



First report of *Alternaria alternata* causing postharvest fruit rot of peach in Pakistan

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During 2016, a survey was conducted in 20 commercial peach orchards in Soan Valley, a region of Punjab Province. Fruits at maturity were harvested and stored at 0 ± 1 °C for 28 days. After storage, symptoms appeared as small, circular to oval, light brown lesions (2–5 mm diameter), which gradually enlarged in size leading to total fruit rot. Small (3 to 4 mm) symptomatic tissues were surface disinfected, cultured on potato dextrose agar (PDA), and incubated at 25 °C for 7 days. Cultures initially developed white colonies and the centers turned gray or brown. Conidia were pale-brown to dark-brown, obclavate to obpyriform, showing a short conical beak at the tip, and were 16.8 to 31.5×6.5 to 13.0 μm with 3 to 7 transverse and 0 to 4 vertical septa. Conidiophores were single, straight or curved and measured 10 to 50×2 to 5 μm . These morphological characteristics were comparable to *Alternaria alternata* (Simmons 2007). For molecular identification, the ITS and endopolygalacturonase gene (endoPG) were amplified and sequenced with primers ITS1/ITS4 and PG3/PG2b, respectively. Sequences were deposited in

GenBank (ITS, MH036938 and PG3/PG2b, MH021872), and revealed 99 to 100% identity with those of the ex-type isolate of *A. alternata*, CBS 916.96 (AF347031 and JQ811978). To assess pathogenicity, 30 mature peaches were dipped in a spore suspension (10^5 conidia/ml) of *A. alternata* for 1 to 2 min and stored at 1 °C under 60 to 70% RH. Ten fruit dipped in sterile water served as the control. After 10 to 12 days, all inoculated fruit except controls became infected and displayed the same symptoms as seen for naturally infected fruit. *A. alternata* was consistently re-isolated from inoculated fruit. To our knowledge, this is the first report of *A. alternata* causing postharvest fruit rot of peaches in Pakistan.

References

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