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NEW DISEASE REPORT

First report of Ralstonia solanacearum on Ipomoea hildebrandtii in Kenya

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Ipomoea hildebrandtii (Convolvulaceae) is a common weed in East Africa and is considered an invasive species, causing environmental and socio–economic damage. In Kenya, it has caused a decline or loss of nutritious fodder species and caused livestock loss, and altered ecological systems and soil characteristics (Mworia et al., 2008; Ojija & Manyanza, 2021).

In 2018, a search for *Ralstonia solanacearum* species complex (RSSC) isolates causing bacterial wilt was performed in the main regions producing solanaceous crops in Kenya. Solanaceous crops and weeds were sampled, based on typical bacterial wilt symptoms (leaf epinasty, flaccid stem and leaves, general wilting, yellowing and browning of tissues), and included *I. hildebrandtii* in the district of Kajiado (Mashuru). Stem sections (10 cm) were collected from 15 *I. hildebrandtii* plants and surface disinfected with 70% ethanol; each was crushed in 5 ml of Tris buffer and 50 μl of the suspension was plated on semi-selective medium (Granada & Sequeira, 1983; Poussier et al., 1999). Typical RSSC colonies grew from three samples after incubation for 48 hours at 28°C and were identified as part of the RSSC using a diagnostic PCR with 759/760 primers (Opina et al., 1997). Sequevar IIB-1 was determined (Brown rot ecotype, 100% nucleotide identity with strain IPO1609, GenBank EF371814) by partially sequencing the endoglucanase gene (*egl*) (Genewiz, United Kingdom) (Genbank Accession Nos. OP381144, OP381145 and OP381151).

Koch's postulates were fulfilled by inoculating 15 three-week-old tomato cv. Farmer plants per strain, by drenching the soil with 20 ml of a suspension (10^8 CFU/ml). Fifteen plants were drenched with water as a negative control. Plants were grown in a controlled environment at 30/26°C (day/night) and 80% relative humidity. Wilting was first observed eight days after inoculation and 14 out of the 15 inoculated plants had wilted after three weeks. RSSC was re-isolated from all symptomatic plants. No symptoms were observed and RSSC strains were not isolated from the negative control plants.

This is the first report of *R. solanacearum* on *I. hildebrandtii* in Kenya and globally. The presence of IIB-1 isolates in Kenya on *I. hildebrandtii* is of major concern as it will prevent further use of the land for cultivation with solanaceous crops or any RSSC-compatible host plants. The source of infection is unclear but highlights the importance of wild hosts in the management of bacterial wilt.

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