



First report of leaf blight caused by *Alternaria longipes* on oat in Turkey

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In May 2016, ovoid spots, brown in colour with yellow halos (Fig. 1) were observed on leaves of oat (*Avena sativa*) in two fields in the Foça and Menemen districts of İzmir, Turkey. These spots were initially on the lower leaves and then progressed to the upper leaves. Later, the spots coalesced and appeared as blights covering the leaf surface including the sheath (Figs. 2-3). The same symptoms were also observed on oat in both the original and new locations (Balıkesir and Edirne) in 2017 and 2019. Disease incidence and severity ranged from 50-80% and 3-50%, respectively.

Fourty leaf samples were collected from either diseased or healthy plants from the affected fields in Foça and Menemen in 2016. Plant tissues were cut into small pieces and exposed to NaOCl (2%) then, rinsed with sterile distilled water and transferred to potato dextrose agar. After incubation at 25°C for five days, fungal colonies similar in appearance developed. Four isolates were identified based on morphological characters and using the criteria of Woudenberg *et al.* (2013) and El-Alwany (2015). Colonies of the isolates were radial, greyish-dark green with dense airy mycelium. Conidiophores were light brown with few regular septa and mostly unbranched. Conidia were brown-ovoid or narrowly ellipsoid (25.2-48.5 × 5.8-15.5 μm), sometimes solitary but usually in chains, with 4-6 transverse and 2 longitudinal septa. Morphological characterisation was confirmed by PCR with ITS-1 and ITS-4 (White *et al.*,1990). Sequences of the PCR product for the isolate were deposited in GenBank with the accession number MN067804. BLASTn analyses of the PCR product revealed 99.6% identity with reference sequences MK675101, MK659953, MH356770 and KY026585 in GenBank. ITS sequencing and morphological characteristics showed that the fungus is *Alternaria longipes* (Guo-yin *et al.*, 2013).

Pathogenicity tests were conducted by spraying a spore suspension (1 × 10⁶) of a seven-day-old culture of the isolates on oat plants (cv. Kahraman) and incubating at 24 ± 2°C with 85% relative humidity in climate rooms. In the

control plants, only distilled water was sprayed. Eight days after incubation, similar symptoms like those observed in the field appeared on the inoculated plants (Fig. 4) while control plants did not show symptoms. Disease severity of the isolates ranged from 6 to 25% in inoculated plants. *A. longipes* was reisolated from the inoculated plants, fulfilling Koch's postulates.

To our knowledge, this is the first report of *A. longipes* causing leaf blight on oat in Turkey.

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Figure 1



Figure 2

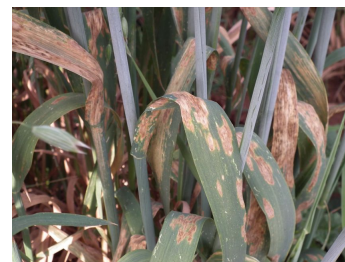


Figure 3



Figure 4

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