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PHOMOPSIS BLGHT OF TAPIOCA (MAN/HOT *ESCULENTA* CRANTZ)

The major diseases of tapioca, in Kerala are the mosaic caused by a virus and a leaf spot disease, incited by *Cercospora henningsii*. Swarup *etal.* (1966) and Ponappa (1971) reported *Phomopsis manihotis* and *P. manihot* respectively on leaves of tapioca. During 1971 a serious blight disease was observed on four months old tapioca plants at Ranny, Quilon District, Kerala.

The initial symptoms appeared as pale green water-soaked, small round spots on the young leaves and petioles. Soon the spots enlarged and covered a large portion of the lamina and turned brown. In advanced stages, there was considerable defoliation and infection was found to spread to the stem. The infected portion shrivelled and the tissues shrunk. Numerous dark coloured, raised pycnidia were visible in these regions. Later on the bark began to peel off and caused partial or total girdling of the stem. The affected portion of the stem dried up and presented a die-back appearence. On tissue isolation, the fungus produced on potato-dextrose agar nedium greyish to white mycelium with zonation and irregular margins. After 7-10 days abundant fruiting bodies developed in the medium. Pycnida were dark, globose to iuregular, erumpent, thickwalled and ostioiate measuring 290 - 482 X 227 - 431 μ. On crushing the pycnidia, the conidia came out in mass. The spores were of two types. *Alpha* conidia were abundant, hyaline, single celled, ovate to ellipsoidal with rounded ends and borne on short conidiophores. Thy measured 4.5 - 6.0 μ X 1.5 - 2.3 μ. *Beta* conidia were scanty single celled, filiform, slightly curved and measured 17.50 - 25.000 X 1.00 - 1.25 μ.

The pathogenicity was established by inoculating four months old tapioca plants with ten days old culture Typical symptoms of the disease were developed on the stem of inoculated plants within 12 - 15 days. Reisolation yielded a fungus which was identical with the original isolate. The host range of the fungus was tested by inoculating fruits of bhendi, cucumber, snakegourd, clusterbeans and brinjal under laboratory conditions. Only brinjal fruits were infected by the fungus.

A comparison of the measurements of pycnidia and conidia of the fungus under report with those of P. *manihotis P. manihot* and P. *vexans* was made. On the basis of the types of conidia and there characters and size

the fungus under study is identified as *manihotis*. The perfect stage of the fungus was not observed either in culture or under natural conditions.

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REFERENCES

Pawar, V. H. and Patel, M, K. (1957) Photnopsis blight and fruit tot of brinjal. *Indian Phytopath.* **10,** 115-120.

Ponnappa, K.M. (1971) Some interesting fungi. V. Seven species of *phomopsis*. *Indian J. Mycol and PI. Pathol.* **1,** 8-14.

Swarup, J. Chauhan, L. S. and Tripathi, R. C. (1966) Two new *Phomopsis* spp. from fndia *Mycopath. et. Mycol, appl.* 28, 345-347.

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