



First report of *Tobacco streak virus* infecting *Lablab purpureus*

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Lablab purpureus (lablab bean) is a highly drought-tolerant legume crop widely cultivated throughout the tropics. Leaf veinal necrosis and necrotic spotting and necrotic streaks on stems and petioles were observed on *L. purpureus* in farmers' fields in the Chittoore district, Andhra Pradesh, India in December 2012 (Fig. 1). Based on the symptomatology, infection by *Tobacco streak virus* (TSV) was suspected (Bhat *et al.*, 2002). The infected leaves tested positive by direct antigen-coated enzyme-linked immunosorbent assay (Bhat *et al.*, 2001) using TSV polyclonal antibodies (provided by P. Lava Kumar, IITA, Ibadan, Nigeria).

Total RNA was isolated from infected leaves using the TRIzol[®] reagent method and RT-PCR amplification was done using a novel pair of primers (CP-F-AGCAGATGCCCAACTTGTTT, CP-R-AAGGGAGCTGGTTTGGATA) designed to amplify 604 bp product from the coat protein gene of TSV. The primers amplified a product of the expected size from symptom-bearing but not healthy plants (Fig. 2). The PCR product was cloned, sequenced and deposited in GenBank (Accession No. KC683811). The Indian isolate shared 98.5-99.3% nucleotide identity with other TSV isolates (AY940151, HQ324116 and HQ324117)

To the best of our knowledge this is the first report of the natural occurrence of TSV on *L. purpureus*. Wilting and necrosis of plants leading to a reduction in yield was observed in *L. purpureus* fields naturally

infected with TSV. TSV spreads easily in fields through pollen assisted by thrips and by mechanical transmission. Intercropping of *L. purpureus* with groundnut, cowpea and other susceptible vegetable crops is common in India. This increases the possibility TSV being introduced into *L. purpureus* crops and transmission between crops. Implementing control measures for TSV is difficult due to the wide host range of the virus and the presence of efficient vectors throughout the crop period (Prasada Rao *et al.*, 2003).

References

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Figure 1

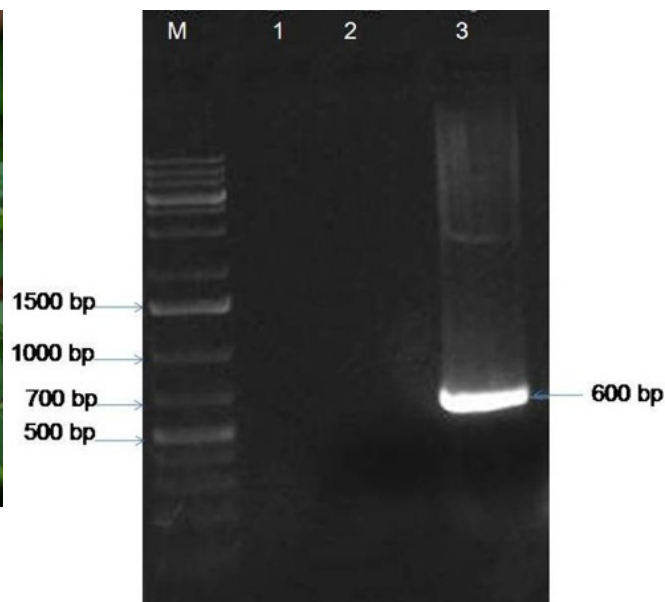


Figure 2

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