I Learn Never To Be Surprised

By Jim Skorulski, agronomist, Northeast Region | April 21, 2017

A green in Maine exhibits unusual patterns of winter damage that extend beyond the typically damaged low-lying areas.

Most golf facilities in the Northeast Region are enjoying good turf conditions and superintendents are busy with traditional spring programs. Winter snow and spring rains have also eased the drought that impacted much of New England and parts of upstate New York in 2016. Unfortunately, some golf facilities in the Northeast did not emerge from winter unscathed. That in itself is not surprising considering the wide variation in weather across the region, but what may be surprising is the unusual pattern of injury being observed this spring.

Courses in the Northeast most often observe cold-temperature injury on turf in low-lying, water-holding areas. Shaded areas where turf has been under ice cover or areas where hydrated grass plants are subjected to multiple freeze and thaw cycles are also especially vulnerable to winter damage. Surprisingly, these areas seemed to survive the past winter pretty well while more exposed areas were harder hit. Areas protected by covers, snow or ice were less affected by winter injury this year. Annual bluegrass was once again the turf species that sustained the most severe damage this winter, but what caused the damage?

Many of the damage patterns being observed this spring are not similar to those associated with desiccation injury, although high winds certainly were a factor during winter. It appears more likely that exposed annual bluegrass was damaged by single-digit and below-zero temperatures that occurred during late winter and early spring. Turf plants growing in shaded or snow-covered areas remained dormant and were better able to tolerate colder temperatures.

What lessons can be learned from the winter of 2016-2017?

- Cold-temperature injury will always be difficult to manage due to the wide variability of winter weather conditions. Do not expect to be successful every winter because there are some weather conditions that simply cannot be managed or predicted.

- Although crown-hydration injury and anoxia will remain the most common mechanisms associated with winter damage, they are not the only ones. Plants exposed to very cold temperatures can also succumb to winter injury.

- Despite the odd pattern of winter damage this year, it is important to continue promoting good turf growing conditions to reduce the risk of future winter injury. Important steps include providing good surface and internal drainage as well as full sun exposure. Good growing conditions lead to more vigorous and deeply rooted plants that are better able to tolerate variable weather conditions. Good growing conditions also encourage the growth of bentgrass, a more cold-tolerant turf species than annual bluegrass.

- Winter covers can help moderate the effects of temperature fluctuation and desiccation. Impermeable covers with insulation offer additional protection from crown hydration and exposure to very cold temperatures.

- No covering system is infallible, especially in open and windy locations. Unusually high winds in some areas also make it challenging to keep covers in place.

- Annual bluegrass was once again the least-dependable grass on exposed sites.

Hopefully recent periods of warm temperatures have helped initiate growth in damaged and reseeded areas. As usual, keep damaged areas moist to encourage turf recovery and seed germination. Severely damaged putting surfaces will benefit if temporary greens can be utilized until recovery advances.

The May 15 deadline for the Course Consulting Service discount is quickly approaching and we encourage you to download the CCS Visit Application or call one of our agronomists; we will be happy to help schedule a visit. We wish you a productive spring and good fortune in the season ahead.

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Information on the USGA's Course Consulting Service

Contact the Green Section Staff