SUMMER PATCH ON TALL FESCUE
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Starting usually in late June and through the hottest months of July and August, tall fescue can experience the development of brown spots that can rapidly expand from six inches to more than a foot across. Summer patch, once known as Fusarium blight or Frog-eye, is caused by the fungus Magnaporthe poae.

Infested sites seem to be prone to environmental stresses that arise from heavy thatch accumulation, mowing turfgrass too low, high nitrogen fertilizer schedules, light and frequent watering schedules, compacted soils and poor drainage. The disease can be spread by maintenance equipment and infected plant material. Even though drought seems to encourage its development, it is frequently found in wet locations.

Obviously any type of management that reduces turfgrass stress during the hot summer months will help to curtail development of this disease. Appropriate fertilizer applications, aeration, removal of thatch, deep watering, and mowing higher will go a long way in preventing this disease from occurring.

Chemical treatment is an option for summer patch control but the key is to start early. Appropriate systemic fungicides should be applied beginning when night temperatures remain above 70°F. Using the wrong fungicide or high nitrogen fertilizers may actually aggravate the problem.

SYMPTOMS
The disease organism survives from one season to the next on diseased roots and stems from the previous year. The development of summer patch is highly dependent on the right environmental conditions. Elevated soil temperatures (75° to 85°F) and high soil moisture provide an environment where the disease is more virulent.

Disease starts as scattered light green patches 1 to 5 paulvinches in diameter as pathogens attack the roots and crowns of susceptible plants. In the early stages, young roots may appear healthy, although dark brown hyphae may be present on these tissues when seen under magnification. Vascular discoloration and cortical rot occur as the disease progresses. Damage to roots, crown and stem by the disease restrict water uptake and plants begin to appear drought stressed.

By midsummer, plants with increasing levels of infection die due to heat and drought stress resulting from their damaged roots and stems. At this stage, roots and stems of plants showing dieback have a dark brown rot. Circular or crescent shaped patches of dead and dying plants are formed by the spread of the pathogen, root to root, from an initial infection site. Several of these patches can coalesce into a patchwork of dead grass in a serpentine pattern, scattered with clumps of healthy grass.

Patches of dying plants create doughnut shaped depressions that can grow to two feet across and turn dull tan to reddish brown and give the affected area a pockmarked look. In some cases, an apparently healthy green patch of grass will be completely surrounded by a ring of dead grass creating a “frog-eye” appearance.

In advanced stages where large patches may appear entirely dead tufts of green grass frequently remain in the dead grass, remnants of the earlier “frog-eye”.

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Since the pathogen survives in infected root and crown tissues, the disease is likely to reappear next year in the same areas with increasing intensity.

New patches may be formed after the transport of contaminated roots or root debris from turf maintenance equipment such as power rakes, vertical mowers and aerators.

**PREVENTIVE MANAGEMENT**

To minimize the risk of summer patch, it's helpful to minimize stress on the lawn. Primary stresses include excess thatch, inappropriate fertilizer or incorrect timing of fertilizer applications, high temperatures, low mowing heights, and soil pH extremes.

- Always apply a balanced N-P-K fertilizer and don’t apply any fertilizer during the June-August stress period.
- Fertilizers should be applied at half rates as needed. You don’t want the turfgrass underfertilized or overfertilized which may add to stress or increase susceptibility.
- Avoid heavy early spring and summer applications of fertilizer high in nitrogen.
- Develop a fall fertilization program supplemented with a half rate summer fertilization program.
- Deep water prior to summer heat to encourage deeper root systems.
- Seed heat tolerant perennial ryegrasses such as Palmer, Prelude and Brightstar.
- Syringe (short applications of water) during the heat of midday during July and August.
- Core aerate in early fall or mid spring.
- Remove thatch by aeration, vertical mowing or power raking.
- Increase mowing height to 3 inches during the hot summer months. Susceptibility to this disease increases as mowing height decreases.
- Overseed with improved cultivars.

When summer patch is severe or when fungicides are not an option then the only remedy is fall overseeding or resodding after the disease has subsided. At this time there are no tall fescue cultivars that have been identified as resistant to summer patch.

**FUNGICIDE TREATMENT**

Fungicides may be required for control if summer patch has been a problem in previous years. Apply treatment 3 to 4 weeks before symptoms are likely to occur in late spring when temperatures are in the 65° to 68°F range. Systemic fungicides such as Rubigan, Banner or Bayleton should be applied when night temperatures don’t fall below 70 F. Irrigate after application. Apply fungicide starting in June.

Chemical control is most effective when fungicides are applied as preventative rather than curative treatments. Treatment after mid-August is usually not needed. Using the wrong fungicide may actually aggravate the problem. Research has shown that soil drenching with a tank mix of benomyl and thiram, mancozeb, or chlorothalonil provides effective curative control.

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1 Disease diagnosis on tall fescue and bermudagrass growing in southern Nevada performed by Dr. Phil Colbaugh, Texas A and M University. Recommendations compiled from information obtained at Texas A and M, University of California, University of Nebraska and Iowa State University.