



First report of *Fusarium brachygibbosum* causing rots on potato tubers in Italy

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In 2021, potato tubers (cultivar Constance) affected by extensive dry rot symptoms were collected during a disease survey in Emilia-Romagna, Italy. To obtain fungal cultures, disinfected fragments from rotted tubers were transplanted to Potato Dextrose Agar medium (PDA) and incubated at 24°C for 1 week. Morphological features of the *Fusarium* isolates were observed on PDA and carnation leaf agar (CLA). Macroconidia observed from CLA cultures were abundant with three to four septa, curved, wide central cells, and slightly sharp apices and measured $31,6 \pm 3,2 \mu\text{m}$. Microconidia were rarely observed on either PDA or CLA. Chlamydospores were spherical measuring $11,1 \pm 1,4 \mu\text{m}$. Culture morphology was similar to that described for *Fusarium brachygibbosum* (Padwick 1945). The molecular approach confirmed the identification by amplifying the internal transcribed spacer region of the ribosomal DNA (ITS1F and ITS4 primers) and the intron region of the translation elongation factor-alpha (EF-1-986 and EF-728 primers). The ITS and EF1- α sequences shared 100% nucleotide similarities to previously published sequences of *F. brachygibbosum* in GenBank. The accession numbers of the ITS and EF sequences of the F7 isolate assigned to EMBL-Bank were ON059986 and ON695832.

To satisfy Koch's postulates, inoculation was performed with 10mm agar plugs with 7-day-old cultures on 10mm wide wounds of potato tubers (cultivar Constance) obtained with a sterile blade. The control consisted of wounded tubers inoculated with sterile agar plugs. Incubation was in wet chambers at 25°C in a 16/8 light/dark cycle. Seven days after

inoculation, rots of about 30mm in diameter appeared on the inoculated wounds, whereas on control no symptoms were observed. *F. brachygibbosum* was re-isolated from rots. *F. brachygibbosum* is a fungal plant pathogen associated with a wide range of symptoms on approximately 25 cultivated and non-cultivated plant species; the pathogen has been reported in Italy in soil/marine sediments and in quinoa and durum wheat seeds (EFSA Panel, 2021). *F. brachygibbosum* was recently reported as a pathogen of potato tubers in Algeria (Azil et al. 2021). To our knowledge, this is the first report of this pathogen on potato tubers in Italy.

References

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