

ANTHRACNOSE FOLIAR BLIGHT AND BASAL ROT



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Anthracnose diseases caused by *Colletotrichum cerealis* (*graminicola*) have been reported to be a major cause of the death of annual bluegrass during the summer months. The pathogen may cause a foliar blight or a rot of crowns, stolons, and roots. In *Poa annua* the disease appears throughout the season, while on *Agrostis* spp. it most often occurs in summer or early autumn. Symptoms of foliar blight are most evident during the summer stress period and include a yellowing to reddish brown discoloration of leaves and a general thinning of the turf. The distinctive fruiting bodies (acervuli) of the fungus with protruding, black hairline structures (setae) can be observed with a hand lens. Basal rot occurs when the crown tissues become infected and scattered plants or small patches of plants turn yellow and die. Close examination of the infected stem base reveals water-soaked and black rot of the crown tissue. Spring outbreaks on annual bluegrass greens can be very destructive. In warm weather, turf infected by anthracnose basal rot turns reddish brown or yellow and the turf thins out in large, irregularly shaped patterns.



Colletotrichum cerealis is particularly damaging to annual bluegrass, but has also been reported on creeping bentgrass, Kentucky bluegrass, fine-leaf fescues, perennial ryegrass, and bermudagrass. The pathogen seldom attacks both *P. annua* and *Agrostis* spp. in the same green or golf course indicating a degree of host specificity among isolates. Anthracnose survives in plant debris as a saprophyte or as a pathogen in infected plant material and is favored by conditions that stress the turfgrass such as low fertility, high temperature stress, low mowing height, poor soil drainage, compaction, and heavy traffic. Abrasive grooming techniques (topdressing, aerification, vertical cutting) which create

wounds can intensify disease pressure. Anthracnose is favored by high humidity or conditions that allow excess water to remain in the leaf canopy and conidia can be spread by wind, water, or machinery.

Management:

Alleviate conditions that cause stress to the turfgrass. Preventive applications of fungicides are recommended where the disease is a chronic problem.

- Fertilize with complete fertilizers, avoiding deficiencies of potassium and phosphorous.
- Do not apply nitrogen at high rates during periods of high temperature stress or drought.

- Water deeply and infrequently.
- Avoid abrasive grooming techniques when the disease is active.
- Increase mowing height and reduce mowing frequency.
- Reduce soil compaction by core aeration in spring and fall.
- Minimize leaf wetness by improving air circulation (pruning of trees and shrubs) and/or early mowing or dew removal.
- Wash mowers when moving from infected areas.

Chemical recommendations:

Early applications while the disease is in the foliar phase are most effective. For basal rot, a systemic fungicide should be applied and watered in to reach the crown area. Follow with a separate application of a contact/protectant fungicide like chlorothalonil or manzate.

azoxystrobin (Heritage): 0.2 to 0.4 oz/ 1000 sq ft (REI 4 hr). Do not apply more than one application of azoxystrobin before alternating with a fungicide with a different mode of action.

chlorothalonil (Daconil, Echo 720F, Manicure T/O): 3.6 to 5.5 fl oz/ 1000 sq ft (REI 12 h). Contact fungicide with multi-site activity. Combine with above DMI fungicides for foliar stage anthracnose.

maneb plus zinc (Manzate): 7 to 10 fl oz/1000 sq ft (REI 24 h): Contact/protectant fungicide.

myclobutanil (Eagle): 1.2 fl oz/ 1000 sq ft. Apply when conditions are favorable for disease development. Systemic, protectant, and curative fungicide.

propiconazole (Banner): 1 to 2 fl oz/ 1000 sq ft (REI 24 h). Apply when conditions are favorable for disease development. Use higher rate and shorter interval when disease pressure is high.

triadimefon (Bayleton 50 WSP): 1 Oz/ 1000 sq ft (REI 12 h) Apply at 30 day intervals and repeat as needed. Systemic fungicide that requires thorough coverage and wetting of foliage.

trifloxystrobin (Compass 50 WDG): 0.15 to 0.25 oz/ 100 sq ft (REI 12 h): Apply when conditions are favorable for disease development. Do not alternate with azoxystrobin (Heritage) or make more than one application before alternating with a fungicide with a different mode of action.

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