FIRST REPORT

First report of leaf spot of lentil caused by *Alternaria tenuissima* in India

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Lentil (*Lens culinaris*) is an important pulse crop plant belonging to the family Fabaceae. Lentil leaves exhibiting pale to tan spots were observed in the breeding trial fields at Indian Agricultural Research Institute (IARI), New Delhi in February, 2015 (Fig. 1). Brownish spots on leaves later coalescing to form larger patches and consequently caused blighting of the entire leaves and subsequently on pods in circular to crescent shape of tan to dark brown spots later turn to blight.

The causal organism was isolated on PDA medium. The colonies were white, which turned grey to greyish black. Conidiophores were straight or flexuous, sub-cylindrical, septate, pale or pale brown. Conidia solitary or in short chains; straight or curved, obclavate or with the body of conidium ellipsoidal tapering gradually to the beak which is upto half the length of conidium, sometimes verruculose, and the body 25-63 µm long, 11-14 µm wide, 4-7 transverse and many oblique septa beak pale (Fig. 2) (Ellis, 1971). Based on morphology, the fungus was identified as *Alternaria tenuissima* (Kunze ex Pers.) Wiltshire (Ellis, 1971; Kumar *et al.*, 2001). Molecular identification of internal transcribed spacer (ITS) region of rDNA of fungus was done using primers ITS1 and ITS4 (White *et al.*, 1990). The amplified PCR product were purified and sequenced. These sequences have 100% similarities with GenBank (Acc No. KF 494003) sequences of *A. tenuissima* and submitted in NCBI

Fig. 2. Conidia of *Alternaria tenuissima* from lentil

(KX440627). The culture of *A. tenuissima* have been deposited in Indian Type Culture Collection (ITCC No. 8178), Division of Plant Pathology, ICAR-IARI, New Delhi, India.

For pathogenicity tests, 30 days old five healthy plants of *L. culinaris* were sprayed with spore (5×10^5 spore/ml) of the pathogen prepared in sterile water. Five plants were sprayed with sterilized water as negative control. Both sets of plants were kept under controlled humid conditions for six days. Leaves of experimental plant exhibited symptoms identical to field grown plants (Fig. 1b). The pathogen was morphologically identified as *A. tenuissima* on re-isolation. This is the first report of leaf spot caused by *A. tenuissima* on lentil in India.

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Fig. 1. *Alternaria* spots on leaves and pods of lentil

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