

Anthracnose

The problem

Anthracnose, caused by the pathogen *Colletotrichum cereale*, can be a severe disease of intensely managed annual bluegrass and creeping bentgrass surfaces. The disease is most common on putting greens undergoing stressful growing conditions/management regimes and occurs predominately in mid-summer under hot/humid conditions or in the fall-spring months under cold wet conditions. There are two different phases of anthracnose: basal rot and foliar blight. Anthracnose basal rot affects the stem base of the plant and can be very destructive if not controlled. Annual bluegrass putting greens are especially susceptible to anthracnose basal rot and infection can occur at any time of the year. Anthracnose foliar blight can affect annual bluegrass and creeping bentgrass leaves and occurs during periods of abiotic stress, typically late summer.

What to look for

Symptoms on annual bluegrass can develop as irregular patches of chlorotic turf that progress to a yellowing to orange colour in advanced stages. Affected areas begin as patches a few centimetres in size and can coalesce into large blighted areas. Black acervuli with hair-like setae are distinctive signs of anthracnose; mycelia are not produced on the outside of the plant. Acervuli often colonize senescent leaves, so it is important to find acervuli present on green tissue to have a more definitive diagnosis. Older outside leaves of annual bluegrass affected by anthracnose basal rot typically turn yellowish orange while the youngest leaf can remain green. Plants affected by basal rot have a black discolouration of the stems and crowns; acervuli may not be present when the disease develops under cold conditions.

Anthracnose foliar blight can also occur on creeping bentgrass putting greens and fairways during the summer months. Older cultivars grown under low nitrogen inputs are most susceptible to infection. Unlike the yellowing observed with annual bluegrass, creeping bentgrass affected by anthracnose tends to be more bronze in colour. Due to this, scouting for anthracnose on bentgrass surfaces tends to be more difficult compared to annual bluegrass.

Envu solutions

Anthracnose is a stress disease that is best managed by promoting plant health, such as following sound agronomic practices and timely use of preventive fungicide programs. More than a decade of concerted research has gone into developing best management practices reducing anthracnose. Key cultural controls include:

- Adequate spring and summer nitrogen (N) with 49 to 73 g N/100 m² applied weekly in the summer months
- Frequent sand topdressing
- Maintaining adequate moisture, alleviating drought stress
- Keeping mowing height above 3 mm and using rolling and double mowing to maintain green speeds

Fungicide resistance is a problem for anthracnose; QoI and benzimidazole fungicides may not provide adequate control due to resistance, but other fungicide classes remain effective for anthracnose control. Preventive fungicides should be applied prior to periods of plant stress. Application of fungicides prior to extended cool, wet weather in the fall, winter and spring can help reduce the incidence of basal rot.

A strong fungicide program that alternates various classes of fungicides is critical in managing anthracnose during summer stress. Key Envu solutions for anthracnose management include rotations of Signature® XTRA Stressgard® and Mirage® Stressgard®. Tank mixing with a contact fungicide such as chlorothalonil will aid in controlling anthracnose. If QoI resistance is not suspected,

the inclusion of Exteris® Stressgard® or Compass® 50WG can be a valuable supplement to round out your anthracnose management program. Additionally, products that include Stressgard Formulation Technology can improve plant health to reduce the effects of stress conditions that promote anthracnose.

| Solution | Rate per 100 m ² | Application interval* (days) |
|-------------------------------|-----------------------------|------------------------------|
| Signature® XTRA Stressgard®** | 60–180 g | 7–14 |
| Mirage® Stressgard® | 32–64 mL | 14–21 |
| Exteris® Stressgard® | 140–200 mL | 14–21 |
| Dedicate® Stressgard® | 32–64 mL | 14–21 |
| Compass® 50 WG | 3.8–6.1 g | 14–21 |

*See fungicide labels for complete details. Always read and carefully follow label instructions.

**For best control under high disease pressure, combine with labeled rate of chlorothalonil.



Acervuli and setae are characteristic signs of anthracnose.

Photo: Jesse Benelli, Envu



Anthracnose development on a creeping bentgrass putting green.

Photo: Jesse Benelli, Envu



Anthracnose development on an annual bluegrass putting green.

Photo: Jesse Benelli, Envu



Anthracnose basal rot affecting the crown of an annual bluegrass plant.

Photo: Travis Russell, Envu

To talk about your specific needs or to learn more about our solutions, please contact an Envu representative.

