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FIRST REPORT OF BOTRYTIS CINEREA CAUSING GRAY MOLD DISEASE ON PEACH FROM PAKISTAN

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A B S T R A C T

Gray mold caused by *Botrytis cinerea* is an important disease that attacks fruits, leaves and twigs of peach. Peach is grown on an area of 18,008 ha with an average production of 72,085 tons per year in Pakistan (FAO, 2017). During May 2017, brown spots on 33% of the peach fruits examined were observed in Swat district of KPK province of Pakistan. Infected fruits were incubated at 25±2 °C in a humid chamber resulted in greyish mycelial growth with light brown lesions. Hyphal growths on infected fruits were cultured on PDA media and purified by hyphal tip method. Morphologically whitish grey growth was observed on PDA and later on dark sclerotia were observed after 6-7 days of incubation. Hyphae were found septate with branched hyaline conidiophores having a bunch of ovoid conidia at their tips. Further confirmations were done by amplifying internal transcribed spacer regions (Andrew *et al.*, 2009) and glyceraldehyde-3-phosphate dehydrogenase (G3PDH) region of the isolates (Li *et al.*, 2012). Amplicons sequenced from Macrogen Korea were blasted and submitted in NCBI showed that ITS sequences (Accessions MH049690 and MH049691) were 99% identical with already reported (MG878388 and MG654661) sequences and the G3PDH gene sequences (Accessions MH560352 and MH560353) were 99 % identical with already reported (Accessions MG204876) sequences of *B. cinerea*. Pathogenicity was confirmed on healthy peach fruits disinfected with 50% ethanol, inoculated by placing a plug of about 1cm^2 taken from the edge of actively growing *B. cinerea* isolate (BTS-16). Fruits were incubated at 25±2 °C in a humid chamber (Abata *et al.*, 2016). A set of healthy fruits mock-inoculated with a plug of agar medium were used as control. Three days after inoculation, inoculated fruits showed sunken lesions with cottony greyish mycelial growth on their surface. Fungus isolated from these infections was re-confirmed as *B. cinerea*. Conducive environment for the disease progression in nearby areas can result into a huge loss in peach produce so there is a need to devise management strategies to cope with the pathogen. This is the first report of gray mold disease of peach caused by *B. cinerea* from Pakistan.

Keywords: Gray mold, Peach, *Botrytis cinerea*, G3PDH, ITS.

Running Title: *Botrytis cinerea* causing gray mold of peach.

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