Managing Basal Rot Anthracnose on Greens

by Dr. Peter Dernoeden

Basal rot anthracnose (Colletotrichum graminicola) is currently active on annual bluegrass putting greens on some golf courses in the Mid-Atlantic region. Profuse production of fruiting structures and spores has been observed on symptomatic plants from various golf courses in Pennsylvania and other states in the Northeast during the past winter and early spring. Constant temperature and increased moisture from insulation provided by artificial covers or prolonged snow cover may enhance spore production. An adequate surface and subsurface drainage system should be in place to combat the disease.

Basal rot is very difficult to control once the turf shows signs of thinning. This is especially true when annual bluegrass develops the disease in March, April or May. To alleviate basal rot, use walk-behind greensmowers and increase the height of cut immediately. Divert traffic away from affected areas by moving cups frequently. When the disease is active avoid topdressing, double cutting, core aeration, brushing, verticutting, and other potentially abrasive practices. This is because the pathogen enters plants more easily through wounds and because additional stresses are placed on the plants, reducing their ability to defend against the disease. Furthermore, avoid mowing when greens are excessively wet ("spongy") as this will cause mechanical damage, which intensifies the disease. In the autumn, after symptoms have dissipated, core aerify and overseed to increase the amount of bentgrass in the greens. Water from irrigation should be applied only as needed to prevent wilt.

A modest application of nitrogen from ammonium sulfate or urea (0.1 to 0.125 lb. N/M sq. ft.) combined with a contact fungicide, such as chlorothalonil (Daconil) or mancozeb (Fore, Dithane) tankmixed with either azoxystrobin (Heritage), fenarimol (Rubigan), propiconazole (Banner MAXX), thiophanate (CL 3336 or Fungo 50), triadimefon (Bayleton), or trifloxystrobin (Compass) should help reduce, but not eradicate basal rot. For curative sprays, always include a high label rate of chlorothalonil in the mixture. Numerous fungicide applications on a 7 to 10-day interval may be required to arrest basal rot, particularly in annual bluegrass. Fungicide management control guidelines will follow.

In some chronically infected annual bluegrass greens, basal rot cannot be controlled with fungicides. In these extreme cases, greens that consist mostly of annual bluegrass that are chronically infected should be regrassed to creeping bentgrass. There are several options including resodding, fumigation and reseeding and complete reconstruction of the diseased greens. Contact your USGA Green Section regional office for recommendations.

If there are common denominators between the golf courses we have seen with this disease this spring, it is that these courses experienced significant loss of Poa annua (annual bluegrass) the previ-

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ous summer. 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 heights of 1/8 of an inch (0.125 in) or less 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

√ Mow at 5/32" (0.156 inch) and use solid rollers (raising mowing heights may be easier to say than do)

√ Avoid excessive irrigation/syringe

√ Apply 0.1 to 0.125-lb. N/M sq. ft. from ammonium sulfate or urea

- Tankmix with fungicide

√ Avoid PGRs when anthracnose is active

√ Avoid grooming (topdressing, verticutting, brushing, quadratine) when anthracnose is active

- Apply fungicides prior to grooming, even if anthracnose is not active
- Syringe after grooming

Fungicides:

If the disease is active, rotate penetrants from the three classes shown: Thiophanate (CL 3336 or Fungo 50) in the first 7 to 10-days, followed by a strobilurin (Compass or Heritage) in the second 7 to 10-days, followed by a sterol-inhibitor (Banner, Bayleton, Eagle or Rubigan) in the third 7 to 10-days period. Do not use a fungicide from the same chemical class in succession. Keep changing the batting order. Also, as temperatures increase be mindful of growth regulating side effects of sterol-inhibiting fungicides. Always tankmix a penetrant with a contact like chlorothalonil/Daconil.

Fungicide Rates:

- Daconil Ultrex (4.0 oz - 6.0 oz) plus:

- CL 3336 4.0 - 6.0 oz
- Heritage 0.2 - 0.4 oz } Rotate
- Compass 0.25 oz }

- Banner MAXX 1.0 - 2.0 oz}
- Bayleton 50W 0.5 - 1.0 oz } Rotate
- Rubigan 1AS 1.0 - 1.5 oz }
- Eagle 0.6 - 1.2 oz }

The best long term control strategy is to encourage bentgrass.

Reduce thatch, mat and soil compaction by core aeration, topdressing, verticutting, etc., when anthracnose is not active and turf is vigorous.

Footnote: This information was presented at a recent USGA Regional meeting in Monroeville, PA by Dr. Peter Dernoeden, Agronomist, University of Maryland and is offered in cooperation with Stanley J. Zontek, Director of the USGA Green Section, Mid-Atlantic region. This information was also reviewed by Dr. Peter Landscoot and Dr. Wakar Uddin, Penn State University. We thank everyone for their input.

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some insight into the type and amount of information that is needed to make these decisions. It is important to understand that in the event no data is available, worse case scenarios are used. It therefore behooves superintendents to provide accurate data on use rates and amounts when it is requested.

This session was not about any particular chemical, although several specifics were discussed. It offered an unusual opportunity for both groups to understand the nature of each other's work and to build long-term working relationships free from any concern about EPA action. Both superintendents and scientists were enthused about the concept, thinking that this is a model for the way government should do its business; by gathering all the insights and information the regulated community has to offer. MAAGCS, GCSAA and the EPA all benefited from this gathering and it set a precedent for similar meetings in other industries. Once again, the golf course superintendent has taken a leadership role in the ongoing search for better and more effective ways to use the pesticides at our disposal.

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