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DISEASE NOTE

Bacterial wilt caused by *Ralstonia pseudosolanacearum* (*R. solanacearum* phylotype I) on *Luffa cylindrica* in China

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In the summer of 2015 and 2017, a new disease was observed on field-grown luffa sponge gourd (*Luffa cylindrica*, Cucurbitaceae family) in Nanning, Guangxi, Southern China, with an incidence of 20–30%. Symptoms included wilting, vascular bundle browning and formation of cream-coloured bacterial slime. Three isolates (Tg02, Tg03, Tg04) obtained from different infected plants were selected for identification and pathogenicity determination, stored in 20% glycerin at −80 °C and deposited into the China General Microbiological Culture Collection Center. Based on symptomatology and bacteriological characteristics, *R. solanacearum* was suspected as the causal agent. Genomic DNA was extracted from each isolate. The sequence of 16S ribosomal RNA, endoglucanase precursor (*egl*) and DNA mismatch repair protein (*mutS*) were amplified (Liu et al. 2017), and blast searches showed 99 to 100% identity with reference sequences of *R. solanacearum* (GenBank accession Nos. KY594788 and EU348761). Phylotypespecific multiplex PCR (Pmx-PCR) was performed to determine phylotypes. All strains generated the 280-bp species-complex-specific fragment and a 144-bp fragment specific to phylotype I of *R. pseudosolanacearum* (Safni et al. 2014). Furthermore, *egl* and *mutS* genes from these strains revealed that they were closest to sequevar 13, known to occur in South-East China (Liu et al. 2017). Twelve sequences of three isolates were submitted to GenBank (MG840818–MG840829). Pathogenicity of the three isolates (Tg02, Tg03, Tg04) and *R. solanacearum* reference strain GMI1000 were tested using twelve-day-old luffa sponge gourd seedlings. Fifteen non-wounded and wounded plants were root inoculated with a bacterial suspension (10^8 CFU ml^{-1}) of a pure culture, grown for one day in Nutrient Broth at 28 °C. Sterile water was used as negative control. All plants inoculated with the respective bacterial isolates developed typical wilting symptoms 7–8 days after inoculation. Control plants inoculated with strain GMI1000 and sterile water remained healthy. The bacterium was isolated and re-identified as described above. This is the first report of *R. pseudosolanacearum* (*R. solanacearum* phylotype I) causing a bacterial wilt on luffa sponge gourd in Chinese Mainland. *R. solanacearum* was till now only reported from *L. cylindrica* in Taiwan in 1996, then identified as *R. solanacearum* race 1, biovar 3 (Pan et al. 1996).

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