

Managing Basal Rot Anthracnose on Greens

A Disease Update by the USGA

Basal rot anthracnose (*Colletotrichum graminicola*) has become a serious problem on *Poa annua* (annual bluegrass) putting greens in the Mid-Atlantic Region of the United States. Basal rot is very difficult to control once the turf shows signs of thinning. This is especially true when *Poa annua* develops the disease in March, April or May. To alleviate basal rot, increase the height of cut and use walk-behind greens mowers. Divert traffic away from affected areas by moving cups frequently. Apply light rates of soluble fertilizers to improve plant health. A moderate application of nitrogen from ammonium sulfate or urea (0.1 to 0.125 lb. per 1,000 sq. ft.) is suggested every 7-14 days. When the disease is active, avoid topdressing, double cutting, core cultivation, brushing, vertical mowing and other abrasive practices. This is because the pathogen enters plants more easily through wounds. Furthermore, avoid mowing when greens are excessively wet and spongy. This will increase mechanical damage which can intensify the disease. Switch from grooved to solid rollers.

In the autumn, after symptoms have dissipated, core aerate and overseed to increase the amount of bentgrass in the greens. Avoid excessive irrigation at any time and water only as-needed to prevent wilt. Poor surface drainage seems to aggravate the disease problem. Winter and spring symptoms of basal rot anthracnose may be different from anthracnose foliar blight traditionally experienced in the summer. Equally, the anthracnose that affects *Poa annua* may be different from the anthracnose that affects creeping bentgrass.

Thus, where concern exists about this disease, preventive applications of fungicides are suggested, beginning two to four weeks prior to the expected onset of the disease. Since disease outbreaks can occur at different times of the season, even within a small geographical area, keep records of when and under what conditions the disease occurs, then use this information as a guide for application timing the following year.

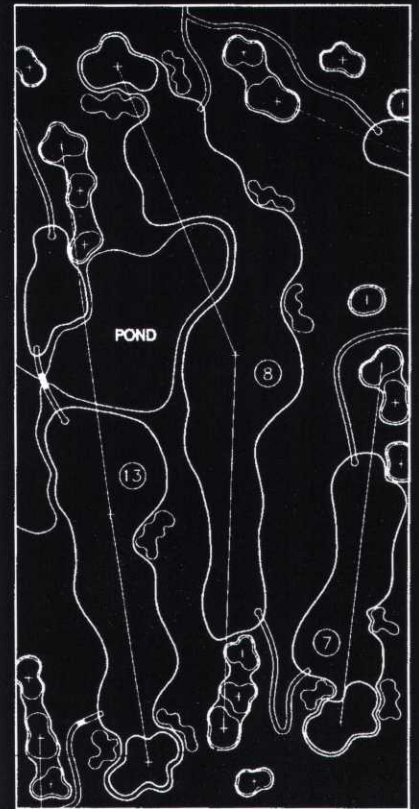
A contact fungicide, such as chlorothalonil (Daconil) tank-mixed with either azoxystrobin (Heritage), fenarimol (Rubigan), fosetyl Al (Signature), polyoxin D (Endorse), propiconazole (Banner MAXX), thiophanate (CL 3336 or Fungo 50), triadimefon (Bayleton), or trifloxystrobin (Compass) should help reduce, but not eradicate basal rot anthracnose after the disease is active. These fungicides work best preventively. Triton, Lynx or Insignia (if or when labeled) can also be included in this spray rotation. For curative sprays, always include a high label rate of chlorothalonil in the mixture and reduce spray intervals. It may be necessary to schedule numerous fungicide applications on 7-10 day intervals to arrest basal rot, particularly in *Poa annua*. Fungicide management control guidelines will follow.

In some chronically infected *Poa annua* greens, especially when managed at mowing heights of less than 1/8 of an inch for maximum green speeds, basal rot may not be controlled with fungicides. In these extreme cases, chronically infected greens that consist mostly of *Poa annua* may have to be renovated and regrassed to the latest generation of low-growing creeping bentgrasses. There are several options including resodding, fumigation and reseeded, and complete reconstruction of the diseased greens. Contact your USGA Green Section regional office for recommendations.

Another common denominator that we have seen on greens with this disease in the spring is that these courses experienced significant loss of *Poa annua* (*Poa annua*) the previous year. Basal rot anthracnose may be less of a problem on greens that have not experienced a significant loss of grass in recent history. In addition, low mowing

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heights of 1/8 of an inch (0.125 in) or less, along with the associated mowing stress, contribute to the initiation and difficulty in controlling this disease.

Anthracnose Management

Cultural Practices:

- ~ Do not mow when greens are excessively wet (spongy).
- ~ Use walk-behind mowers and reduce mowing frequency (floating head mowers preferred).
- ~ Mow at 5/32" (0.156 in) using solid rollers (raising mowing heights may be easier said than done)
- ~ Avoid excessive irrigation. Syringe to prevent wilt.
- ~ Apply 0.1 to 0.125-lb. N/M sq. ft. from ammonium sulfate or urea every 7-14 days. Tank-mix with fungicide applications.
- ~ Avoid PGR's when anthracnose is active.
- ~ Avoid grooming operations (topdressing, dethatching, verticutting, brushing, aeration) when anthracnose is active.
- ~ When grooming operations cannot be avoided, apply fungicides tank-mixed with soluble fertilizers prior to grooming, even if anthracnose is not active. Syringe after grooming.
- ~ Attempt to suppress or control *Poa annua* seedheads in the spring.
- ~ Monitor parasitic nematode activity in spring and early summer as nematode activity may be another predisposition factor to the development of anthracnose during the summer and fall.

Fungicides

If the disease is active, rotate penetrant fungicides from the classes shown: Thiophanate (CL 3336 or Fungo 50) in the first 7-10 days; followed by a strobilurin (Compass Heritage) or (when labeled) Insignia) in the second 7-10 days; followed by a sterol-inhibitor (Banner, Bayleton, Eagle, or Rubigan) or (when labeled)) Triton or Lynx in the third 7-10 days period. Consider including Signature in this

rotation at least once per month. Endorse is an additional penetrant to consider. Do not use a fungicide from the same chemical class in succession. Keep changing the rotation. Also, as temperatures increase, be mindful of growth regulating side effects of sterol-inhibiting fungicides. Always tank-mix a penetrant with a contact like Daconil (or other chlorothalonil products).

NOTE: Strobilurin and thiophanate resistant biotypes of anthracnose have been reported on bentgrass in Georgia. There is no current acceptance on how widespread resistance is occurring on *Poa annua*.

Finally, the best long-term control strategy for chronic

Fungicide Rates

- Daconil Ultrex	3.25 oz - 5.0 oz
- Signature	4.0 oz
- CL 3336	4.0 oz - 6.0 oz
- Endorse	4.0 oz
- Heritage	0.2 oz - 0.4 oz } Rotate
- Compass	0.25 oz } Rotate
- Banner MAXX	1.0 oz - 2.0 oz }
- Bayleton 50W	0.5 oz - 1.0 oz }
- Rubigan 1AS	1.0 oz - 1.5 oz }
- Eagle	0.6 oz - 1.2 oz }

basal rot anthracnose is to encourage bentgrass, which is much more tolerant of this disease. Reducing thatch, mat and soil compaction by core aeration, topdressing, verticutting, etc., when anthracnose is not active and maintaining healthy turf remain Best Management Practices (BMP's).

FOOTNOTE: This information is presented in cooperation with Dr. Peter Dernoeden, University of Maryland, Dr. Peter Landschoot and Dr. Wakar Uddin, Penn State University and the staff of the USGA Green Section's Mid-Atlantic Region, Darin Bevard, Keith Happ and Stan Zontek. We thank everyone for their input on this project.

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