

## A WITCHES' BROOM DISEASE OF *STACHYTARPHETA INDICA* VAHL

*Stachytarpheta indica* Vahl. is a common weed in garden lands of Kerala. Very recently a new disease of this weed has been observed at the main campus of the Kerala Agricultural University, Vellanikkara, Trichur. The main symptom of the disease was manifested by malformation of spike of this weed plant. About 10-15% of the plants in the field were found to show the symptom. The healthy inflorescence of *S. Indica* is a terminal spike with blue sessile flowers in the excavations of fleshy rachis. But, in the infected plants instead of sessile flowers, pedicelated phyllod flowers were produced and followed by internodal elongation of floral axis. The lanceolate bracts were slightly bigger with a deep greenish colour when compared to the healthy bracts. The toothed calyx and corolla lobes were undifferentiated and converted to leafy structure giving a phyllody appearance. The sporophylls were not developed or were represented by staminodes and pistillode.

As the symptom progressed, each spikelet further proliferated and induced to grow as malformed spike which either produced another virescent and phyllod flower or grew as yet another malformed spike. This lateral proliferated spike gave a witches' broom appearance. Sometimes, the proliferated spike developed as leaves. These leaves were small, thick and slightly curved upward. Thus, the malady starts with virescence, followed by phyllody stage, proliferation and ends with a witches' broom appearance.

The infected tissue cultured on PDA failed to give any microorganisms. The sap inoculation failed to reproduce the disease on healthy plant. But, grafting of diseased scion on a healthy stock produced all the typical symptoms of the natural infection under controlled condition. Application of tetracycline 1500 ppm at fortnightly interval gave temporary remission of symptom expression, indicating the probable mycoplasma etiology.

A search on relevant literature indicated that, this is the first report of this disease in *S. indica*. However, it has been reported that, this common weed *S. indica* is found to serve as a collateral host of sandal wood spike disease (Rao, 1935), cucumber mosaic virus and tomato leaf curl virus (Mathew, 1981).

College of Horticulture  
Vellayani 695522, Kerala, India

S. Ravi  
Sally K. Mathew  
Abi Cheeran

### References

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