

LOUISIANA PLANT PATHOLOGY

DISEASE IDENTIFICATION AND MANAGEMENT SERIES

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Crown Sheath Rot of Rice

Gaeumannomyces graminis (Sacc.) Arx and D. Olivier

Crown sheath rot of rice is caused by the fungus *Gaeumannomyces graminis* var. *graminis*. Other names for this disease include brown sheath rot, Arkansas foot rot and black sheath rot.

Crown sheath rot has been considered a minor disease of rice, but reports from Texas suggest severe damage can occur. The pathogen kills lower leaves, which reduces photosynthetic activity that causes incomplete grain filling. The disease also can lead to lodging of plants.

Symptoms appear late in the season, usually after heading. Sheaths on the lower part of the rice plants are discolored brown to black (Figure 1) but do not have angular lesions as they do with stem rot. Reddish-brown mycelial mats are found on the inside of infected sheaths (Figure 2). Dark perithecia are produced within the outside surface of the sheath. Perithecia are embedded in the sheath tissues with beaks protruding through the epidermis (Figure 3).

This disease can easily be confused with stem rot.

The fungus survives as perithecia and mycelia in plant residues. Ascospores are windborne when conditions are moist. The fungus also has been reported to be seedborne.

Management practices have not been worked out for this disease, and no control measures are recommended, although it is known that excessive nitrogen fertilization favors disease development.



Figure 1. Crown sheath rot symptoms



Figure 2. Crown sheath rot fungal mat inside leaf sheath

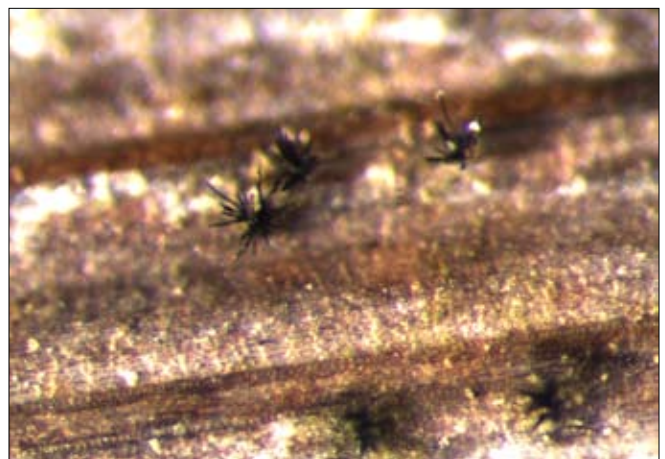


Figure 3. Perithecial beaks protruding from sheath tissue

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