NEW OR UNUSUAL RECORDS

Coniothyrium olivaceum causing leaf spot of tomato—a new record

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In January 1986, severe leaf spotting was seen in a crop of tomatoes, *Lycopersicon esculentum*, on the cultivars Pakmor and Pearson 'A' Improved, growing at the Agricultural Research Farm, Salalah, Oman. Microscopic examination of affected leaves revealed pycnidia within the necrotic leaf tissue.

Specimens were sent to CAB International Mycological Institute, Kew, Surrey, UK, where the pathogen was identified as *Coniothyrium olivaceum* (IMI 309776).

At least 10 genera of fungi have been reported to cause leaf spot on tomato (Walker, 1952; Chupp & Sherf, 1960; Sugiyama et al., 1984; Anon., 1985). Literature searches suggest that this is the first documented record of the disease on tomato in Oman and other tomato-producing countries.

The disease appeared as spots on the leaflet. Examination of naturally infected materials and artificially infected tomato plants showed that lesions were circular to angular, light to dark brown, and ranged from the size of a pin-point up to approximately 4 mm in diameter. Concentric ridges often formed in the necrotic tissue to produce a characteristic target-board effect. Within the concentric zones a few black, globose pycnidia were formed. Usually a narrow chlorotic zone around the necrotic spot faded into the normal green.

In a small pot experiment, pepper, tomato and potato plants were inoculated using a suspension of mycelial fragments and spores prepared by homogenizing the mycelial mat on malt extract agar (MEA) in sterile distilled water for 1-2 min and then filtering the homogenate through a muslin cloth. The suspension was sprayed to runoff onto cotyledons and true leaves of pepper (cvs Kashmiri Long Red, Anaheim and California Wonder); tomato (cvs Pakmor, Pearson 'A' Improved, Jefferson and Ace 55); and potato (Spunta, Costa and Up-to-Date). The inoculated plants were kept inside moist chambers at 25-28°C for 24 h. Olive-green, water-soaked leaf spots developed only on the cotyledons and true leaves of all tomato cultivars within 6 days of inoculation.

The causal fungus reisolated from artificially infected leaves was identical to the original isolates. The maximum growth (90-mm diameter) of the fungus was achieved by the seventh day on MEA at 24°C. Colonies were found to be olivaceous and mostly luxuriant. The mycelium was dark, septate and branched.

Several attempts were made to isolate the fungus from seeds of infected plants, but it was not obtained from any of the seeds examined.

A general survey was conducted in the southern region of Oman during 1987, 1988 and 1989, using direct methods for disease measurement (James, 1974). The levels of incidence were 15, 10 and 25%, respectively. Diseased leaf tissues were collected from various locations of the southern region; isolations consistently yielded the same fungus.

Dithane M-45 (mancozeb), which is usually sprayed on tomato to control late and early blight in Oman, has apparently minimized the intensity of infection of *Coniothyrium* leaf spot.

ACKNOWLEDGEMENTS

The author is grateful to Dr E. Punithalingam, CAB International Mycological Institute, Kew, Surrey, UK, for the identification of the fungus.

The financial support provided by the FAO representative in the Sultanate of Oman is gratefully acknowledged.
REFERENCES


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