

Take-all Patch

Gaeumannomyces graminis var. *graminis* or *avenae*
(*Bermudagrass decline on bermudagrasses*)

DISEASE SYMPTOMS:



Circular patches up to 2 ft. diameter; light-brown to straw colored; may form a ring as result of turf recovery in center or invasion of off-type species; patches grow after few years; yellowing of leaves with often die; turf becomes thin as roots, nodes and stolons become infected and die; roots become rotted so damaged stolons easily pulled from the ground, similar to white grub damage; regrowth very slow; during summer months, weakened infected turf will continue to decline

HOST GRASSES:

Major hosts: Bentgrasses, Bermudagrasses, St. Augustinegrass

Others: Zoysiagrass, Centipedegrass, bluegrasses, Fine fescues, Perennial ryegrass

DISEASE CYCLE:

Pathogen overwinters as dormant mycelia in living and dead plant tissues; fungus forms dark brown to black ectotrophic runner hyphae on roots and stems of host plants; infection results where fungus penetrates subterranean plant tissues and spreads to adjacent plants by growing along roots and lateral shoots; most active in cool wet periods, but symptoms become more noticeable during drier conditions in early to midsummer; root and crown attacking fungus; soil and seed borne; most severe in 3rd and 5th years after planting and then declines; infection thought to occur more in fall and progressing in winter months

FACTORS THAT MAY PROMOTE DISEASE DEVELOPMENT:

Poor drainage; low nitrogen; excessive irrigation; excessive thatch; soil compaction; alkaline soils above 6.3; moist cool conditions of 50 to 76 degrees; stressed turfgrasses

CULTURAL CONTROL:

Reduce soil pH to 5.5 to 6.0; avoid use of alkaline soil amendments; improve soil drainage; maintain water balance; aerification program; use of acidifying fertilizers; balanced fertility program; raise mowing height; do all you can do to prevent stress on turfgrass

CHEMICAL CONTROL:

Fungicides may or may not be effective; difficult disease to control; use a preventative program in fall and spring; fall applications probably more effective; very important to water fungicides in as deep as you can; replacing the turfgrass without applying a fungicide will only result in the infection of this disease to the new sod.

<i>Specific Fungicide Recommendations</i>			
Fungicide (chemical name)	Efficacy	Application Interval	Example of Products (trade names)
Fenarimol	Fair to Good	30 days	Rubigan, Patchwork
Myclobutanil	Fair to Good	28 days	Eagle, Immunox
Azoxystrobin	Fair	28 days	Heritage
Propiconazole	Fair	Fall, spring	Banner Maxx

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