New Disease Reports

# *Alternaria tenuissima* causing leaf spot and fruit rot on pepper(*Capsicum annuum*): first report in China

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***Received:*** *30 Nov 2010.* ***Published:*** *19 Jul 2011.* ***Keywords:*** *pathogenicity tests*

A leaf spot disease of pepper (*Capsicum annuum*) was observed during 2009-2010 in Shouguang district, Shandong Province, China. The disease was extensive, with 70-80% of fields affected in the region inspected. Disease incidence of 65 to 90% was recorded in affected fields. Affected leaves and fruits rotted completely, causing severe yield losses. The symptoms recorded were small, circular, brown necrotic spots all over the foliage. The spots gradually enlarged in size and later became irregular in shape or remained circular with concentric rings or zones. In the later stages of infection, these spots coalesced, resulting in withering, extensive drying and shedding of leaves. A fungus was consistently isolated on potato dextrose agar (PDA) from the diseased leaves and rotten fruits. After five to seven days of incubation at 25°C with a 12 h photoperiod, the fungus produced colonies that were regular and flat, with a rough upper surface. The radial growth of the fungus in culture was uniform (Mirkova *et al*., 2003). The conidia were short, varying from 16 x 7 to 45 x 13 µm, mid to dark brown or olive-brown in colour, short beaked, borne in long chains, oval and bean shaped with 1-6 transverse septa and 0-2 longitudinal septa. Sequences of rDNA-ITS were obtained from five isolates, and comparisons with GenBank showed 100% similarity with *Alternaria tenuissima* (Accession No. JF773569).

For pathogenicity tests, five isolates obtained from diseased leaves and two isolates obtained from rotten fruits were grown on PDA for two weeks. Inoculations were done using detached, surface-sterilised and healthy pepper leaflets and fruits. A single drop (5 µl) of spore suspension ($1 \times 10^5$ spores/ml) was placed on each leaflet; 12 leaves per isolate were used. Leaves were incubated in a growth chamber (80-90% relative humidity; 50-60 klx/$m^2$ light intensity with a photoperiod of 12 h). After six days, leaf spots similar to the original symptoms developed on all the inoculated points for all seven isolates, and *A. tenuissima* was consistently re-isolated. Control leaflets and fruits inoculated with sterile distilled water remained symptomless. The experiment was performed three times. There are reports of *A. tenuissima* causing disease on eggplant in India and on blueberry in China, but there is no report of the pathogen on pepper plants (Zhang, 2003; Raja *et al*., 2006; Luan *et al*., 2007). This is believed to be the first report of *A. tenuissima* on pepper in China.

## Acknowledgements

This research was supported by the National Natural Science Foundation of China (Program No.40871131).

**To cite this report**: Li Y, Zhang D, Xu W, Wu Z, Guo M, Cao A, 2011. *Alternaria tenuissima* causing leaf spot and fruit rot on pepper(*Capsicum annuum*): first report in China. *New Disease Reports* **24**, 3. [doi:10.5197/j.2044-0588.2011.024.003]

*This report was published on-line at www.ndrs.org.uk where high quality versions of the figures can be found.*