TRANSMISSION STUDIES OF SESAMUM PHYLLODY DISEASE

J. Vamshi[1*] , G. Uma Devi [1*] , S. ChanderRao[1] and G. Sridevi[2]

1*.Department of Plant Pathology, College of Agriculture, Professor Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad.

1. ICAR-Indian Institute of Oilseeds Research, Rajendranagar, Hyderabad.
2. Department of Entomology, College of Agriculture, Professor Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad.

*** Corresponding authors email: vamshidctr@gmail.com**

ABSTRACT:

Phytoplasmas are wall-less prokaryotes that colonize plant phloem and insects and are associated with hundreds of diseases worldwide. Yellow disease of plant presumed to be caused by virus in early days, however could not be visualized in affected plants. Japanese scientists were first to describe phytoplasma as the plant pathogens responsible for yellow disease. The major symptoms are phyllody (production of leafy structures of floral parts). Flower virescence (color change to green), witches broom, shoot tip fasciation, flattening of the shoot apex and cracking of seed capsules. The grafted periwinkle plants exhibiting yellowing of leaves and floral virescence was analysed by PCR to confirm the transmission of phytoplasmas from phyllody infected sesame scion to healthy plants. A fragment size of 1200bp was obtained from periwinkle corresponding to the partial 16S rRNA genes. Thus it can be confirmed that transmission of phytoplasma from infected sesame plant to healthy periwinkle was positive. For seed transmission, the seeds were collected from phyllody infected sesame plants. Two hundred seeds were sown in 20 earthen pots maintained in an insect proof cage house. Typical phyllody symptoms were not observed throughout the observation period. The results also clearly indicated that the disease is not seed transmitted.