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DISEASE NOTE

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

Angelo Garibaldi1 & Giulia Tabone1 & Domenico Bertetti1 & Maria Lodovica Gullino1

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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 wither-ing, 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](#page1)) were isolated with a frequency of 90%. Colonies grown on PDA for 30 days showed a light brown, compact mycelium with hyphae devel-oping 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, an-alyzed using BLASTn, showed 100% homology with R. solani AG-4 HG-I (MN106332). The morphological char-acteristics 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](#page1)). Three repeated pathogenicity tests (6 plants for each test), were

* Giulia Tabone [giulia.tabone@unito.it](mailto:giulia.tabone@unito.it)

1. Centre of Competence for the Innovation in the Agro-Environmental Sector (AGROINNOVA), University of Torino, Largo Paolo Braccini 2, 10095 Grugliasco, Torino, Italy



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 main-tained 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 fre-quency of >90%. R. solani was reported on several spe-cies of Hibiscus (Farr and Rossman [2020](#page1)). 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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