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DISEASE NOTE

First report of tomato severe rugose virus in eggplant

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Begomoviruses are transmitted by the whitefly *Bemisia tabaci* and cause important diseases in solanaceous crops in Brazil (Inoue-Nagata et al. 2016). During 2014–2017, eggplants (*Solanum melongena*) exhibiting chlorosis and mild mottle were found in five fields of São Paulo State, Brazil. Total DNA was extracted (Dellaporta et al. 1983) from randomly collected symptomatic and non-symptomatic eggplants, followed by rolling circle amplification (RCA) (TempliPhi DNA Amplification kit, GE Healthcare, USA) and polymerase-chain reaction (PCR) using the degenerate begomovirus DNA-A component primers PAR1c496/PAL1v1978 (Rojas et al. 1993). Forty-one symptomatic plants were positive for begomovirus infection by RCA-PCR, whereas the non-symptomatic plants were negative. Eight randomly chosen amplicons were directly sequenced and the partial sequences (~1.200 bp) had 95–99% nucleotide sequence identity to the corresponding sequence of the begomovirus tomato severe rugose virus (ToSRV). The complete nucleotide sequence of the DNA-A component of one sample was determined by primer walking with PCR-RCA product as template (2595 bp) (GenBank accession number KY781196). This complete DNA-A had 97% identity with an isolate of ToSRV from pepper (GenBank accession number J824808). A fragment of the DNA-B component from the same eggplant isolate was also amplified by PCR with primer pair PCRc1/PBL1v2040 (Rojas et al. 1993), and the sequence of 550 bp had 95% identity with the DNA-B sequence of ToSRV (GenBank accession number KC7066271). Additionally, virus-free whiteflies were confined in small individual cages containing a ToSRV-infected eggplant, for an acquisition access period of 24 h, then 20 insects per plant were transferred to seedlings of tomato, sweet pepper, *Nicotiana benthamiana*, and eggplant (cultivars 'Napoli', 'Napolitana' and 'Roma') for an inoculation access period of 48 h. ToSRV infection was confirmed in all tested plants 30 days post-transmission. Following insect transmission, infected eggplants and tomato plants exhibited mild foliar mottling, whereas all other plants were non-symptomatic. To our knowledge, this is the first report of ToSRV infecting eggplant in Brazil.

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