

First report of *Tomato severe rugose virus* infecting pepper plants in Brazil

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RESUMO

Primeiro relato do *Tomato severe rugose virus* infectando plantas de pimentão no Brasil

Este trabalho relata a primeira ocorrência do *Tomato severe rugose virus* (ToSRV) em plantas de pimentão (*Capsicum annuum*) no Brasil. O vírus foi detectado em plantas coletadas nos municípios de Paranapanema e Piraju, São Paulo. O ToSRV é um begomovírus típico, descrito originalmente em plantas de tomateiro (*Lycopersicon esculentum*) e até o presente não havia sido detectado em pimentão.

Viruses belonging to the *Begomovirus* genus, family *Geminiviridae*, are single stranded DNA viruses that infect dicotyledonous plants, are transmitted by a single species of whitefly (*Bemisia tabaci* Gennadius), and typically have genomes consisting of two components (Fauquet *et al.*, Archives of Virology 148:405-421. 2003). These viruses cause significant crop losses worldwide, and in Brazil the most affected crops have been tomato (*Lycopersicon esculentum* Mill.) and bean (*Phaseolus vulgaris* L.).

During a survey for pepper (*Capsicum annuum* L.) diseases in the Paranapanema and Pirajú regions of São Paulo state, plants from cultivars P36, Lilac and Mandarin showing mosaic symptoms were analyzed for the presence of a begomovirus. DNA was extracted (Dellaporta *et al.*, Plant Molecular Biology Reporter 1:19-21. 1983) and PCR was carried out with the primer pair PrV324/PrC883, which amplifies most of the coat protein gene (Wyatt & Brown, Phytopathology 86:1288-1293. 1996). The 576 bp fragment for five isolates was sequenced and the deduced amino acid sequence identity ranged from 96-97% with *Tomato severe rugose virus* (ToSRV), a begomovirus species described infecting tomatoes in Minas Gerais and São Paulo. Although the definitive identity of the virus cannot be assured until the entire DNA-A is sequenced, the high degree of identity with ToSRV is a strong indication that this virus is indeed

an isolate of ToSRV. Pepper plants grown under greenhouse conditions at these two different regions were infected with ToSRV.

This is the first report of ToSRV naturally infecting peppers in Brazil, and indicates that tomato-infecting begomoviruses can also be a constraint for pepper production.



FIG. 1 - Pepper plant (*Capsicum annuum* L.), naturally infected by ToSRV.

5040