

Research Article

Occurrence, Biological and Serological Assay of *Tobacco streak virus* Infecting Cotton in Tamil Nadu

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Abstract

Tobacco streak virus is an emerging menace in cotton growing belts of Tamil Nadu, India. Presence of TSV was confirmed through bioassay and serological assay in all the symptomatic plants in farmer's field. Varieties and hybrids belonging to *Gossypium hirsutum*, *Gossypium barbadense* and *Gossypium arboreum* were screened for the presence of *Tobacco streak virus* under natural condition in different cotton growing areas of Tamil Nadu. The TSV incidence was noticed upto a maximum of 50 per cent in hybrids, more than the incidence in varieties. The virus was found to be mechanically transmissible to twenty six hosts with varying symptoms of chlorotic local lesions, necrotic lesions and systemic symptoms. In DAC ELISA, *Vigna unguiculata* and *Chenopodium amaranticolor* showed highest titre value of TSV. Cloning and sequencing of the coat protein gene indicated that TSV isolates shared 99 per cent nucleotide sequence identity and there exist no significant variation among the isolates from Tamil Nadu.

Key words: Biological assay, *Nicotiana tabacum*, *Vigna unguiculata*, *Tobacco streak virus*, *Chenopodium amaranticolor*

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