Disease Management Tips for Summer

By Lee Burpee
University of Georgia

BLACK LAYER
We diagnosed several cases of moderate to severe black layer on greens last summer. Formation of black layer is a sign of insufficient oxygen in the root zone usually initiated by excess moisture (poor surface or lateral drainage). Anaerobic conditions in root zones result in the formation of sulfides that are toxic to roots. To suppress symptoms associated with black layer, consider (a) increasing aeration frequency (leave holes open as long as possible); (b) using nitrate fertilizers as a source of nitrogen and avoid ammonium sources of nitrogen; (c) avoid using products containing sulfur; (d) hand-watering greens that are prone to black layer; (e) attaching a subsurface ventilation system to drainage lines; or (f) reconstructing portions of greens that allow water to accumulate excessively in the root zone.

EARLY ANTHRACNOSE CONTROL
If you had problems with anthracnose in previous summers, it is highly recommended that you start a solid-line aeration program in mid- to late May and continue every 3–4 weeks throughout the summer. The anti-stress effects of summer aeration will decrease the severity of anthracnose, particularly on Penncross bentgrass. In addition, consider increasing nitrogen fertilization beginning in May and continue through the summer to decrease the severity of anthracnose. Fertilization is a touchy subject, but a 1/10 lb. increase in nitrogen each month may be all that is needed to suppress anthracnose.

Anthracnose often affects only certain biotypes (segments) of bentgrass in older greens. Consider marking these biotypes and remove the sod in either the spring or fall. Replace the sod with plugs of bentgrass taken from a less-susceptible biotype.

FUNGICIDE TANK-MIXES
Use of fungicide tank-mixes and pre-mixes should decrease the probability of fungicide resistance problems, suppress algae and enhance turf quality. Try tank-mixing products that contain either chlorothalonil (e.g., Daconil, Manacure, Concorde) or mancozeb (e.g., Fore, Dithane, Pentathlon) with fungicides such as Heritage, Compass, Cleary's 3336, Systec 1998, Fungo, Chipco 26GT, Curalan, Banner MAXX, Bayleton, Eagle, Rubigan, Prostar, Medallion, Chipco Signature, Subdue MAXX or Banol. When tank-mixing, use the low label rate (usually a 14-day-interval rate) of each fungicide. You can also try reducing the low label rate of each fungicide by 30–50%. However, this may not provide the efficacy needed under high disease pressure during a Georgia summer. Because of restrictions on the use of chlorothalonil, try to avoid its use until early June and then alternate with mancozeb as a tank-mix partner with other fungicides. Applications of pre-mixed fungicides such as Consyst, SysStar, Twosome, Spectro 90 and ProTurf Fluid Fungicide can have many of the same beneficial effects of tank-mixes.

ALGAE CONTROL
Applying fungicides that contain either chlorothalonil or mancozeb on a 14-day interval will result in good preventive control of algae. However, the 14-day interval is important: wider intervals will not work on greens prone to algae. Where algae has been a particularly bad problem, try Daconil Zn as the chlorothalonil component of your tank-mix.

As far as curative control of algae is concerned, to date we have only
had success with two materials: hydrated lime (8 oz./1000 ft²) or Junction (2–4 oz./1000 ft²). Hydrated lime works overnight to clean up algae, while Junction takes a few days. Once algae has been controlled, start on a preventive chlorothalonil or mancozeb program. Repeated long-term use of either hydrated lime of Junction is not recommended.

**PYTHIUM ROOT ROT**

If you had Pythium root rot diagnosed last summer, think about starting preventive applications of Koban or Terrazole in early June. Trying to “cure” bentgrass of any disease is almost impossible during the heat stress of summer. You may stop the growth of the fungus, but the recovery of the turf often takes weeks and sometimes months.

Apply and water-in Koban or Terrazole at label rates at 14-day intervals for preventive control of Pythium root rot. You may also want to check the turf for nematode infestation because the foliar symptoms of Pythium root rot are very similar to those caused by nematodes.

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**GUIDELINES FOR SENDING A TURF DISEASE SAMPLE TO UGA**

- Contact Lee Burpee at (770) 412-4010 (phone) / lburpee@griffin.uga.edu (e-mail) or Alfredo Martinez at (770) 228-7375 (phone), martinez@griffin.uga.edu (e-mail) prior to sending sample.

- Take pictures (either Polaroid or digital) of diseased area and either send picture with sample or e-mail digital images.

- Remove sample of diseased turf with a cup-cutter at edge of diseased area. Include some diseased turf and some healthy turf in the sample. Try to sample at least 7–14 days after the last fungicide application.

- Place sample in plastic bag and send by overnight delivery to Dr. Lee Burpee, Georgia Station, 1109 Experiment St., Griffin, GA 30223. Include name, address, phone number, and e-mail address with sample.

- Expect report by phone within 24 hours of receipt of the sample. We are not providing written reports because we are short of lab and secretarial support.