

Take-All Root Rot

This is a root rot disease. Damage to the roots prevents the turfgrass from efficiently obtaining water or nutrients from the soil. The plant is also unable to store the products of photosynthesis. The fungus does not attack leaves. Symptoms observed on the leaves are the result of pathogen activity on the root system. Initial activity of the fungus on the roots can only be observed by looking at the roots. If the turfgrass is not stressed, or if it is under low levels of stress, leaf symptoms may never be observed. However, under high stress conditions, symptoms can appear on the leaves. By the time the leaf symptoms appear, the pathogen has been active on the roots for at least two to three weeks—probably longer.

Initial symptoms aboveground are irregular, yellow (chlorotic) or light green patches ranging in diameter from a few inches to a few feet. Roots are initially thin and off-white in color with isolated black lesions. Eventually, roots become very short, black, and rotted. Stolons and rhizomes may have black lesions and, under severe disease conditions, begin to rot. Entire plants may die, resulting in irregular patches of thinning grass, and if the rot is not controlled, bare patches may develop.

There is no way to get rid of it completely. To suppress it to the point that grass looks reasonably good there will have to be a strict management program. All grass types are susceptible, but zoysia can tolerate it longer. With a high pH, you definitely don't want to use centipede. Do submit a full soil sample by picking up a kit and sending it to Gainesville. It costs \$7, but it will also tell us if you are lacking specific nutrients. The healthier the grass, the better it can handle the fungus. *Any* stress placed on the turfgrass can encourage or worsen the disease

Start with calibrating the sprinkler system to know how long each zone must run to deliver 3/4" of water.

If replacing areas with new sod:

Spread 4 cubic feet of sphagnum peat moss over every 1,000 sq. ft.. Run the sprinkler system. Rake or turn with a shovel so that the peat moss is mixed with the sand in the top 2-4".

Throughout the year, peat moss can be added any time an open area appears in the lawn.

Lay the new sod. Irrigate 1-2 times a day at half the calibrated time for the first week. As the roots begin to form, reduce the watering to daily for the full length of time. When you can't pick up the corner of the grass piece any more (usually 3-4 weeks) start watering every other day instead of daily.

If you plan to re-sod during the summer months, you will need to water every two days until we cool off in the fall.

But, over the winter only water if there is no rain for 7 days. Beginning next spring, you will have to establish a watering schedule based on when the grass is beginning to dry. There will be no way to have a set schedule for more than a few weeks at a time. A working, well-placed rain shut-off device is essential. Overwatering will aggravate the fungus.

Fertilizer will need to be based on the soil test. If it is low, add potassium at the same time you are incorporating the peat moss.

Never lime even if a soil test says to.

After the sod has rooted (30-60 days) apply the fertilizer analysis that the soil test recommends, but at 1/4 the rate. Make sure that it does not contain nitrate nitrogen.

The grass will need to be fertilized about every 6 weeks at very low doses. Nitrogen (the first number on the fertilizer bag) can make the fungus spread.

No fertilizing after September 1 or before April 15th.

Finally, fungicide applications will need to be applied during the sod establishment time, as well as, each fall and spring. Fungicide options include azoxystrobin, myclobutanil, propiconazole, pyraclostrobin, thiophanate methyl, and triadimefon. Any of the systemic lawn fungicides can be used for the establishment applications, but try to avoid using the ones listed on the following list. They will be needed for the Take-All suppression applications. If hiring a Pest Control business, there will be many more chemical options for those licensed to purchase them.

Refer to this spray schedule to manage the Take All once the grass is rooted.

Chemical Control for Take-All Root Rot suppression

Fungicide	Rate per 1,000 sq. ft.	Comments
azoxystrobin		
Heritage 50W	0.4 oz.	Make 2 applications at 28-day intervals in spring or fall.
propiconazole		
Banner Maxx	2 - 4 fl. oz.	Make 1 to 2 sprays in February and March and again in August and September at 4-week intervals.

triadimefon		
Bayleton T/O	2.0 oz.	Preventive: Start sprays 2 to 4 weeks before symptoms appear. Re-apply every 3 to 4 weeks. Apply 2 to 4 gallons of spray volume per 1,000 square feet. Thoroughly water after each application.
	4.0 oz.	Curative: Make 1 to 2 sprays on a 2- to 3-week interval followed by the preventive rate at 3- to 4-week intervals. Follow recommended cultural practices to suppress disease. Apply 2 to 4 gallons of spray volume per 1,000 square feet. Thoroughly water after each application.

Keep in mind that the fungicides must be alternated, so several products will need to be purchased. Don't use the same product in the spring and fall of the same year.

The turfgrass *must* be mowed at the correct height during the summer. Turfgrass should be mowed as frequently as necessary so that only one third of the leaf tissue is removed during any one mowing event. Removing too much of the leaf tissue in a single mowing, or scalping the grass, damages the growing point.

Cultural practices are the most important for reducing the damage from this fungus. Fungicides can keep it in check but if you over water or apply extra fertilizer the fungicides will not help.