First report of *Rhizoctonia solani* AG-4 HG-I causing crown rot on *Abelmoschus manihot* in Italy

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During the fall 2019, 25 out of 50 two-month-old plants of *Abelmoschus manihot* (Syn: *Hibiscus manihot*), Malvaceae family, grown in pots in an experimental greenhouse located in Grugliasco (Northern Italy) showed stunting, leaf withering, crown rot and died seven days after the appearance of the first symptoms. Colonies of a fungus with the characteristics of *Rhizoctonia solani* (Sneh et al. 1991) were isolated with a frequency of 90%. Colonies grown on PDA for 30 days showed a light brown, compact mycelium with hyphae developing radially. Sclerotia developed after 20 days and they were few, small (1.1 mm in diameter), rounded, dark-brown with rusty surfaces. The anastomosis group was determined by pairing (three replicates/pairing) the isolate 19/61 with *R. solani* isolates belonging to the groups AG-1, AG-2, AG-4, AG-7, AG-11. The isolate 19/61 formed anastomosis only with *R. solani* AG-4 group with a low fusion frequency (<30%). A PCR was carried out with primers ITS1/ITS4 (GenBank Accession No. MN822713) and the sequence, analyzed using BLASTn, showed 100% homology with *R. solani* AG-4 HG-I (MN106332). The morphological characteristics of the sclerotia and the high DNA base sequence homology determined that the isolate 19/61 belongs to the subgroup HG-I of *R. solani* AG-4 (Sherwood 1969). Three repeated pathogenicity tests (6 plants for each test), were

carried out on 30-day-old plants of *A. manihot*. Two mycelial plugs (8 mm in diameter) of the isolate 19/61 were placed at the crown of the plants that were maintained in a greenhouse at temperatures ranging from 20 to 25 °C. For each trial, six plants were treated with sterile PDA plugs and used as controls. After seven days, the inoculated plants died while the controls remained healthy. *R. solani* AG-4 HG-I was reisolated with a frequency of >90%. *R. solani* was reported on several species of *Hibiscus* (Farr and Rossman 2020). This is the first report of *R. solani* on *A. manihot* in Italy. The spread of *R. solani* on *Hibiscus* spp. could represent a serious problem for their cultivation, in particular for *H. syriacus* widely used in hedges.

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