

LOUISIANA PLANT PATHOLOGY

DISEASE IDENTIFICATION AND MANAGEMENT SERIES

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Root Rot of Rice

Fusarium spp., *Pythium* spp., *P. dissotocum* Drechs., *P. spinosum* Sawada

Root rots are probably one of the most common but misdiagnosed diseases of rice.

Root rots are caused by several fungi, including *Pythium* spp., *P. dissotocum*, *P. spinosum* and other fungi. The rice plant is predisposed to this type of disorder by a combination of factors, including physiological issues, insect feeding (especially feeding by rice water weevil larvae), extreme environmental conditions and various other pathogens.

Symptoms can be noted as early as emergence. Roots show brown to black discoloration and necrosis (Figure 1). As the roots decay, nutrient absorption is disrupted, the leaves turn yellow and the plants lack vigor. With heavy root infections, plants lack support

from the roots and lodge, causing problems with harvesting.

Often, plants with root rot show severe brown leaf spot infection. The disease is referred to as feeder root necrosis when the small, fine roots and root hairs are destroyed on seedlings and young plants (Figure 2). When this happens, no lodging occurs, and symptom development is not as apparent on the upper plants.

Fertilizer usually reduces the aboveground symptoms – although actual nutrient use is poor. Rice water weevil control greatly reduces root rots. Draining fields stimulates root growth but can cause problems with blast or nutrient efficiency or with allowing weeds to develop.



Figure 1. Root rot symptoms

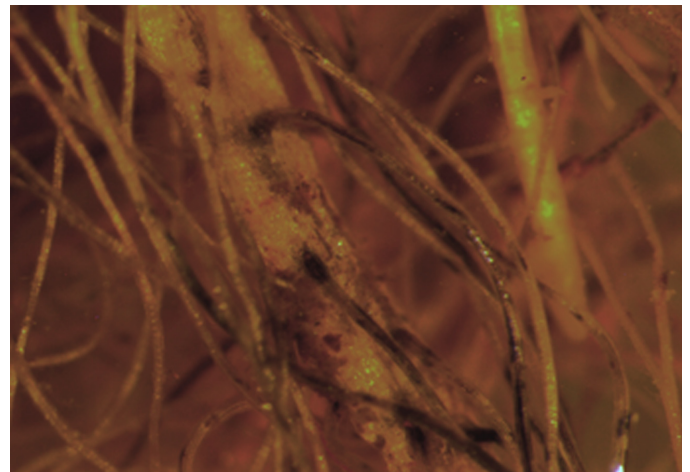


Figure 2. Feeder root necrosis symptoms

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