

STACHYTARPHETA INDICA VAHL. , A NEW HOST OF PSEUDOMONAS SOLANACEARUM E.F. SMITH FROM INDIA

Stachytarpheta indica Vahl. (Family Sapindaceae) is a permanently seen weed in all parts of Kerala, commonly called as *Chiravanakku* in Malayalam. These plants seen at the main campus of the Kerala Agricultural University, Vellanikkara, Trichur exhibited severe symptoms of wilt during the south west monsoon months (June-August) of 1993. The initial symptoms of the disease appeared as loss of turgidity and drooping of leaves with necrotic symptoms on petioles and midribs. Then the plants wilted and dried up. Discolouration of vascular bundles was observed when the infected stem split opened longitudinally and bacterial ooze was also observed.

The bacterium was isolated on tetrazolium chloride medium. Inoculation of the bacterium on to pin pricked leaf axil and spraying the bacterial suspension on the healthy plant and by dipping the roots of healthy plants in bacterial ooze suspension produced characteristic wilt symptoms within 12 to 18 days.

Cultural and biochemical studies were carried out to establish the identity of the bacterium. The bacterium was gram negative

short rods which reduced nitrates and did not hydrolyse starch. The bacterium was catalase positive and did not liquify gelatin; milk was slightly curdled with the production of acid; arginine hydrolase activity was negative and the growth was slightly inhibited with 2% sodium chloride; utilized sucrose, glucose and dextrose.

The above properties of the bacterium are in agreement with that of the general characters of *Pseudomonas solanacearum* as given in the Bergey's Manual of Determinative Bacteriology (Breed *et al.*, 1957; Buchanan and Gibbons, 1974). Based on the cultural and biochemical characters and the pathogenicity trial on *Stachytarpheta indica*, the causal bacterium is identified as *Pseudomonas solanacearum* E.F. Smith. Cross inoculation of this isolate into most important solanaceous crops viz., tomato, chilli and brinjal produced the symptoms of *Pseudomonas solanacearum* typical to the respective host, further confirming the identity of the pathogen. Further more, a search on relevant literature indicates that this is the first report of this pathogen on this host caused by *Pseudomonas solanacearum* (Smith) Smith.

College of Horticulture
Vellanikkara 680 654, Trichur

S. Estclitta, T. Sheela Paul,
T. N. Vilasini, James Mathew

REFERENCES

- Breed, R.S., Murray, E.G.D. and Smith, N.R. 1957. *Bergey's Manual of Determinative Bacteriology*. 7th ed., The Williams and Wilkins Co., Baltimore, USA, p. 144
- Buchanan, R.E. and Gibbons, N.E. 1974. *Bergey's Manual of Determinative Bacteriology*. 8th ed., The Williams and Wilkins Co., Baltimore, USA, p. 246