



## *Fungal Diseases of Turfgrass*

### ***Take All Root Rot (TARR)***

Take All Root Rot (TARR) is a significant disease of turfgrass in Texas. St. Augustine grass is especially susceptible, being poorly adapted to our area. Symptoms appear mostly in the summer, though the disease spreads throughout the lawn in cooler months. The symptoms show up first as yellow uneven patches in an otherwise green lawn, the lawn then dies in patches between one and ten feet in diameter. The roots will be shortened, discolored, and eventually blackened and shriveled.

Take All Root Rot can be associated with excessive nitrogen fertilizer, especially synthetic fertilizers, and the use of synthetic broadleaf herbicides. Please see our *Organic Lawn Care Guide* for more information on fertilizing and weed control with natural products.

To properly diagnose TARR, a sample of the *green* lawn (sod) about a foot square, taken from the edge of a “sick” spot, may be brought into the Natural Gardener, where we will look under magnification for the mycelial strands of the fungus. Please call first for the availability of a diagnostician.

The following options for treatment of TARR are gleaned from existing research, experience, and basic organic disease control guidelines. Use one or all of the following steps, listed in order of importance and effectiveness to aid in its control:

**1. Beneficial Bacteria** Spray the affected areas, and several feet of surrounding lawn, with beneficial bacteria that colonize roots and actively suppress and control diseases. We recommend two alternatives:

- Spray beneficial streptomycetes (e.g. Actinovate). Use once every 4-6 weeks until control is achieved. Thereafter, apply every spring and fall for prevention. Ask us for more complete instructions.
- Or spray twice monthly with a product containing the beneficial bacteria *Bacillus amyloliquefaciens* strain D747 (e.g. Monterey Disease Control) until control is achieved.

**2. Topdressing** As an annual maintenance practice, topdress the entire lawn with ½” compost, but only when the weather is below 85 - 90 degrees. Good quality compost contains beneficial living microorganisms that are instrumental in disease suppression. It may be applied to dead patches anytime.

**3. Compost Tea** Spray the entire lawn with our aerobically-brewed compost tea. This is a product that we have available only Thursday through Sunday, and it should be used within 8 hours of purchase. For the most effective disease control, spray compost tea undiluted once a week for the first month, then once a month thereafter.

**4. Reduce Soil pH** Lowering the soil pH to be more acidic can suppress the fungus. Use of elemental sulfur can achieve this, though care should be taken when applying it to avoid burning the grass. An iron/sulfur product can be helpful e.g. Monterey’s Doctor Iron. Optimal application is 3-4 weeks after steps 1 & 3 due to sulfur being antimicrobial. Liquid or dry humates acidify without killing microbes.

Remember, any liquids should only be sprayed first thing in the morning or late in the evening.

Best results are obtained when the lawn is treated at the first sign of Take All Root Rot, and treatments are continued as directed.

## ***Brown Patch Fungus***

Brown Patch is a fungal disease that affects mostly St. Augustine grass. The good news is that it is usually not fatal. The bad news is that it looks ugly. The symptoms are brown, fairly distinct circular spots in the lawn occurring during cool, moist conditions of the **autumn and early spring**. The St. Augustine runners (stolons) are healthy & green, but the leaves turn brown and rot. Often, brown patch shows up in the same area each year. During the hot season, the lawn usually recovers. If most of these symptoms are present, then your lawn most likely has brown patch. Use the tips listed below to help get this disease under control.

A healthy lawn is the best preventative for brown patch. Starting an organic lawn care program is the first and best step towards a healthy, disease-resistant lawn. At **anytime of the year**, check and correct these conditions first.

1. **Overwatering** contributes to brown patch. St. Augustine needs to be watered once each five days in the summer, and once every seven days or more the rest of the year. Only 1” to 1½” of water should be applied each time. Use shallow tin cans, such as tuna fish cans, to measure how long it takes to apply 1” to 1½” of water. If there is less than 4” of soil underneath the lawn, it may need to be watered more often. Apply a half-inch of soil-based topdressing once or twice a year to deepen the soil (A sand-based topdressing is an alternative but should not be used on clay soils.)

2. **Watering** should be done only in the early morning. Watering at night promotes brown patch.

3. **Fall Fertilizing** should only be done in late September or early October. In addition, only organic fertilizers should be used. An organic program preserves the beneficial, disease-fighting soil organisms.

4. Apply a ½” of **compost** in the spring (and/or fall) to improve soil and lawn health and add beneficial microbes. Likewise, apply our **aerobic compost tea** at least four times a year.

5. **Aerate** the lawn after topdressing to improve drainage in clay soils. **Mowing high** (no shorter than three inches) is recommended for St. Augustine. Also, **fill in low spots** with soil, one-half inch at a time.

Mark your calendar for **early to mid-September** to use these preventative measures. Even if the brown patch symptoms are already present, these products can help cure or prevent the recurrence of brown patch in the spring.

1. **Corn meal:** Apply one to two pounds per 100 square feet over the affected area and beyond. Corn meal feeds a beneficial microorganism in the soil called Trichoderma that fights brown patch.

2. **Biological Fungicides:** Apply according to package directions. These beneficial bacteria help fight off dozens of fungal diseases. These are the most effective fungal controls for lawn diseases.

3. **Aerobic Compost Tea.** Apply undiluted one to four times a month in the brown patch prone areas. Compost tea must be used within 8 hrs of purchase.

These safe and simple steps can help manage Brown Patch. Let us help you bring your lawn to its most vibrant, healthy state! Alternatively, let us show you how to transform your lawn into a beautiful, drought-tolerant landscape.