

Reduce moisture to control algae on greens

Dr. Houston Couch outlines simple program to prevent and cure that slimy, crusty algae problem on greens.

By RON HALL/ Managing Editor

Algae are a slimy mess when flourishing on a putting green. When they dry they form an unsightly black crust. The crust can be so thick that it seals soil pores. Aesthetics aside, this crust can prevent the regrowth of grass plants. That's why it must be mechanically broken up or sliced to improve the green's health.

Although algae are believed to be present in or on most soils they only "blossom" when there's enough moisture and light. Prolonged surface wetness is the biggest factor in the development and spread of algae.

The algae most likely to discolor a putting green are varieties of blue-green algae. They are not, strictly speaking, plants but they do require light for photosynthesis.

Algae on the move

Dr. Houston Couch, a researcher on turfgrass pathology at Virginia Tech, says algae—at least the varieties most often found on putting greens—move. They wait until the evening to begin moving up the leaves to the turfgrass leaf tips. Then, just as the sun comes up, they move back down the leaves. Even though the algae require light, they avoid the day's brightest sunlight by retreating beneath the turfgrass leaves, says Couch.

One reason algae are most apparent on putting greens, and become such a problem, is because the turf is cut at such a low height.

"If you've got an alga, even one as slow as an *Oscillatoria* that moves at 1/4 inch an hour, and you're mowing the greens at 1/8 of an inch or 1/10 of an inch, how long will it take it to get to the tip of the leaf where it (alga) produces its metabolites that are absorbed through the cut tips?" says Couch, who spoke at the Ohio Turfgrass Conference this past December.

Cultural control keys

The solution to the algae problem is to reduce surface moisture on these problem greens, says Dr. Monica Elliott, a researcher at the U. of Florida's Fort Lauderdale Research and Education Center.

Elliott suggests strategies such as:

- ▶ removing or thinning trees adjacent to the greens,
- ▶ reducing irrigation in problem areas,
- ▶ sand topdressing frequently (heavy enough to cover the algae),
- ▶ raising the mowing height to relieve stress on the turfgrass and also to allow the turf to shade out the algae.

There are several chemicals that can prevent or control algae too. The use of these products may be more practical on some greens and under some conditions, say Elliott and Couch.

Elliott's research has demonstrated that the active ingredients of mancozeb and chlorothalonil were effective when used preventively, either prior to conducive weather patterns or shortly after they begin.

Fungicides are effective

Drawing from work he's done, and also from studies by Dr. Elliott in Florida and Dr. Phil Colbaugh in Texas, Couch suggests that superintendents can prevent

algae before it becomes a more serious problem with two applications of 6 ounces of Daconil (chlorothalonil) per 1,000 sq. ft. on a 14-day schedule.

To cure an existing algal problem, he recommends two applications of 9 ounces of Daconil per 1,000 sq. ft. on a 7-day schedule, then three applications at 6 ounces on a 7-day schedule.

Another useful tool against algae on greens is the soil amendment Profile since it reduces surface moisture, says Couch, who suggests 50 to 100 lbs. (100 is better) per 1,000 sq. feet on a three-week schedule, followed by applications of Daconil or Fore.



Blue-green algae, the type most commonly plaguing golf course greens, are unsightly and harmful to turfgrass.

"When you go into an algae control program with either Daconil or Fore (a.i. mancozeb), don't expect to see anything great out of it for at least two weeks, most likely three," says Couch. "It takes a while to get a handle on it." □

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