflorescences or the single floret showed brown discoloration and rotting of the internal tissues. The disease caused severe crop losses (approximately 100% either in the field or after harvest). Bacteria were isolated from water-soaked and soft-rotted cauliflower heads on King's medium B (KB). The strains were purified on nutrient agar and assayed for pathogenicity on subcorymbs from freshly harvested cauliflower heads. Bacterial suspensions containing approximately 10^8 CFU/ml were then sprayed on the surface of subcorymbs (3 subcorymbs per strain). Furthermore, in other pathogenicity assays, the florets were dipped in 10^8 CFU/ml bacterial suspensions or small aliquots of inoculum were injected into the peduncle of subcorymbs with a sterile syringe. Cauliflower heads treated with sterile distilled water were used as controls. After inoculation, the subcorymbs were maintained at 25°C and approximately 100% relative humidity for 48 h. All bacterial strains either applied to cauliflower subcorymbs by spray inoculation or dipping reproduced the disease symptoms. Intensity of symptoms varied with the inoculation method. Injection of bacteria caused water soaking and soft rot of cauliflower internal tissues. No symptoms were observed in negative control subcorymbs inoculated with sterile water. All bacterial strains were gram negative and fluorescent on KB. Isolates (17 of 18) showed the LOPAT characters of group Vb (++–+–) fluorescent pseudomonads, and only strain USB1237 showed characters of group IVb (–+++–) (3). The pectolytic activity of the latter strain was confirmed by the pectinase plate assay (4). The identity of representative strains was confirmed by the nutritional profile obtained with the Biolog Identification System (MicroLogTM System Release 4.2; Biolog, Inc., Hayward, CA). Strains USB1224, USB1226, USB1228, USB1231, USB1235, USB1236, USB1238, and USB1239 were identified as *Pseudomonas fluorescens* with similarity indices of 0.86, 0.52, 0.73, 0.81, 0.73, 0.74, 0.69, and 0.85, respectively. The pectolytic strain USB1237 was identified as a *Pseudomonas* spp. that is closely related to *P. putida* (similarity index = 0.45). In conclusion, the above results indicate that *P. fluorescens* is responsible for head rot of cauliflower. A similar disease has been previously reported on broccoli in different areas (1,2), but to our knowledge. this is the first report of head rot of cauliflower caused by *P. fluorescens*.

References: (1) C. H. Canaday et al. Phytopathology 77:1712, 1987. (2) P. D. Hildebrand. Can. J. Plant Pathol. 8:350, 1986. (3) R. A. Lelliott and D. E. Stead. Methods for the diagnosis of bacterial diseases of plants. In: Methods in Plant Pathology. Vol. 2, T. F. Preece, ed. Blackwell Scientific Publications, Oxford, UK, 1987. (4) N. W. Schaad et al. Laboratory Guide for Identification of Plant Pathogenic Bacteria. The American Phytopathological Society, St. Paul, MN, 2001.

* The *e*-Xtra logo stands for "electronic extra" and indicates this Disease Note online contains supplemental material not included in the print edition.

First Report of Rust Caused by *Tranzschelia discolor* on Peach in Oman. M. L. Deadman, Y. Al Maqbali, A. Al Subhi, R. Al Yahyai, and A. Al Sa'di, Department of Crop Sciences, Sultan Qaboos University, Box 34, Al Khod 123, Oman; and M. C. Aime, USDA-ARS, SBML, 10300 Baltimore Ave, Beltsville, MD 20705. Plant Dis. 91:638, 2007; published online as doi:10.1094/PDIS-91-5-0638B. Accepted for publication 25 February 2007.

Peach (*Prunus persica* L.) is the primary fruit crop in parts of the northern mountainous regions of Oman. Local cultivars, propagated by seedling, are used to produce fruit for local markets and shade fodder crops planted underneath the peach canopy. In February of 2006, leaf samples showing rust signs and symptoms were collected from Balad Seet, 120 km southwest of Muscat. Angular, yellow spots were observed on leaf upper surfaces with orange sori on the undersides. The disease was observed to be affecting almost 100% of trees, with many leaves having more than 10 sori per leaf. Lesions producing urediniospores were also observed on twigs where spring growth had cracked. Urediniospores typical of *Tranzschelia discolor* (Fuckel) Tranzschel & M.A. Litv. were obovoid, echinulate, orange-brown, and measured on average 13 to 17 × 26 to 37 µm, with the cell wall 1.3 to 1.8 µm thick at the sides and as much as 5.8 µm thick at the apex. Golden capitate paraphyses were also present, measuring on average 35 to 57 µm long, head 13 to 16 µm in diameter, and tail 4.9 to 6.7 µm wide. Teliospores were not observed because of the time of year of collection. Pathogen identity was confirmed by analysis of a nuclear rDNA sequence spanning from the 5.8S through the ITS-2 into the first 1,000 bp of the 28S gene (1). A voucher specimen was deposited in the U.S. National Fungus Collection (BPI 875341). The voucher's rDNA sequence deposited in GenBank (Accession No. DQ995341) shared 100% sequence similarity with *T. discolor* (Accession No. DQ354542). Although *T. discolor* has a worldwide distribution (2), it has not previously been reported from Oman. Improving the quality of peach production in Oman is an agricultural priority because it boosts the economy of small-scale farms in the mountainous regions. This work will facilitate the current research aimed at evaluating cultivar response to rust disease.

References: (1) M. C. Aime. Mycoscience 47:112, 2006. (2) P. F. Bertrand. Rust. Page 23 in: Compendium of Stone Fruit Diseases. J. M. Ogawa et al., eds. The American Phytopathological Society, St Paul, MN, 1995.

Fusarium Wilt of Gerbera in Spain in Soilless Crops. A. Garibaldi and A. Minuto, Centre of Competence for the Innovation in the Agro-Environmental Sector (AGRINNOVA), Via Leonardo da Vinci 44, 10095 Grugliasco, Italy; A. M. Prados-Ligero, Protección de Cultivos, IFAPA Centro Córdoba, Apartado 3092, Cordoba, Spain; J. M. Melero-Vara, Protección de los Cultivos, IAS-Córdoba (CSIC), Apartado 4084, Cordoba, Spain; and M. L. Gullino, Centre of Competence for the Innovation in the Agro-Environmental Sector (AGRINNOVA), Via Leonardo da Vinci 44, 10095 Grugliasco, Italy. Plant Dis. 91:638, 2007; published online as doi:10.1094/PDIS-91-5-0638C. Accepted for publication 13 February 2007.

In 2004, gerbera (*Gerbera jamesonii* cv. Excellence) plants, grown for cut flowers, were observed in a soilless cultivation system (coconut fiber substrate) in one farm in the Cadiz area (southwestern Spain) exhibiting symptoms of a wilt disease. Gerbera represents a relevant crop for the industry in the region, after rose and carnation. Affected plants were stunted and developed yellow leaves with initially brown and eventually black streaks in the vascular system. The vascular streaks in the yellow leaves were continuous with a brown discoloration in the vascular system of the crown and upper taproot. In some cases, the leaves of affected plants turned red. *Fusarium* spp. was consistently and readily isolated from symptomatic vascular tissue of infected plants onto a *Fusarium*-selective medium (3). Colonies were identified as *F. oxysporum* after subculturing on potato dextrose agar on the basis of morphological observations. Pathogenicity tests were carried out by using two monoconidial isolates, compared with an Italian one, obtained from wilted gerbera plants. Each isolate of *F. oxysporum* was grown in shake culture (90 rpm) for 10 days on casein hydrolysate at 25°C with 12 h of fluorescent light per day. Healthy rooted 30-day-old plants (cv. Jaska), were inoculated by dipping roots into a conidial suspension (5×10^7 conidia/ml) in one of the three test isolates of *F. oxysporum*. Plants were transplanted (1 plant per pot) into pots (3.5 liter vol.) containing rockwool-based substrate. Noninoculated plants served as control treatments. Plants (15 per treatment) were grown in a glasshouse at an average day temperature of 30°C and night temperature of 24°C (minimum of 22°C and maximum of 41°C). Wilt symptoms and vascular discoloration in the roots, crown, and veins developed within 30 days on each inoculated plant, while noninoculated plants remained healthy. *F. oxysporum* was consistently reisolated from infected plants. The pathogenicity test was conducted twice. A wilt of gerbera was described in the Netherlands in 1952 (1) but its presence was not confirmed in further observations (4). Gerbera wilt was recently reported in Italy (2) and identified as *F. oxysporum* f. sp. *chrysanthemi* (A. Garibaldi, *personal communication*). Currently, the wilt of gerbera in Spain is limited to a few farms and a very limited percent (2 to 3%) of plants.

References: (1) J. Arx and J. A. von Tijdschr. PlZiekt. 58:5, 1952. (2) A. Garibaldi et al. Plant Dis. 88:311, 2004. (3) H. Komada. Rev. Plant Prot. Res. 8:114, 1975. (4) G. Scholten. Neth. J. Plant Pathol. 76:212, 1970.