First report of dill blight caused by *Itersonilia perplexans* in Turkey

Gülsüm Palacıoğlu¹ · Göksel Özer² · Harun Bayraktar¹

Received: 17 July 2018 / Accepted: 20 November 2018 / Published online: 18 December 2018
© Società Italiana di Patologia Vegetale (S.I.Pa.V.) 2018

Keywords Dill · *Itersonilia perplexans* · Dill blight · Turkey

During January 2018, when temperatures average around 5.8–14.8 °C, blight symptoms were observed on leaves, petioles and stems of dill (*Anethum graveolens*) plants grown in a greenhouse of 2 decare located in Antalya province of Turkey. The disease affected less than 2% of the total area. The symptoms appeared on all aerial parts of plant as small, greyish necrotic lesions. Seriously affected parts became completely dry and died over time. Symptomatic tissues were cut into small pieces, plated on potato dextrose agar (PDA), and incubated at 25 °C for 10 days. A fungus was consistently isolated from diseased tissues, whose colonies were flat, circular, whitish to cream-colored. The fungus was identified as *Itersonilia perplexans* based on morphology and DNA sequence comparisons. Mycelium was straight, hyaline with clamp connections at the septa. Sporogenous cells ($n = 20$) were thin-walled, pyriform, ovoid to subglobose, $14.64 \pm 3.36 \times 7.28 \pm 1.15 \mu\text{m}$ in size. Ballistospores ($n = 20$) were lemon-shaped, hyaline, broadly-lunate, $18.04 \pm 2.52 \times 13.80 \pm 1.03 \mu\text{m}$ in size. The ribosomal internal transcribed spacer (ITS) region was amplified with ITS1 and ITS4 primers, sequenced and deposited in GenBank under the accession No. MH348181. BLAST analysis of sequence showed 99% identity with the neotype of *I. perplexans*, CBS 363.85,

NR_077117 (Boekhout et al. 1991). To confirm pathogenicity, disease-free plants were inoculated with ballistospore suspension according to the method described by Aldaoud et al. (2009). One week later, typical blight symptoms were observed on inoculated leaves and stems but not on control plants. The pathogen was reisolated from inoculated leaves, fulfilling Koch's postulates. Similar symptoms caused by *I. perplexans* on dill were reported in Bulgaria and Australia (Aldaoud et al. 2009; Rodeva et al. 2009). To our knowledge, this is the first report of dill blight caused by *I. perplexans* in Turkey.

References

- Aldaoud R, Salib S, Cunningham JH (2009) First record of *Itersonilia perplexans* on *Anethum graveolens* (dill) in Australia. Aust Plant Dis Notes 4(1):60–61
- Boekhout T, Poot G, Hackman P, Steensma HY (1991) Genomic characteristics of strains of *Itersonilia*: taxonomic consequences and life cycle. Can J Microbiol 37(3):188–194
- Rodeva R, Gabler J, Stoyanova Z (2009) First evidence of *Itersonilia perplexans* on dill (*Anethum graveolens*) in Bulgaria. Sodininkystėir daržininkystė 28:193–198

✉ Gülsüm Palacıoğlu
gpalacioglu@ankara.edu.tr

¹ Faculty of Agriculture, Department of Plant Protection, Ankara University, 06110 Ankara, Turkey

² Faculty of Agriculture and Natural Sciences, Department of Plant Protection, Abant İzzet Baysal University, 14020 Bolu, Turkey