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False smut disease – A serious and emerging concern to rice farmers

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False smut disease of rice is one of the emerging grain diseases in the rice growing areas of the world. It has become a serious threat to rice farmers by causing direct economic loss. The false smut pathogen Ustilaginoidea virens converts the rice grain into ball of mycelial mat covered with powdery mass of pathogen spores. The disease causes both quantitative and qualitative losses. The yield losses in different states of the country have been estimated to vary between 0.2% to 49% depending on the disease intensity and rice varieties grown. Information compiled from the Production Oriented Survey (POS) reports for the last six years (2005 - 2010) inferred that across the locations, the disease intensity was high in hybrids as well as in inbreds. As of now the artificial culturing of U. virens and pathogenicity of the false smut pathogen have been standardised. Presently, the disease is managed through prophylactive sprays of selected fungicides. Based on multilocation data on chemical control of the disease, it was found that application of propiconazole and combination of trifloxystrobin 25%+ tebuconazole 50% (Nativo75WG) at 50% PE (Panicle Emergence) stage was most effective in managing the disease. We are presently working on the development of a rapid and reproducible artificial inoculation technique for screening of germplasm. This will help in identifying resistant donors with an ultimate aim of developing a disease resistant variety.

Biography

D. Ladhalakshmi is working as Scientist at Directorate of Rice Research (ICAR), Hyderabad, India. She has completed her Ph.D (Plant Pathology) from Tamil Nadu Agricultural University, Coimbatore, India. She has published 7 research papers in international journals, one technical bulletin on rice false smut disease, several abstracts in the international and national seminars. Her field of specialisation includes mycology and plant virology.

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