Disease Note

FIRST REPORT OF *LASIODIPLODIA THEOBROMAE* CAUSING APPLE AND IMMATURE NUT ROTS ON CASHEW IN INDIA

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During January-February 2015, nearly 8 to 10% incidence of cashew (*Anacardium occidentale* L.) apple and nut rot was observed in the East Godavari districts of Andhra Pradesh (India). The immature (one to two months old) cashew apples and nuts exhibited dark brown lesions that finally turned dark grayish. Five *Lasiodiplodia* strains were consistently isolated from infected samples, characterized by white color colonies with dense aerial mycelium that later turned to dark grey on the upper surface and black on the reverse side. Oval-shaped, first hyaline then brown conidia 19.2-22.3×11.0-13.3 µm in size, with a single septum and longitudinal striations were produced from cylindrical-shaped conidiogenous cells. Based on these traits, the fungus was tentatively identified as *Lasiodiplodia theobromae* (Alves *et al*., 2008). For confirmation, the internal transcribed spacer (ITS) rDNA and the translation elongation factor 1-α gene regions were amplified and sequenced. The sequences of ITS (LC074359) and translation elongation factor 1α (LC146471) genes showed 99% identity to those of *L. theobromae* (CBS 164.96). Pathogenicity was conducted on detached 30-45-day-old cashew nuts and apples of cv. Ullal (10/strain) that were inoculated with 5 µl spore suspension from 5×10^5 ml^{-1} spore load and incubated in a growth chamber at 26 ± 1°C. Three days post inoculation dark brown lesions were observed on inoculated cashew apples and nuts, similar to those observed in the field but not in controls. *L. theobromae* was consistently re-isolated from inoculated apples and nuts. To our knowledge, this is the first report of nut and apple rot caused by *L. theobromae* on cashew in India.

Alves A., Crous P.W., Correia A., Phillips A.J.L., 2008. Morphological and molecular data reveal cryptic speciation in *Lasiodiplodia theobromae*. *Fungal Diversity* **28**: 1-13.

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Received November 20, 2016
Accepted February 4, 2017

Disease Note

FIRST REPORT OF *NIGROSPORA SPHAERICA* CAUSING LEAF SPOT OF KINNOW MANDARIN IN PAKISTAN

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A total of 139,000 hectares of Kinnow mandarin is under cultivation in Pakistan. In December 2015, a new disease characterized by leaf spots was detected on Kinnow mandarin in Punjab. The disease was widespread and severe in 40% of visited orchards. Initial symptoms on young leaves were small, semicircular to irregularly shaped brown spots surrounded by a yellow halo. Spots on affected leaves later turned dark brown, coalesced, and leaves sometimes fell off. Symptomatic leaf segments were disinfected and then plated aseptically on potato dextrose agar (PDA). After 5 days at 25 ± 2 °C, the fungus developed flat, light to dark grey colonies with dark brown, septate, branched hyphae. Conidia were black, one-celled (12.4-18.6 µm) and borne at the tip of each conidiophore. The fungus was identified as *Nigrospora sphaerica* (Dutta *et al*., 2015). The internal transcribed spacer (ITS) region of rDNA was sequenced using ITS1/ITS4 primers and accession No. KX834821 was 99% identical to *N. sphaerica* accession No. HQ608063.1. For pathogenicity test, a conidial suspension (10^6 conidia/ml) from a 7-day-old culture of *N. sphaerica* was used to wound inoculate 10 seedlings of cv. Kinnow mandarin, followed by incubation in a controlled environment chamber at 25°C with 70 to 80% humidity. As a control, three seedlings were inoculated with sterile distilled water only. Two weeks after inoculation, symptoms observed only on the inoculated leaves and the fungus was consistently re-isolated. To our knowledge, this is the first report of *N. sphaerica* on Kinnow mandarin in Pakistan.

Dutta J., Gupta S., Thakur D., 2015. First Report of Nigrospora Leaf Blight on Tea Caused by *Nigrospora sphaerica* in India. *Plant Disease* **100**: 1232.

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Received February 2, 2017
Accepted March 7, 2017