

## Pythium Root Rot<sup>1</sup>

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**Pathogen:** *Pythium* spp.

**Turfgrasses Affected:** All warm-season turfgrasses.

**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, 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 can 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, improve drainage and reduce irrigation, especially before periods of high rainfall. Avoid irrigation management that keeps the soil constantly wet.

During periods of high rainfall, incorporate the following techniques into the management program: Mow 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 a foliar application of nutrients to the leaves since the roots are not functioning efficiently.

**Chemical Controls:** Azoxystrobin, chloroneb, cyazofamid, etridiazole, fosetyl Al, phosphorous acid, propamocarb hydrochloride, and pyraclostrobin

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To increase effectiveness, these fungicides (except for fosetyl Al) should be lightly watered into the root zone.

For a homeowner's guide to turfgrass fungicides, see [http://edis.ifas.ufl.edu/document\\_pp154](http://edis.ifas.ufl.edu/document_pp154). Check fungicide labels for site application restrictions, as some fungicides cannot be used on residential lawns. Follow label directions and restrictions for all pesticides. The presence of a fungicide on this list does not constitute a recommendation.

**Refer to the "Turfgrass Disease Management" section of the *Florida Lawn Handbook* (<http://edis.ifas.ufl.edu/lh040>) for explanations of cultural and chemical controls.**