

LOUISIANA PLANT PATHOLOGY

DISEASE IDENTIFICATION AND MANAGEMENT SERIES



Stem Rot of Rice

Magnaporthe salvinii (Cattaneo) R. Krause and Webster

[Synanamorphs: *Sclerotium oryzae* Cattaneo, *Nakataea sigmoidae* (Cavara) K. Hara]

Stem rot occurs erratically on Louisiana rice. The disease typically appears late in the season when control practices are ineffective or prohibited.

Infection tends to cause lodging, making harvesting difficult, and seed sterility. The disease is favored by low soil potassium and high nitrogen levels. Stem rot is more serious in fields that have been in continuous rice for several years.

The pathogen overwinters as sclerotia in the upper 2-4 inches of soil and in plant debris (Figure 1). Once the flood is established, sclerotia float to the surface, come into contact with the plant, germinate and infect the leaf sheath near the water surface. The first symptoms are black angular lesions that usually develop after tillering (Figure 2). As the lesions develop, the leaf sheath may die, and the fungus can penetrate into the inner sheaths and stem. These become discolored black or dark brown and shrivel (Figure 3). At maturity, the weakened stem breaks, plants lodge and numerous small black round sclerotia develop in the dead tissues (Figures 1 and 3).

The most important management practice is to apply potassium fertilizer to the field based on soil test recommendations. Other cultural practices include crop rotation and burning stubble to reduce sclerotia numbers. Fungicides applied against other more economically important diseases may reduce stem rot damage. Under normal field conditions, disease pressure is not high enough to justify a fungicide application for stem rot alone. Some varieties are less susceptible than others. Ask an LSU AgCenter extension agent in your parish for the latest information about stem rot management.



Figure 1. Stem rot fungal sclerotia in plant tissues



Figure 2. Angular stem rot lesions on the rice leaf sheath

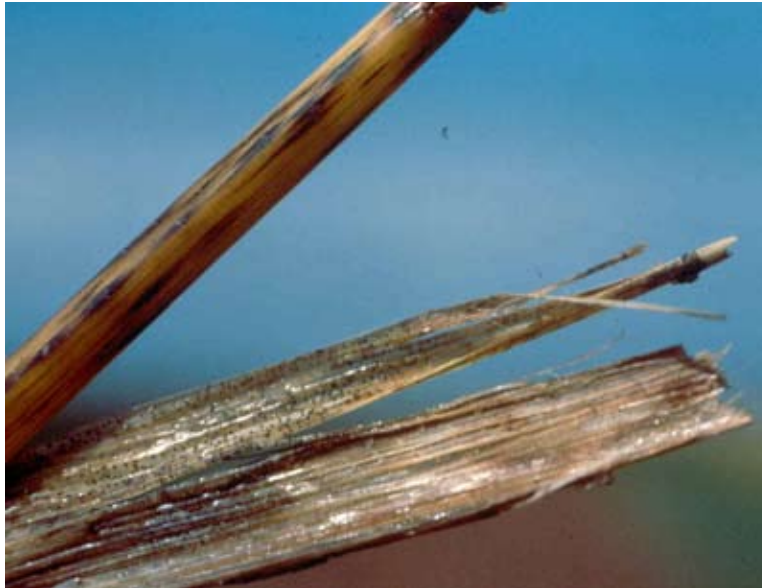


Figure 3. Stem rot damage to culm

Visit our website: www.lsuagcenter.com

Authors

Don Groth, Ph.D., Professor
Rice Research Station

Clayton Hollier, Ph.D., Professor
Department of Plant Pathology and
Crop Physiology

Louisiana State University Agricultural Center, William B. Richardson, Chancellor
Louisiana Agricultural Experiment Station, David J. Boethel, Vice Chancellor and Director
Louisiana Cooperative Extension Service, Paul D. Coreil, Vice Chancellor and Director

Pub. 3172 (online only) 12/10
The LSU AgCenter is a statewide campus of the LSU System and provides equal opportunities in programs and employment.