

Ten Techniques to Try When Greens Nearly Die

These time-tested maintenance practices can help relieve stress to greens during the peak heat stress periods of midsummer.

by BOB VAVREK



Fans can be used to increase air circulation across the putting surface. Use a gasoline-powered generator if electricity is not readily available.

SOMEWHERE in the back of your mind you just knew that the small, heavily shaded green would be a problem someday. It performed relatively well during mild weather, but now, after a long spell of heat and high humidity, the turf is thinning out rapidly. The most important golfing event of the season is a short four weeks away. What can you do to prevent further loss of turf and encourage a rapid recovery?

This scenario can occur on a green that is five months old, five years old, or 50 years old. Identifying the cause

or causes of turf loss can be a good first step towards improving the growing conditions and accelerating the recovery process. Some stress factors such as disease activity or overwatering are difficult to identify, but are relatively simple problems to address. Other types of stress, such as heavy play, high temperatures, and high humidity, or a forest of trees adjacent to the green, present a more challenging dilemma.

Regardless of why turf loss is occurring, there are management techniques that can be employed to relieve further

stress to the green. You may not have complete control over all the decisions made regarding putting surface management when the greens are in good condition, but they surely will be your responsibility when the turf begins to decline. These are ten safe, user-friendly techniques to consider that just might save your green, your sanity, and your job.

1. Reduce Mowing Stress

Mow no lower than $\frac{3}{16}$ " during the recovery period. A stressed green will not be growing vigorously, so why

mow every day? Mow the cleanup pass even less.

The importance of using a walk-behind mowing unit equipped with solid rollers cannot be overemphasized. Keep the reels sharp. Throttle the unit down to slow ground speed when mowing the perimeter to further reduce stress to the turf.

Some hand mowers are heavier than others, so choose the lightest, least aggressive unit available. You don't need a tight cut — you need a light cut.

2. Turn Off the Automatic Irrigation and Hand Water the Green

A lack of moisture in the root zone is rarely the cause of turf loss during prolonged periods of high temperatures and high humidity. Overwatering will aggravate disease-related injury to turf and create anaerobic conditions in the root zone. A wet, thin green will quickly become smothered with algae. A heavily shaded putting surface may not need supplemental irrigation for days during humid weather. Even a five-minute syringe cycle may add detrimental amounts of moisture to the low-lying areas of a green. Water collars and elevated areas of greens by hand and then only to prevent wilt.

3. Cultivate the Putting Surface

The roots won't live if they can't breathe. Spike the green as often as once a week or use ¼" diameter hollow or solid quadratines to ensure a balance of air and moisture in the root zone. Cultivation also provides an avenue for overseeding. Algae can be a serious problem on a thin green. Frequent cultivation operations and keeping the green dry with hand watering will be the most effective way to control algae growth.

Use common sense when employing aggressive cultivation operations to greens under stress. Opening up the putting surface with coring tines will greatly increase the evaporative surface area of the green and rapid wilting could occur on a windy day when the relative humidity is low. Severe wilting can occur under these conditions even when air temperatures are in the mild range of 70° to 80°F. The chances of helping a green by cultivating, however, are generally greater than the chances of exacerbating the problem.

4. Improve Air Circulation and Increase Sunlight

This is an excellent opportunity to remove trees and underbrush from the

perimeter of the green if the hole was constructed in a heavily wooded site. Pay particular attention to removing trees along the east and south sides of the green to increase morning sunlight. Cut a 2'-deep trench between the woods and the affected turf to sever tree roots that compete with turf for water and nutrients.

Clear out as much brush and under-story tree growth as possible to increase air movement across the putting surface. Fans also can be used to increase air circulation across a green. Use a

gas-powered generator for the fan if electricity is not available in a remote area of the course.

5. Control Disease Activity

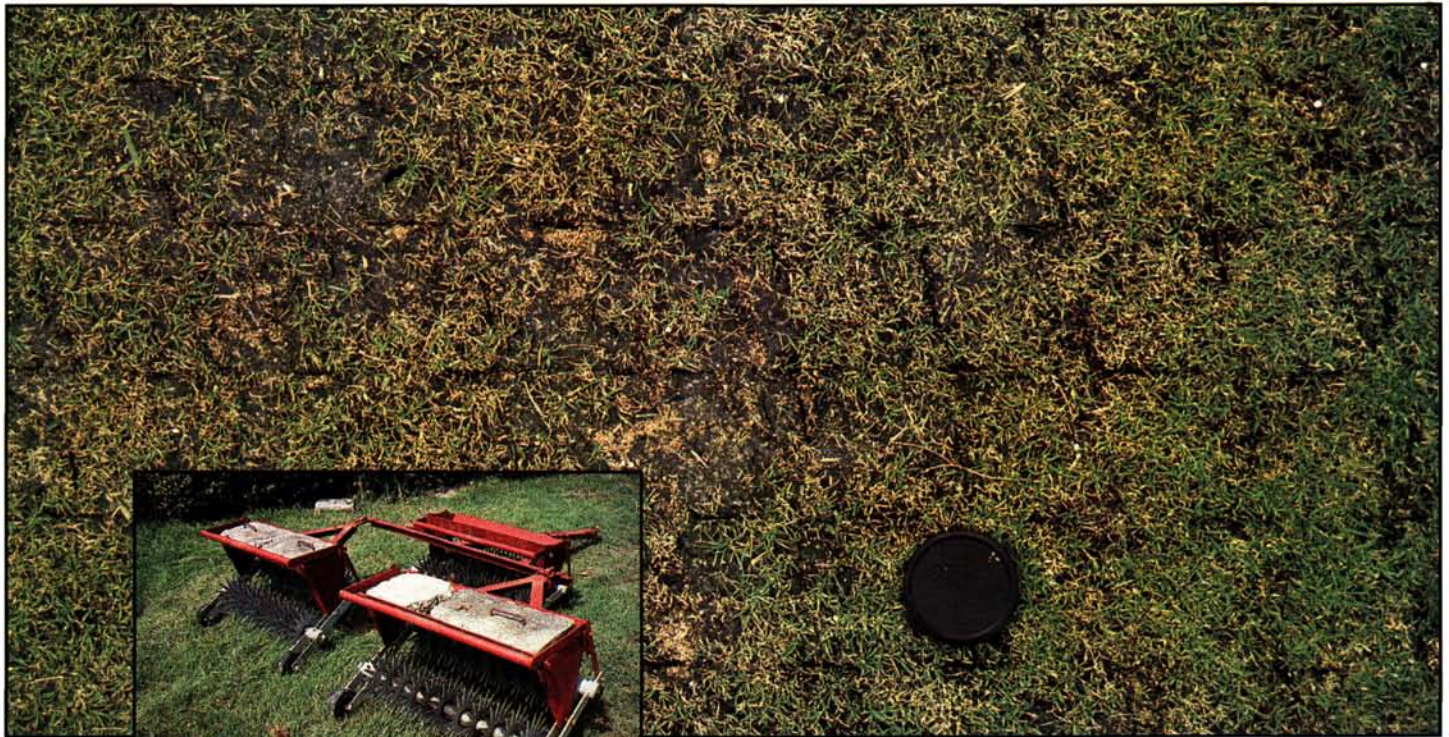
Use a diagnostic lab to help determine whether or not the turf stress is caused by disease activity. It's a sure bet, however, that some type of disease pathogen will be cultured from dying turf. Avoid the temptation to overload the greens with fungicides and using the shotgun approach to control sus-



Hand watering the green will be the best way to maintain consistent moisture levels in the root zone.



As a last resort, some superintendents core cultivate a weak, thin green and hope for the best. Cultivation can help improve a black layer condition and encourage root growth.



A simple spiker can help dry up a weak green that has become smothered by algae growth.

pected or assumed diseases like necrotic take-all blight.

Severely stressed turf will not be actively growing, so this is not the time for systemic fungicides. Shy away from any fungicide formulation, such as emulsifiable concentrates, that has a potential to burn turf during hot weather. Try to manage disease activity with contact fungicides if at all possible and make the applications during the late afternoon or early evening when temperatures are cooler. It's no time for snake oils or bugs-in-a-jug now; just use the safest, most dependable fungicides available.

6. Spoon-Feed or Use Natural Organic Fertilizers

A lack of fertilizer is not likely to be a reason why turf declines during mid-summer, unless the loss of turf occurs during the grow-in of a sand-based green. However, maintaining an adequate, readily available pool of nutrients in the root zone is helpful during the recovery process. Stick with spoon feeding the greens with low rates of soluble fertilizer. Apply no more than $\frac{1}{16}$ lb. to $\frac{1}{10}$ lb. of nitrogen per 1,000 sq. ft. of turf per application. Spoon feeding is especially helpful for fertilizing greens that have an impaired or non-functional root system because at least some of the nutrients will be absorbed directly into the foliage.

Another excellent source of nitrogen and micronutrients is Milorganite or another natural organic nitrogen source. These fertilizers essentially have no risk of burning the turf, and they produce a steady rate of nitrogen release during hot weather.

7. Communicate with Golfers

Golfers need to be kept informed about the condition of the greens and the reasons for the decline in turf quality. If you do not supply the information, they will find it elsewhere, either at the pro shop or from any of the several hundred "agronomists" who play the course. Keep the pro shop staff informed, but insist that they refer questions regarding the condition of the greens to the superintendent. In addition, someone who is knowledgeable and approachable needs to be close to the first tee on busy weekend mornings.

8. Seek Advice

This is no time to stick your head in the sand and hide. Seek advice from other superintendents and your local USGA agronomist before extensive losses of turf occur.

9. Do No Harm

Do not make a bad situation any worse. Hold off performing aggressive,

routine maintenance practices, such as vertical mowing, grooming, or rolling that could further injure the turf. Brushing in topdressing also can injure weak putting surfaces.

10. Consider Playing a Temporary Green

As a last resort, close the green and play a temporary. Limiting the wear and compaction associated with concentrated foot traffic will be impossible when the green is open for day-to-day play. This will not be a popular decision among golfers, but keeping them informed regarding the condition of the green throughout the stress event would help them accept this option.

In closing, here's hoping you never need the advice in this article. Rest assured that these are safe, common-sense recommendations that can do nothing but help a trying situation. Speaking of common sense, if it were an abundant commodity in the golf course business, would that tiny green have been built in a densely shaded pocket of trees in the first place?

BOB VAVREK *tenders these tips from the North Central Region of the USGA Green Section.*