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VARIETAL SUSCEPTIBILITY OF RICE TO INFECTION BY *Corticium sasakii* AND ITS HOST RANGE*

Sheath blight, caused by *Corticium sasakii* (Shirai) Matsumoto, has been observed as a serious disease of rice, especially of high yielding varieties in Kerala. A study was, therefore, undertaken to gather informations on the reactions of different varieties of rice to infection by the organism and its host range. The results are presented in this paper,

Thirtysix varieties of rice were screened and their relative susceptibility to the disease was recorded. Rice seeds for this experiment were obtained from the Rice Research Station, Pattambi. Fortyfive day old rice seedlings were inoculated with sclerotia of the fungus collected from fifteen day old culture and ten days after inoculation the intensity of infection was graded. The results showed that all varieties of rice tested were susceptible. Chennellu, Hamsa, 1-1-4, 11812, Njavara, M/N–5/1, Ptb. 1, Ptb. 8, Ptb. 9, Ptb. 9, Ptb. 18, Ptb. 25, Ptb. 27, Ptb, 30 and Ptb. 31 were moderately resistant; Ptb. 21, Ptb. 24, Ptb. 26 and Ptb. 33 were moderately susceptible; Ptb. 10, Ptb. 20, Ptb. 29, Ptb. 32 and Ptb. 34 were susceptible and Culture–28, IR–8, Jaya, Padma, Karuna, 11828, Ptb. 2, Ptb 5, Ptb. 7, Ptb. 15, Ptb. 22, Ptb. 23 and Ptb. 28 were very susceptible. The symptoms became evident three days after inoculation. The intensity and spread of infection, however, varied in different varieties and the latter was rather limited in certain varieties while in others it extended and involved a large area of the tissue.

To determine the host range of the pathogen, thirty six plants belonging to different families in the monocot and dicot series, usually found in and around rice fields, were tested under artificial conditions. Of these, seventeen plants belonging to the family Gramineae (*Eleusine coracana* Gaertn., *Pennisetum typhoideum* Rich., *Sorghum vulgare* pers., *Zea maya* L., *Panicum miliare* Lamk., P. *repens* L., P. *psilopodium* Trin., *P. flavidum* Retz., P. *maximum* Jacq., *Echniochloa colonum* Link., *Rhynchelytrum villosum* Chiov., *Saccolepis interrupta* stapf., *Chloris barbata* Sw., *Eleusine aegyptiaca* Desf., *Sporobolus diander* Beauv., *Brachiaria distachya* Stapf. and *Cynodon dactylon* Pers.), two of Cyperaceae (*Cyperus rotundus* L. and *Kyllinga brevifolia* Rottb.), one of Pontederiaceae (*Monochoria vaginalis* Pres.), two of Zingiberaceae (*Zingiber officinale* .Roscoe and *Curcuma longa* L.) and five of Leguminosae (*Cajanus indicus* Spreng., *Dolichos biflorus* L,, *Phaseolus aureus* Roxb., P. *mungo* L. and Vigna catjang

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Walp.) were found to be susceptible to infection by *C. sasakii*. On graminaceous plants the symptom expression was more or less similar to that on rice.

The varieties of rice showed different degrees of susceptibility to infection by the organism and the high yielding varieties were very susceptibile. Similar variation in susceptibility of rice varieties have been reported by Hashiyoka (1951) and Chang (1962). Studies conducted by Kohli (1966) and Roy (1973) revealed that the host range of the pathogen is restricted to plants belonging to Gramineae, Cyperaceae and Commelinaceae. However, the fungus was found to infect plants belonging to Pontederiaceae, Zingiberaceae and Leguminosae also under artficial inoculation studies. The results indicated that under favourable environmental conditions, the fungus may become a potential pathogen of other crop plants as well.

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