Pythium Blight

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Pythium blight, also called cottony blight or grease spot, is a fungal disease of turfgrasses. All turfgrasses, warm and cool season, are susceptible to attack. The disease is most severe during hot, humid conditions and where there is limited air circulation. Poorly drained soils also favor the occurrence of the disease. Covering overseeded sports fields with tarps during wet conditions greatly favors Phytium blight.

Symptoms. Pythium blight is most readily recognized as small spots or patches of blighted grass that suddenly appear during warm, wet periods. In the early stages the grass leaves appear water-soaked, slimy (greasy) and dark. As the disease progresses, the leaves shrivel and the patches fade from green to light brown. When observing these patches in the early morning, cottony fungal growth can usually be seen on the foliage.

In many cases these patches develop into diffused streaks that follow water drainage patterns or mowing patterns. These streaks are caused by the water or equipment picking up the causal fungus and spreading it along its path. Under favorable conditions for disease development, these streaks may coalesce to form large areas of dead grass. If a sudden drop in temperature or humidity or the application of a fungicide halts the development of Pythium blight, distinct straw-colored spots, resembling dollar spot, develop.

In the South, Pythium blight was not identified as a problem on turfgrass until 1954. By 1970, twenty species of Pythium were identified on turfgrasses from the South. *Pythium aphanidermatum* is the most frequently found causal agent of turf blights.

Pythium spp. also cause more root rot and injury to the crown of grass plants than is generally recognized. Infection results in slower growth, poor color and a general thinning of turfgrasses. It is most common on highly managed golf greens and sports fields. Symptoms may become visible at any time during the growing season. Pythium blight is one of the major causes of a poor transition from overseeded grasses to bermudagrasses in the late spring. Damage to the crown and roots of bermudagrass during early spring severely weakens the grass and slows its recovery. Such injury often goes unnoticed until it is too late to prevent.

As temperatures rise, large areas of turf may wilt, turn brown and die. Unlike Pythium blight of the foliage, no cottony mycelium is evident during infection periods, and rarely can pythium root rot be diagnosed from field symptoms alone. Pythium root rot is difficult to diagnose. Although infected roots

and crowns may be extensively discolored, microscopic examination of the tissue is required to detect the presence of *Pythium* in the root tissue.

Pythium spp. also cause a pre-emergence and post-emergence seedling blight or "damping-off" of overseeded grasses resulting in small patches of dead seedlings or a general thinning of overseeded grasses.

Disease Development. The mycelium or spores of *Pythium* spp. are commonly present in diseased grass tissue, thatch and in soils. Under favorable temperature and moisture conditions, the mycelium resumes growth and the spores germinate (much like the stolons and seeds of the grass plant). The spores can germinate and infect the grass plant within an hour or two.

Disease development occurs rapidly from these centers of origin by a cobweb-like, mycelial growth of the fungus from leaf to leaf. Rapid spread occurs when the mycelial strands or spores are moved by water or equipment across the turf.

Pythium blight develops most rapidly under humid conditions when air temperature is above 80°F. As temperatures approach 90°F, only a few hours are required to destroy a stand of grass.

Control. Cultural practices can go a long way toward preventing pythium blight. Good water management is very important in reducing disease potential. Remove thatch on a regular basis through frequent vertical mowing and topdressing; avoid lush growth produced by overfertilization and overwatering; improve air circulation by pruning or selectively removing trees bordering the site; and improve drainage through aeration and the use of soil amendments. Increasing the mowing height and other practices that promote root growth may lessen the damage from pythium root rot.

During extended periods of warm, humid weather, a preventive fungicide program may be needed to check the development of *Pythium*. Applications of fungicides recommended for control of Pythium blight should be made to areas with a history of *Pythium* activity when conditions are favorable for development or when symptoms first appear. Repeat applications as necessary.

On overseeded bermudagrass greens, Apron or Koban-treated seed can be used to prevent Pythium blight during the establishment period. Fungicide applications may be needed 7 to 21 days after planting to protect the young seedlings.