



# First report of *Sclerotium rolfsii* (*Athelia rolfsii*) causing basal rot in lettuce in Trinidad

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In 2019, lettuce plants exhibiting symptoms of wilting with dark brown discolouration and rotting at the collar region were observed in Bon-air Lopinot, Trinidad. Closer examination of affected plants showed signs of mycelium and sclerotium (Supplemental Fig. 1). Approximately 1% of the plants displayed identical symptoms in the field. Disease occurrence was observed at the start of rainy season in June after prolonged dry season. Sclerotium and mycelium from infected lettuce were placed separately on Potato Dextrose Agar (PDA). White fluffy mycelium followed by sclerotial formation were observed after 10 days of incubation at 26 °C. Sclerotium initially appeared as white, small oval bodies (1–2 mm and 0.8 mg) and turned brown after 13 days (Supplemental Fig. 2) displaying morphological characters similar to *Sclerotium rolfsii* (Terrones-Salgado et al. 2022). Koch's postulates were performed using mycelium and sclerotium grown on PDA to prove the isolated fungi as the cause of the disease. Mycelium (4 × 4 mm agar plugs) and sclerotia were inoculated on 3-week-old healthy seedlings of the variety Eden. Five plants each were inoculated with mycelium and sclerotium separately. Plants received inoculation exhibited wilt symptoms after 7 days, and produced mycelium after 10 days at 26–32 °C and 80% humidity (Supplemental Fig. 3). Uninoculated plants displayed no wilt symptoms. The fungus was re-isolated where the same morphological characters were observed. The re-isolated mycelium and sclerotium were used to re-infect healthy lettuce for a second time which developed similar wilt symptoms. DNA was extracted from 5-day-old culture and used for PCR amplification of ITS1-ITS4 region (White et al. 1990). A sequence of ITS region (≈ 650 bp) showed 100%

homology to *Sclerotium rolfsii* isolated from finger millet (MW349663), peanut (KU514412), Jicama Mexican turnip (ON206899) and potato (KC894857) in the NCBI (Supplemental Fig. 4). The nucleotide sequence was submitted in NCBI with Accession No. MN577233. Koch's postulates and PCR study proved that *Sclerotium rolfsii* is the cause of the disease. To the best of our knowledge, this is the first report of *Sclerotium rolfsii* affecting lettuce plants in Trinidad.

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1007/s42161-023-01319-y>.

## References

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