Q&A Two for the price of one

BY DR. GRADY MILLER, ENVIRONMENTAL HORTICULTURE DEPARTMENT, UNIVERSITY OF FLORIDA

Have Questions?

SEND THEM TO GRADY AT: P.O. BOX 110670, UNIVERSITY OF FLORIDA, GAINESVILLE, FL 32611,GMILLER@MAIL.IFAS.UFL.EDU

I recently noticed that two different people are writing answers in the Q&A section of the magazine. Who should I send my question to?

The front office at *sportsTURF* realized that different regions have problems that may be unique to that area. So they thought it would benefit readers if someone more familiar with warm-season grasses and environmental conditions in those growing areas responded to some of the questions. In fall 2000, I joined Dr. Dave Minner from Iowa State University in handling questions for Q&A. Either of us would be glad to receive your question directly, but you may want to direct your question to the one that is geographically closer to you, if the question relates to grasses or environmental conditions. The front office will try to direct the questions it receives to the one who can best answer your question.

We have a persistent problem with algae on our fields. It started a couple of years ago when we sprigged the bermudagrass and it seems to re-appear each year, particularly where the players stand on the sidelines. I realize that thin turf contributes to the problem but would appreciate any advice you may add.

—Florida

Algae are single-celled, thread-like bacteria. Algae contain chlorophyll and are often described as primitive plants (they lack roots, stems, and leaves). The conditions that are conducive for algae growth are low soil pH and excessive and continuous surface moisture. Algae growth is encouraged by extended periods of rainy, overcast, and warm weather. Fertilizers can also contribute to their rapid growth. Infested areas can expand, eventually preventing growth of turfgrass. While this severe condition is more common on low height of cut golf course greens, it will occasionally occur on athletic fields.

Conditions during establishment of warm-season grasses are almost ideal for algae growth. You do not have solid turf cover so the ground is exposed to sunlight; establishment is during the warm months for maximum growth; water is applied frequently because the turf roots have not developed; and complete fertilizers are applied liberally for rapid shoot growth. Single celled organisms divide, so with a light source, water and nutrition they can expand very quickly. Once these algae mats dry out, an impermeable crust forms which may crack and peel and does not easily allow moisture into the underlying soil.

Algae cannot be effectively controlled unless the conditions that predispose the turf to their growth are corrected. Proper watering and drainage are essential to reduce surface moisture. While letting the surface dry out is not suggested during the early stages of turf establishment, once roots are well developed, turf should be watered deeply and infrequently. Frequent spiking, light verticutting, coring and topdressing also help to reduce surface moisture.

A dense, thick turf stand discourages algae formation. One way of achieving this is by raising the mowing height slightly to provide enough shade to prevent sunlight from reaching the soil surface. The higher cut may also provide a turf more tolerant of traffic, therefore further reducing exposed ground.

You mentioned that since establishment the bench areas of the sidelines are the primary areas of algae growth. These areas are often void of turf due to the excessive wear and compaction from the players milling around during a competition. In addition, these areas are often shaded by stands or hedges so the moisture level is higher. Try to protect these areas during games with covers and replace worn areas as quickly as possible. If these areas remain saturated from water coming off the field, consider installing additional drainage to remove the excess water.

Applications of various materials also have been successfully used. Fungicides containing mancozeb or chlorothanlonil have provided effective algae control. Some of these products must be applied by a professional pesticide applicator or contain application restrictions that might apply to your site, so check the manufacturer's instructions. While these materials may not be specifically labeled for this use, several individuals have used diluted bleach solutions (1 gallon per 100 gallons of water), hydrated lime (2 to 3 pounds of product per 1,000 square feet applied dry), copper sulfate (2 to 3 ounces per 1,000 square feet), and porous ceramic soil amendment (50 pounds per 1,000 square feet) with varying degrees of control. Desiccation of the algae is the key to its control. Once the algae dies, the crust needs to be broken and removed by raking, spiking, or vertical mowing.