

Pythium Root Rot¹

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Pythium Root Rot

Pathogen: *Pythium* spp.

Turfgrasses Affected: All warm-season turfgrasses.

Occurrence: Symptoms may appear at any time of the year, but they will always be associated with wet soil conditions, either from excessive rainfall or from irrigation. Poor drainage conditions will compound this problem.

Symptoms/Signs: This is a root rot disease. The symptoms observed on the leaves are the result of fungal activity on the root system. Aboveground symptoms are typically a nonspecific decline in turf quality. Small or large turf areas will become a general yellow, light green, or brown color and display thinning, a gradual decrease in density. However, the turf seldom dies from *Pythium* root rot, and no distinct patches are observed.

Roots appear thin with few root hairs and have a general discoloration, but are not black and rotted as they are with take-all root rot. Microscopic examination of affected roots will determine if *Pythium* spp. are associated with the symptoms.

Cultural Controls: *Pythium* spp. are naturally present on warm-season turfgrass roots. The triggers for disease are wet soil conditions and stressed turfgrass. To prevent the disease, especially during low-rainfall periods, improve drainage and reduce irrigation. Avoid irrigation management that maintains constantly wet soil.

During periods of high rainfall, incorporate the following techniques into your management program: Mow the turfgrass at the correct height and frequency so that only one-third of the leaf tissue is removed during any one mowing event. It may be necessary to raise the mowing height during periods of conducive weather. Improper mowing is a major stress on turfgrass.

Balance nitrogen applications with equal amounts of potassium. Extra potassium may be useful in late summer and early fall for those areas that are routinely affected by *Pythium* root rot. Either use a slow-release potassium source, or apply a quick-release source more frequently. If the disease does occur, it may be beneficial to apply nutrients to the leaves since the roots are not functioning efficiently.

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Chemical Controls: Azoxystrobin, chloroneb, ethazol, fosetylAl, and propamocarb hydrochloride.

To increase effectiveness, these fungicides (except for fosetylAl) should be either lightly watered into the root zone or applied in 5-10 gallons water per 1000 square feet. At least two applications will probably be required. Alternate between compounds to avoid development of fungicide-resistant strains of *Pythium*. Please note that, except for azoxystrobin, these fungicides are specific for *Pythium spp.* only. They are not useful against any other pathogens that attack turf-grass. Additionally, due to the variation in *Pythium spp.* involved with this root rot, the mefenoxam manufacturer does not recommend its use for root rot control. However, the product has been reported to be successfully used in Florida.

Refer to “Turfgrass Disease Management” section of the *Florida Lawn Handbook* for explanation of cultural and chemical controls.