

Pythium Root Rot¹

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Pathogen: *Pythium* spp.

Turfgrasses Affected: All warm-season turfgrasses can be affected.

Occurrence: Symptoms may appear at any time of the year, but they are always associated with wet soil conditions, either from excessive rainfall or from irrigation. Poor drainage conditions 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. The aboveground symptom is typically a nonspecific decline in turf quality. Small or large turf areas 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, so no distinct patches are observed.

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

Cultural Controls: *Pythium* spp. are naturally present on warm-season turfgrass roots. Wet soil conditions and stressed turfgrass trigger the disease. Improved drainage and reduced irrigation, especially before periods of high rainfall, will help prevent infection. Irrigation should be managed so that the soil is not constantly wet.

Various techniques can be incorporated into the management program during periods of high rainfall to prevent *Pythium* root rot. Mowing should take place 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 weather that are conducive to disease. Improper mowing is a major stress on turfgrass.

Nitrogen applications should be balanced with equal amounts of potassium. Extra potassium may be useful in late summer and early fall months for those areas that are routinely affected by *Pythium* root rot. Slow-release potassium sources or frequent applications of quick-release potassium sources are suitable for use. If the disease does occur, it may be beneficial to apply a foliar application of nutrients to the leaves since the roots are not functioning efficiently.

Chemical Controls: Fungicide options include azoxystrobin, chloroneb, cyazofamid, etridiazole, fosetyl Al, phosphorous acid, propamocarb hydrochloride, and pyraclostrobin.

These fungicides (except for fosetyl Al) should be lightly watered into the root zone to increase effectiveness.

The UF/IFAS Extension Electronic Data Information Source (EDIS) website can be referenced for a homeowner's guide to turfgrass fungicides (http://edis.ifas.ufl.edu/document_pp154). Fungicide labels indicate site

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application restrictions, as some fungicides cannot be used on residential lawns. Label directions and restrictions for all pesticides should be followed as required by law. The presence of a fungicide on this list does not constitute a recommendation.

The “Turfgrass Disease Management” section of the *Florida Lawn Handbook* (<http://edis.ifas.ufl.edu/lh040>) can be referenced for explanations of cultural and chemical controls.