First Report of Powdery Mildew on Carnation in California. G. S. Saenz, Department of Plant Biology, University of California, Berkeley 94720; and S. T. Koike, S. A. Tjosvold, and I. D. Greene, University of California Cooperative Extension, Salinas 93901. Plant Dis. 79:320, 1995; published on-line as D-1995-0130-01N, 1995. Accepted 19 January 1995.

In the summer months of 1994, commercially produced cutflower carnation (*Dianthus caryophyllus* L.) was found to be infected by a powdery mildew in Monterey County, California. Disease surveys indicated that powdery mildew was present in at least 5 different nurseries in the county. Not all cultivars surveyed were infected. The most commonly infected cultivars were Cerise, Vanessa, President, and Katia. Mycelia were found primarily on the calyces and floral bracts and at the junction of stem nodes and leaf bases. Growth was effuse to dense, and was amphigenous. Conidiophores were straight. Foot cells were cylindric, sometimes flexuous, 28–37 µ in length, followed by two slightly shorter cells, 16–28 µ in length. Hyphal appressoria were nipple-shaped to lobed. Conidia were cylindric, produced singly, and measured 34–42 × 14–16 µ. No fibrosin bodies were observed. Germ tubes were produced from the ends of the conidia, but no appressoria were formed. Cleistothecia were not present. The fungus was identified as *Oidium dianthi* Jacz (1,2). This is the first report of this disease on carnation in California.

References: (1) U. Braun. Nova Hedwigia 89:1, 1987. (2) W. B. Mercer. J. Royal Hortic. Soc. 41:227, 1915.

***Mycocentrospora cladosporioides* from Olive Drupes in Sardinia.** A. Bottalico and P. Corda, Istituto di Patologia vegetale dell'Università, Sassari, and A. Logrieco, Istituto tossine e micotossine del CNR, Bari, Italy. Plant Dis. 79:320, 1995; published on-line as D-1995-0130-03N, 1995. Accepted for publication 30 July 1994.

Mycocentrospora cladosporioides (Sacc.) P. Costa ex Deighton (syn. = *Cercospora cladosporioides* Sacc.) was isolated from drupes of olive (*Olea europaea* L.), oil cultivar Tondo, collected in olive-growing areas near Sassari, Italy, in January 1992. Diseased ripe drupes showed slightly sunken light brown spots scattered over the entire surface. The spots appeared depressed and regular in shape, without any halo. The conidia were produced on dark microstromata emerging through cracks in the epidermis when the fruits were incubated in a moisture chamber. The fungus was isolated in pure culture and reisolated from artificially infected drupes. The foliar disease (piombatura) caused by *M. cladosporioides* occurs in all olive-growing areas in Italy, but attacks of the fungus on fruit were rarely observed, and only in Sicily (1). The occurrence of *M. cladosporioides* on olive fruit in Sardinia was observed during an olive-ripening season characterized by humid weather and mild temperatures. The spots became increasingly significant on over ripened olive fruit.

Reference: (1) M. Favaloro. Inf. Fitopatol., 20:7, 1970.

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Detection of Tomato Spotted Wilt Tospovirus in Lentil. M. E. N. Fonseca, CENARGEN/EMBRAPA C. P. 02372, 70849-970; and L. S. Boiteux and A. C. de Avila, CNPH/EMBRAPA C. P. 0218, 70359-970; and M. I. Lima and E. W. Kitajima, Universidade de Brasilia, 70919-970 Brasilia (DF), Brazil. Plant Dis. 79:320, 1995; published on-line as D-1995-0130-02N, 1995. Accepted for publication 14 November 1994.

In July 1992, about 5% of field-grown lentil (*Lens culinaris* Medik.) plants in Brasilia-DF, central Brazil, were found to show symptoms of chlorosis and malformation of the apical leaves, ringspot lesions on pods, and stunting. Tomato spotted wilt tospovirus (TSWV) was detected in lentil by enzyme-linked immunosorbent assay with antiserum specific for TSWV (serogroup I) isolates (2). The tospovirus from lentil was mechanically transmitted to lentil cv. Precoz, tomato cv. Rutgers, and *Nicotiana rustica,* inducing in all three host plants necrosis of the new growth, necrotic (usually concentric) lesions on leaves, and an overall plant stunting. In *Capsicum chinense* Jacq. 'PI 152225' and 'PI 159236' lines, the tospovirus from lentil induced only a local lesion response that has previously been found to be a specific reaction against isolates of the serogroup I (1). Leaf samples were analyzed by transmission electron microscopy in leaf dip preparations and thin section of leaf tissues. Typical TSWV particles were found only in the infected plants. TSWV infection was also confirmed by the reverse transcriptase-polymerase chain reaction using a total nucleic acid extract preparation. Two primers (5'-TCAAGCAAGTTCTGCGAGTT-3') and (5'-ATGTCTAAGGTTAAGCTCAC-3') were designed to flank a 700 base pair sequence in the nucleoprotein gene region of TSWV genome (2). These 20-mer primers were used for cDNA synthesis and amplification. The authenticity of the amplified fragment observed in gel electrophoresis was confirmed after sequencing of these cloned fragments. The nucleotide sequences of these cDNAs presented a very high identity with the formerly published sequence of the TSWV-nucleoprotein gene (1). This is the first report of a disease of lentil caused by natural infection of TSWV. This new disease may be an important constraint for lentil in central Brazil because this crop is cultivated during the dry season (April–September), which corresponds to the highest infestation of viruliferous thrips in the region.

References: (1) L. S. Boiteux and A. C. de Avila. Euphytica 75:139, 1994. (2) A. C. de Avila et al. J. Gen. Virol. 74:153, 1993.

Viruses Affecting Running Buffalo Clover, *Trifolium stoloniferum*. O. P. Sehgal and L. Payne, Department of Plant Pathology, University of Missouri, Columbia 65211. Plant Dis. 79:320, 1995; published on-line as D-1995-0203-01N, 1995. Accepted for publication 27 January 1995.

Trifolium stoloniferum Muhl. ex A. Eaton was designated as an endangered species in the U.S. in 1987. There exists much interest in protecting it either through management of extant populations or by establishing new populations. In a test planting maintained by the Missouri Department of Conservation, several *T. stoloniferum* plants showed mottle and stunting symptoms. Two sap-transmissible viruses were recovered from these plants. One of these viruses was confirmed as a cucumovirus based on host range, shape, molecular weight of coat protein subunit, genome composition, and serology. In Ouchterlony double diffusion tests, one precipitin band developed between this virus isolate and antisera to cucumber mosaic virus (CMV) strains S or D, while two bands formed with antiserum to peanut stunt virus. The precipitin bands formed between *T. stoloniferum* cucumovirus and antisera to CMV strains S and D were confluent with one of the two precipitin bands developed with peanut stunt virus antiserum. No precipitin reaction was detected between this virus and antiserum to tomato aspermy virus. The second *T. stoloniferum* virus was tentatively identified as a comovirus. In gel diffusion tests it reacted strongly with antisera to quail pea mosaic virus (homologous reaction) and bean pod mottle virus (heterologus reaction), but not with antisera to cowpea mosaic virus or squash mosaic virus. This virus isolate induced markedly different symtoms on several legumes and possessed a host range that was considerably different from that of bean pod mottle or quailpea mosaic viruses. With the exception of an unpublished observation of peanut stunt virus infection (1), there are no reports of the occurrence of viruses in *T. stoloniferum*.

Reference: (1) J. N. Campbell et al. Taylor. Rhodora 90:399, 1988.

First Report of *Rhizoctonia* sp. CAG-5 on cotton in Georgia. R. E. Baird, RDC, P.O. Box 1209, T. B. Brenneman and D. K. Bell, CPES, Plant Pathology Department, Tifton, GA 31794. Plant Dis. 79:320, 1995; published on-line as D-1995-0209-02N, 1995. Accepted for publication 2 February 1995.

In a field infested with root-knot (*Meloidogyne incognita* (Kofoid and White) Chitwood located near Tifton, GA, cotton (*Gossypium hirsutum* L.) plants grown in a peanut rotation study were stunted or dying within plots planted continuously to cotton. Isolations from root systems of healthy and damaged cotton plants in these plots resulted in the recovery of many different fungi, including three *Fusarium* spp., *Rhizoctonia solani* AG-4 and the binucleate *Rhizoctonia* sp. CAG-5. Previously, CAG-5 was reported to be pathogenic on *Cucumis* spp. in Georgia. The CAG-5 isolate B1-15S was tested in the greenhouse for pathogenicity by mixing 50 ml of cornmeal sand inoculum (3 g cornmeal, 100 g sand, and 20 ml of distilled water) into six pots per isolate containing 2.0 L of sterile soil per pot (20 × 100 cm). Six pots containing noninfested soil were also included. Six nonfungicide-treated cotton seeds (cv. Georgia King) were sown into each pot. Plant stands averaged three plants per pot for the B1-15S treatment, four for the AG-4 isolate treatment, and five to six for the noninfested treatment. When the roots were evaluated for disease severity, lesions were observed at the base of the lower stems and roots in the pots infested with B1-15S. The AG-4 isolate was less damaging than the binucleate *Rhizoctonia* isolates. The two pathogens were reisolated from the lesion tissue. When the experiment was repeated, similiar results occurred. The role of *M. incognita* on disease severity by CAG-5 is unclear and further studies are warranted.