SURVIVAL TOOLS FOR THE PUTTING GREEN

Using a few tools can enhance stress management on putting greens.

by CHRISTOPHER E. HARTWIGER

THE SCENARIO is the same every summer. The days grow longer, putting greens are placed under stress, and superintendents lie awake at night hoping for cool weather. Each summer offers a unique variety of challenges. Spring is an excellent time for superintendents to reflect upon last season and develop their putting green management program for the summer. The superintendent must take on the uneasy task of balancing the agronomic needs of the turf with the expectations of the golfers. Following are descriptions of several tools that the superintendent can have on hand to assess the status of the greens during the summer.

Soil Profiler

A soil profiler is a must for every golf course. A good profiler extracts a plug approximately eight inches deep, four inches wide, and one-half inch thick. A soil profile can speak volumes about the history of the root zone as well as its current status. By looking at the upper portion of the profile, the superintendent can monitor thatch accumulation and assess the effectiveness of topdressing in managing thatch accumulation. A soil profiler also can assist in determining the level of available moisture in the upper portion of the profile.

Other questions can be answered, too. Is the thatch layer excessively wet and limiting the flow of water down through the profile? Are there any layers present in the profile that may be affecting infiltration? The superintendent can assess several aspects of the root system. The first is the depth of the roots. Are the roots growing deeper or are they declining? How have management practices such as fertilization or aerification affected the root system? The density of the root system can be checked as well. In certain parts of the country, nematodes can be a tremendous problem in sandy root zones. How do the roots appear? Are they well branched or are they short and stubby? These questions and others can be answered by regular use of a soil profiler.

Hollow Soil Probe

The chances are good that at some point during the summer, hand watering the greens will be necessary. Training employees to properly hand water is important. Even more important is training employees how to spot areas that need to be hand watered. A hollow tube probe is an excellent tool to assess the moisture status of the root zone. A crew member can efficiently check different portions of the green to look for areas in need of water and then irrigate as needed.

Infrared Thermometer

Temperature is an excellent way to monitor changes occurring in nature. Warm-season and cool-season grasses have optimum soil and atmospheric temperatures for maximum growth. Weed seeds germinate in a certain temperature range. Temperature is also a function of many turfgrass diseases. Using an infrared thermometer is an excellent method to check the canopy and soil temperatures in a green.

An infrared thermometer can be used to monitor hot spots on a putting green. During wilt, canopy temperatures rise dramatically and the turf shows classic wilt symptoms such as leaf curling, footprinting, and an off-color appearance. In the early stages of wilt, the canopy temperature increases before any wilt symptoms are visible. An infrared thermometer can be used to check for areas that may be heating up but have not shown any visible symptoms. With this early warning tool, crew members can correct a moisture deficit earlier and reduce stress to the green.

These are essential diagnostic tools for the summer stress period.

Magnifying Lens

A 20x or 30x magnifying lens is a tool a superintendent should have on hand. The naked eye can detect many things on a green, but a closer look can reveal a couple of interesting things. First, a hand lens may be helpful in field diagnosis of disease. A great example is the ability to see the fruiting bodies (acervuli) associated with anthracnose. Close examination of the leaf tips is another use for a magnifying lens. This will allow the superintendent to determine the quality of cut being achieved. A ragged leaf blade cut can create additional ports of entry for disease. The importance of a sharp mower blade should not be underestimated since it plays a direct role in putting surface quality.

Conclusion

Managing putting greens throughout the summer stress period remains a great challenge for golf course superintendents. Using these tools in conjunction with a good agronomic program allows superintendents to get a little more sleep during the summer while maintaining healthy putting greens.

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