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STUDY OF THE INCIDENCE OF 'BLACK GRAIN' IN RICE AND ITS EFFECTS ON RICE QUALITY

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The control of 'Black Grain' or pecky kernels in rice is of considerable importance to the rice industry as it reduces the quality of milled rice, milling yields and could have an adverse effect on storage. The preliminary work described includes a study of the causal organism, stage of infection, some effects on storage and its incidence with regard to variety and location.

The organism cultured and isolated from 'pecky kernel' was similar in microscopic appearance to the species Curvularia which has been previously reported as the causal organism. The black pigment produced on the surface of infected grain diffused through out the endosperm on parboiling, intensifying the colour. In raw rice beneath the black spots were opaque areas of crumbly texture which caused the grains to break on milling. Microscopc sections showed these areas to be due to ramification of fungal hyphae.

Artificial innoculation in green house experiments showed the tender stages of the kernel to be more susceptible to the organism. There was no varietal susceptibility but agro – climatic differences had significant effect on its incidence, the wet zone station Bombuwela showing the highest incidence and lowest at the dry zone station Ambalantota.

Storage at room temperature and at two levels of grain moisture, showed that there was no spread of infection at low moisture but remained a viable and potentially dangerous organism which after 6 weeks of high moisture could result in rapid spread of infection.