

Breif Note On Kernel smut

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Abstract

Kernel smut is characterised by a black mass of chlamydo spores that replaces all or part of each kernels as they approach or reach maturity. Only a few kernels on each panicle are often affected. Kernels that have been completely smutted may swell significantly, while others may crack open, exposing the dark spores. The disease is easily identifiable due to the black spores. A dark cloud of spores will form if the condition is severe.

Keywords: Fertilizer, propiconazole

Introduction

Rice kernal smut lowers grain quality by forming black, sooty masses of powdery spores that replace all or part of the grain . Toxins produced by some strains of the fungus contaminate milled grains. The smuts are grouped with the other basidiomycetes because of their commonalities concerning sexual reproduction [1]. Rice kernal smut is most noticeable when the crop is fully mature. Grain is replaced by black clumps of spores. Chlamydo spores released during harvest fall to the ground and overwinter there. The fungus can also survive the winter by hiding in or on seeds. Chlamydo spores float, germinate, and produce other spore and mycelial stages when the fields are flooded in the spring. Before infection can occur, the smuts need to undergo a successful mating to form dikaryotic hyphae (two haploid cells fuse to form a dikaryon) [2]. Secondary airborne spores (sporidia) infect individual florets or kernels during flowering (heading). Rice kernel smut is often regarded as a minor illness. It is particularly common in rice-growing areas in the southern United States during rainy years and in fields with high nitrogen fertiliser rates. Short and medium grain varieties had lower incidence rates of kernel smut than long grain varieties, according to disease surveys. Kernel spotting may be more common in long grain rice cultivars. High nitrogen levels are beneficial

to the sickness. Some rice varieties are more resistant to kernel smut than others, and using propiconazole-containing fungicides during the boot development stage can help decrease infection. For the most up-to-date information on fungicides and other control methods for kernel smut, contact an LSU Ag Center extension agent in your parish. Nitrogenous fertilisers in high concentrations should be avoided. To prevent this disease, apply the first spray by diluting 200 ml of tilt or folicur 25 EC in 200 litres of water per acre when panicle growth is less than 10%, and repeat after 10 days. Kernel smut is primarily managed through cultural behaviours. At this time, no chemicals for combating this disease have been approved for use on rice in California. Avoid using too much nitrogen fertiliser. In fields with a history of kernel smut, plant short or medium grain varieties. Magnaporthe grisea, also known as rice blast fungus, rice rotten neck, rice seedling blight, blast of rice, oval leaf spot of graminea, pitting disease, ryegrass blast, Johnson spot [3].

Reference

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