



Summer Patch

O & T Guide TD-2

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Causal Agent and Hosts: Summer Patch, also known as frog-eye patch, is caused by the fungus *Magnaporthe poae*. This disease is most common on bluegrasses and fescues. It can also infect bentgrasses, but these species typically show few symptoms and usually continue to grow while the more susceptible species decline. It is a common disease on golf greens and is often identified when bluegrass is killed and seemingly unaffected bentgrass grows into diseased patches.

Symptoms: The first symptom of summer patch is scattered roughly circular or crescent-shaped patches of slow-growing, thinned, or wilted plants. The infected plants quickly turn reddish-brown, then tan and ultimately straw-colored. Older patches may be 2 or more feet in diameter, and may have healthy grass in the center. When conditions are optimum for disease development, the patches may grow into one another resulting in larger area of blighted grass. Infected roots, rhizomes, and crowns turn dark brown as they are killed.

Conditions for Disease: The fungus survives as mycelium in plant debris or perennial host tissue and is spread by aerification and dethatching equipment as well as by transport of infected sod.

Infection occurs in the spring when soil temperatures stabilize between 65 and 68°F. Symptoms develop during hot (86-

95°F), rainy, weather or when high temperatures follow periods of heavy rainfall. The disease is more severe when turfgrass is maintained under conditions of low mowing height and frequent, light irrigation. Other conditions that favor the disease include: excessive thatch, unbalanced fertility, and soil compaction.



Summer patch symptoms on a putting green. Photo: N. P. Goldberg, New Mexico State University.



Summer patch symptoms on Kentucky bluegrass. Photo: N. Tisserat, Colorado State University



Large areas of blighted turf on a bluegrass lawn caused by summer patch. Photo: N. Tisserat, Colorado State University.



Individual plants infected by *Magnaporthe poae*. Photo: The University of Guelph.

Management: Cultural practices which help to reduce the occurrence and severity of the disease include:

- Avoid management practices that promote rapid top growth at the expense of root production.
- Maintain appropriate fertility levels.
- Avoid heavy nitrogen applications.
- Follow proper irrigation practices.
- Avoid watering at night.
- Avoid light, frequent watering.
- Promote good air circulation.
- Reduce thatch.
- Aerate compacted soils.
- Maintain turf at the tallest height recommended for the grass species.
- Preventative, systemic fungicides can offer protection against disease.