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### SHEATH ROT OF RICE

A heavy incidence of sheath rot of rice caused by *Acrocyndrium oryzae* Sawada, occurred in the experimental plots attached to the College of Agriculture, Vellayani, Kerala. This disease first reported from Taiwan by Sawada, (1922) was hitherto known to occur as a common disease only in certain parts of Southeast Asia and Japan (Ou, 1972). Recently it has been reported from certain parts of Tamilnadu and Karnataka also (Agnihotrudu, 1973) in India.

The symptoms appeared only on the sheaths which cover the panicles (Fig. 1). They appeared as long oblong lesions. The fully developed lesions varied in size from 0.5 to 2 cm in length and 0.5 to 1 cm in width. Young spots appeared uniformly greyish brown but when old the centre turned whitish grey with a dark brown margin. The individual lesions coalesced together and in advanced stages covered the sheath almost completely. Whitish mycelial growth of the fungus could be observed in the central portion of the spots. As a result of infection the panicles were shy to emerge or even rotted while inside the leaf sheath. These were soon invaded by secondary organisms also. In the infected field panicles could be observed at various stages of emergence. The fungal growth could be observed as whitish powdery mass inside the affected sheath.

Repeated isolations from the infected tissues using potato dextrose agar medium yielded a purplish white, richly sporulating fungus. The mycelium was septate, branched profusely and 1.25 to 2  $\mu$  in diameter. The conidiophores were slightly thicker than the ordinary vegetative hyphae and were short, ending in a whorl of 3 to 6 branches. Occasionally one or two side branches also emerged from the main conidiophore, each in turn ended in a whirl of branches. The main branch was 10 to 15  $\mu$  in length and 2 to 2.5  $\mu$  in breadth. The terminal branches were more or less cylindrical tapering towards the tip and measured 19.5 to 22.5  $\mu$  in length, the base measured 1 to 1.5  $\mu$  in breadth. Conidia were consecutively formed at the tip of the conidiophores. They were single celled hyaline and were 3.5 to 7  $\times$  1 to 1.5  $\mu$  in size from the host (Fig. 2). Conidia from culture were slightly longer and measured 4 to 8  $\times$  1 to 1.5  $\mu$  in size. The fungus was identified as *Acrocyndrium oryzae* Sawada, first described by Sawada (1922) from Taiwan. The characteristics of the Indian isolate differed from those reported in literature in its profusely branched mycelium which was white in colour, shorter conidiophores and conidia and increased number of branches at the terminal portion of the conidiophore. The mycelium of this organism was described earlier as whitish, sparsely branched conidiophores 15 to 22  $\mu$  in size

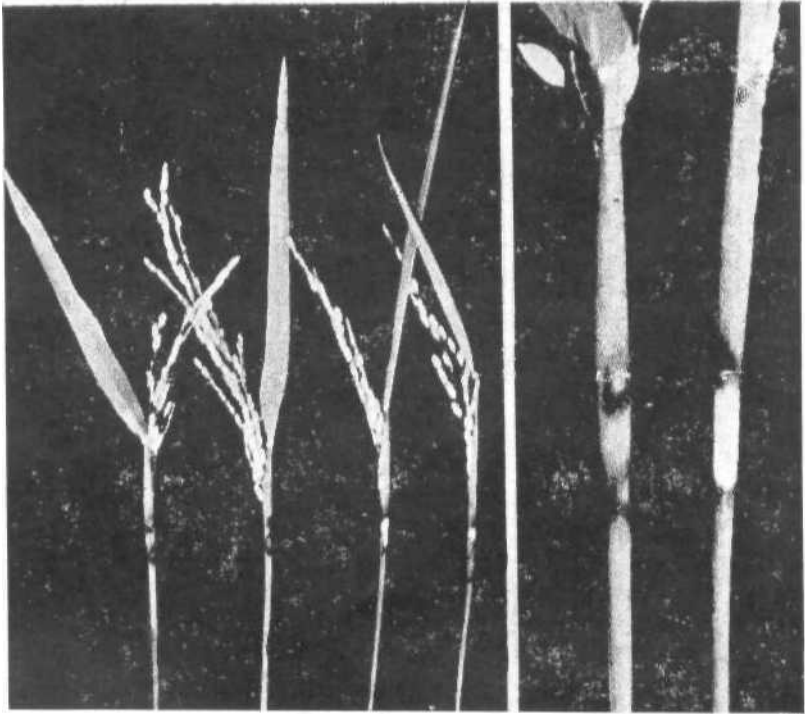


Fig 1. Symptoms of sheath rot on the sheath covering the earhead of rice.

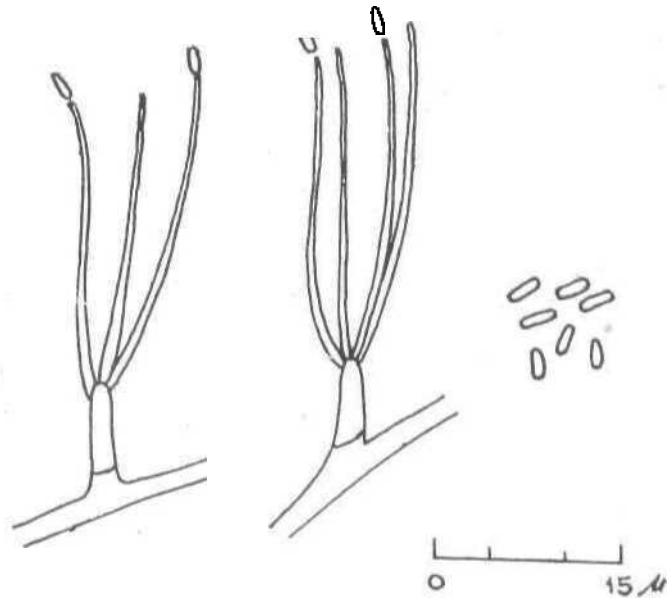


Fig. 2, Conidiophores and conidial characters of A.

which branched once or twice and conidia measured 4 to 9 x 1 to 2.5 in size (Ou, 1972). Tasugi and Ikeda (1956) gave the conidia measurements as 2 to 8.5 x 0.5 to 1.64  $\mu$  from the host plant and 1.8 to 13 x 1 to 1.6  $\mu$  from culture,

On inoculation of the rice plants at the boot leaf stage with conidial suspension under high humid conditions typical symptoms of the disease were developed within 4 to 5 days. Slight wounding of the sheaths was found necessary for a good percentage of infection. Further studies on the varietal reaction and control measures are in progress.

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### സംഗ്രഹം

വെള്ളായണി കാർഷിക കാളേജിലെ പരീക്ഷണത്തോട്ടങ്ങളിലാണ് കേരളത്തിൽ ആദ്യമായി നെല്ലിനെ ബാധിക്കുന്ന പോളിയോമൈറ്റോസം കാണുകയുണ്ടായത്. കതിരിനെ പൊതിഞ്ഞിരിക്കുന്ന പോളകൾ  $10(KJ) < 5 < B$  രോഗബാധിതമാകാറുള്ള 0.5 സെ. മീ. മുതൽ 2 സെ. മീ. വരെ നീളത്തിലും 0.5 സെ. മീ. മുതൽ 1 സെ. മീ. വരെ വീതിയിലും പ്രത്യക്ഷപ്പെടുന്ന പാരനിറം കലർന്ന തവിട്ടു നിറത്തിലുള്ള പാടുകൾ ക്രമേണ വലുതാവുകയും പലപ്പോഴും ഈ പാടുകൾ ഒന്നിച്ചു ചേർന്നു പോളയെ മുഴുവനായി ബാധിക്കുകയും ചെയ്യുന്നു. ഇതു മൂലം കതിർകൾ പോളയ്ക്കുതു വെച്ചുതന്നെ അഴുകി നശിക്കുകയോ നാശമാത്രമായി പുറത്തേക്കു വരുകയോ ചെയ്യും. അക്രോസിലിഡിയം ഓറൈസെ എന്ന ഫംഗസ്സിന്റെ ആക്രമണം മൂലമാണ് ഈ രോഗമുണ്ടാകുന്നത്.

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