

REFERENCES

- ASHBY, S. F. 1913. Banana disease, *Jamaica Dep. Agric. Agric. Publication*.
- AUCHINLECK, G. 1934. *Report of the Dept. of Agriculture, Gold Coast, for the year. 1933-34.*
- CAMPBELL, J. G. C. 1925. Banana disease in Vitileum (Fiji) *Agric. Circ. Dep. Agric. Fiji*, 5.: 67-75.
- GADD, C. H. 1925. *Report of Division of Botany and Mycology.*
- HANSFORD, C. G. 1928. *Ann. Rep. Dep. Agric. Uganda for 1927 (1927)* 37-42.
- LEE, H. A. 1921. Observations on previously unreported or noteworthy plant diseases in the Philippines, *Philipp. agric. Rev.*, 14: 422-34.
- STEVENSON, J. A. 1926. Foreign plant diseases. U. S. Dept. Agric. Office of the Secretary, Govt. Printing Office.
- WARDLAW, C. W. 1972. *Banana diseases including plantain and abaca.* Longman, London 878 pp.
- WARDLAW, C. W. and L. P. Mc GUIRE, 1933. Cultivation and diseases of the banana in Brazil. *Trop. Agric. Trin.* 10: 192-7.
- Madras agric J.* 62 (3) : 162—163, March, 1975.

First Record of Tomato Spotted Wilt Virus from the Nilgiris in India

Smith (1975) has listed not less than 33 viral diseases to occur on tomato all over the world. In India valid descriptions are available for seven virus diseases affecting tomato (John, 1957). Tomato spotted wilt virus has not so far been reported to occur in India.

A severe infection of a virus disease was noticed on Marglobe tomato variety during 1964 in the Nilgiris which resembled tomato spotted wilt virus. The field symptoms on the infected plants are bronzing of the leaves with brown necrotic lesions which are found to spread systemically followed by wilting of the plants with the advance-

ment of the disease. Young growing bud is also necrosed. The ripening fruits exhibit spots with circular markings about 1 cm in diameter as concentric bands of red and yellow broken rings. The centres of these spots are sometimes raised and the spots have roughened appearance.

A number of test plants were inoculated with the sap of the infected leaves of tomato under glasshouse conditions. Tomato seedling reacted with systemic brown necrotic lesions on the leaves 12 days after inoculation. Top necrosis occurred later. On tobacco (var:white burley) and *Nicotiana glauca*, this virus isolate caused light

brown local lesions. *Petunia hybrida* reacted with reddish brown local lesions 3 days after inoculation. *Chenopodium amaranticolor* caused numerous pin point dots like local lesions 5 days after inoculation. On *Calceolaria* hybrids brown necrotic local lesions were observed 7 days after inoculation. No systemic symptoms were observed in the above plants. *Datura stramonium* and *Capsicum annuum* reacted with chlorotic rings and later it became necrotic. The Great Scot variety of potato was infected latently with this virus isolate.

The nymphs of the garlic thrips (*Thrips tabaci* Lind.) were found to transmit this persistent virus.

A study on the physical properties showed that the dilution end point of the virus to be 1:10,000 and the thermal inactivation point between 40°C and 45°C for 10 minutes exposure. The longevity *in vitro* of this virus isolate was found to be one hour at the room temperature (20°C), when reducing agent sodium sulphite was added and 15 minutes in the absence of reducing agent.

The results of the above study led to the identification of this virus isolate as tomato spotted wilt virus and this constitutes a new record in India.

The authors thank Thiru C. D. Chockalingam, Project Officer, Indo-German Nilgiris Development Project, Ootacamund for the encouragement given in the preparation of this research note. The first author thank the Ministry of Overseas Development, United Kingdom for arranging the assignment.

J. M. TODD*

S. PONNIAH

C. P. SUBRAMANYAM

Potato Virus Scheme,
Indo-German Nilgiris
Development Project,
Ootacamund, The Nilgiris.

* Expert from U. K. under Colombo plan at Ootacamund.

REFERENCES

JOHN V. T. 1957. A review of Plant viroses in India *J. Madras Univ. B.* 27 : 373-450.

SMITH, K. M. 1957. *A Textbook of Plant virus diseases* J & A Churchill Ltd. London.