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UNCOVERING THE MYSTERY BEHIND TURF LOSS THIS SPRING

LATEST NEWS ABOUT TURFGRASS DISEASES

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Many people in Texas have wondered why they are losing so much turf this spring (Fig. 1) and whether take-all root rot is responsible. Despite having a mild spring with plenty of rain, many home lawns did not recover as in the past year. Ed Solon with TruGreen also noticed this issue and has been busy responding to Texas customers regarding above-normal turf loss this spring. The recent statewide turf damage is likely related to adverse weather conditions last year. Texas suffered from last summer's record-high temperatures and drought due to La Niña climate pattern. Water restrictions were imposed voluntarily or involuntarily throughout Texas, making it difficult to keep up with water needs for lawns.

DROUGHT

Drought has a significant impact on turfgrass health, growth, and appearance. As the soil dries out, the grass becomes stressed and more susceptible to damage from pests, diseases, and traffic. The grass changes color from green to grayish-blue or brown, and leaf blades become wilted or curled. As the drought stress continues, the grass becomes thin and patchy and eventually moves to summer dormancy. Turfgrass starts to die as the water deficit condition extends for more than 1 month.

After the hot and dry summer, precipitation in Fall 2022 was back to annual average levels. This late-season precipitation promoted large patch disease caused by *Rhizoctonia solani*, a common fall disease that infects and decimates turf until the plants go completely to winter dormancy (Fig. 2). Finally, the winter delivered some harsh freezes, particularly in North Texas. During the past summer and fall, through the winter, turf damage was more than usual. Often, dead turfgrass is recognized in the spring, and sometimes it never recovers, even with additional supplementation of water and fertilizer in the spring. This practice may

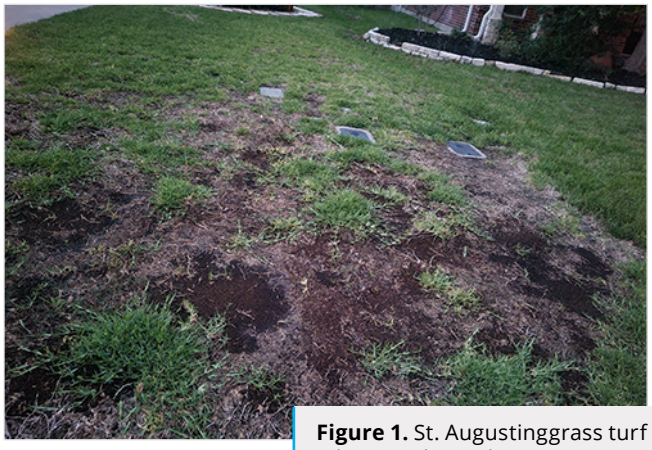

Figure 1. St. Augustinggrass turf loss in a home lawn, May 2023.

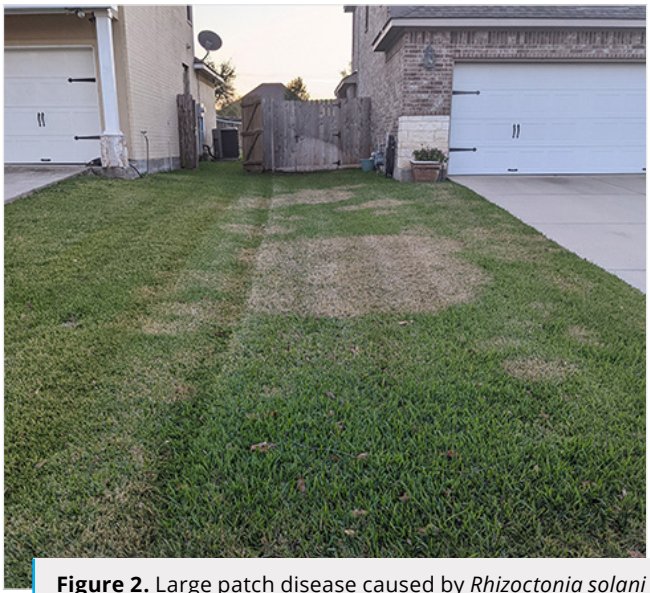

Figure 2. Large patch disease caused by *Rhizoctonia solani* in a St. Augustinegrass home lawn, November 2021.

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promote dormant grass to grow but does not make dead plants revive. Dr. Manuel Chavarria, Texas A&M AgriLife Extension Specialist, pointed out that many people fertilized their lawns in March and started to irrigate every day or 3 times a week, not realizing that the grass did not get fully out of dormancy. Dr. Young-Ki Jo lives in College Station, Texas, and did not turn on lawn irrigation until May 30, 2023, but his lawn looks green and healthy.

WHAT ABOUT TAKE-ALL ROOT ROT DISEASE?

Take-all root rot is a common fungal disease that affects warm-season turfgrass growing in Texas, including St. Augustinegrass, bermudagrass, and zoysiagrass. The disease is caused by the fungus *Gaeumannomyces* species, which survives in soil, roots, and stolons (Fig. 3) for extended periods and infects turfgrass during warm weather and wet soil conditions. The fungus can be found in unhealthy grasses in damaged turf. However, it is also easy to find the fungus in healthy-looking grasses near the same damaged turf area. This indicates that take-all root rot does not instantly kill the plant or is not the single source of turf loss. Instead, drought stress exacerbates the symptoms of the disease. When turfgrass is already infected with the fungus, drought stress can cause infected plants to progress with rapid decline, leading to death.

THE BOTTOM LINE

The bottom line is that dead individual plants are not coming back in the spring. Adjacent healthy turfgrass needs to grow back and recolonize the damaged space, which is the case when the damaged area is small. The medium-sized damaged area can be plugged in with healthy turfgrass (Fig. 4). The best option is to plug in with the same turfgrass if there is healthy turfgrass in the same area, such as around a flowerbed or backyard. The large-damaged area will be left with the option to be resodded.

All these turf-repair practices require removing dead plant materials from the area and adding good soil and amendment first (Fig. 5). Spring is the best time for fungicide application to remediate take-all root rot (Table 1) since the fungus is most active. Fungicides need to be used with plenty of water (4 to 5 gallons of water per 1,000 square feet), or the grass needs to be thoroughly watered (¼ to ½ inch water) immediately after application. The water will ensure that the product moves into the grass stolon and root zone rather than drying on the leaves. However, it is important to emphasize that fungicides alone are not a cure-all since their effectiveness can vary, and turf recovery requires proper cultural practices, such as mowing and irrigation.

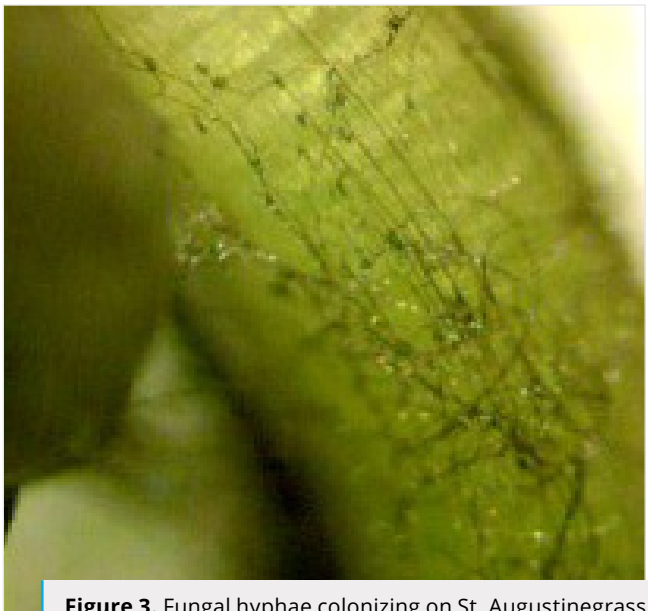

Figure 3. Fungal hyphae colonizing on St. Augustinegrass stolons infected by take-all root rot.

Figure 4. Plugs of St. Augustinegrass planted in the damaged area of a home lawn. Well-established plugs start producing new stolons.

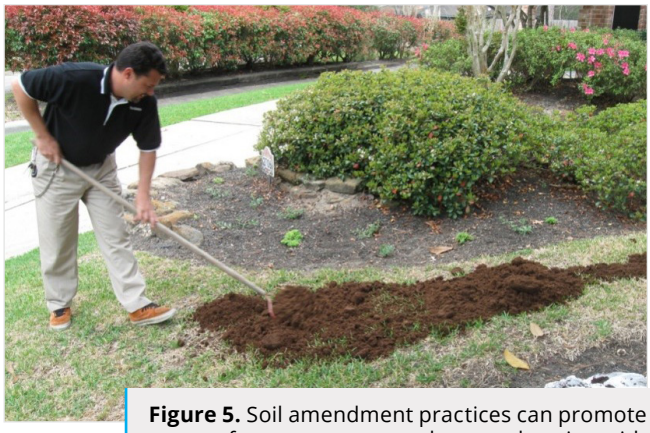

Figure 5. Soil amendment practices can promote turfgrass recovery, such as topdressing with peat moss (4-cubic-feet bale per 1,000 square feet of turf). *Picture credited to Ed Solon.*

TABLE 1. FUNGICIDES LABELED FOR CONTROL OF TAKE-ALL ROOT ROT DISEASE FOR HOMEOWNERS	
COMMON NAME	**TRADE NAMES**
Azoxystrobin	Maxide Disease Killer Heritage G
Myclobutanil	Spectracide Immunox Lawn Disease Control Fertilome F-Stop Green Light Fung-Away Systemic Lawn Fungicide Monterey Fungi-Max
Propiconazole	Ferti-Lome Liquid Systemic Fungicide II Monterey Fungi-Fighter Bonide Infuse Systemic Disease Control Bayer Fungus Control for Lawns Ready to Spray
Chlorothalonil	Bonide Fung-onil Lawn and Garden Disease Control
Thiophanate-methyl	Fungo 50 Fungo Flo Scott's Lawn Fungus Control Southern Ag Thiomyl Bonide Systemic Disease Control Lawn and Landscape

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