

## **P.34 - Management of grain discoloration of rice through cow products**

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Grain discoloration, an important disease of rice in India, especially in Karnataka state, is caused by several pathogenic fungi. *Curvularia lunata*, a predominant pathogen on rice grain in major rice growing areas of North Eastern Karnataka, affects quantity and quality of rice crop and even lowers drastically the milling recovery, cooking and nutritional qualities posing a threat to socioeconomic stability of the region. Survey studies during 2006 and 2007, recorded the disease with mean PDI of 11.74 % and further analytical studies indicated a drastic fall in the quality parameters of grain viz., protein, moisture, ash, fat, and CHO- contents. The lowest seed weight (13.10 g), volume (24.28 ml) and density (0.53) were recorded in discoloured seeds and recorded 10 to 20% of endosperm chalkiness with a high degree of spreading. The cooked rice had weak aroma, was slightly sticky, with a white colour with brownish streak and a very dull appearance. Among cow products tested against pathogen *in vitro* viz. ,urine, milk, ghee, curd, dung and their combi product the panchagavya, which has shown the maximum inhibition (86.30%) at 5% concentration and enhancing seed germination (90.70%) and vigor index (1036.36). Cow products also affected the spore germination. As the Indian civilization pivots around the cow, the use of cow products as an alternative to fungicides is an eco-friendly and innovative management tactic for lowering the risk of toxicity in the food chain.