The Good, The Bad And The Ugly Of Cold Winter Weather

By Steve Kammerer, regional director, Southeast Region | February 2, 2018

Straw blankets help prevent desiccation in droughty areas by protecting turf from drying winds.

The Good – There are positive consequences of a cold winter:

Reduced Disease Pressure: For the past two years, many golf courses have been making extra fungicide applications to control spring dead spot and large patch because mild temperatures have extended the infection period. This year, one less application than normal may have been sufficient as fungicides last longer in cooler temperatures coupled with less conducive conditions for infection. Instead of applying high rates of fungicides, utilizing a low rate while monitoring weather conditions and pest pressure to determine whether to reapply can save significant money.

Herbicides: Most chemicals – herbicides included – break down faster when soil temperatures are warm. By utilizing low rates of preemergence herbicide during fall and increasing the frequency of applications, better decisions can be made regarding the need for additional applications based on soil temperature. Not only can this approach save money, but it also limits the amount of herbicide residual remaining in spring. Residual preemergence herbicide could impede turfgrass rooting and re-establishment if winterkill is an issue.

Weeds: Without freezing temperatures, many annual weeds such as crabgrass and goosegrass can become perennial problems. Hard freezes can sometimes do a better job of killing weeds than herbicides. Common bermudagrass is more susceptible to winterkill than hybrid bermudagrasses, so severe freezing temperatures could selectively decrease common bermudagrass populations.

Dormancy: An extended dormant period for bermudagrass can be beneficial because it gives the grass a resting period that allows plants to conserve carbohydrates for a healthy spring greenup. Suboptimal winter conditions, decreased sun intensity and shorter day lengths can weaken bermudagrass and predispose it to diseases like Pythium and take-all root rot.

The Bad – There are the obvious, well-known negative consequences – such as winterkill – associated with very cold temperatures. Covering bermudagrass and zoysiagrass putting greens is a necessity, especially when temperatures dip below 20 degrees Fahrenheit. Ensuring that turf and soil contain sufficient moisture prior to a freeze will further minimize the risk of crown dehydration and death. In some cases, creating a dead air gap between turf covers and the putting green surface may be helpful.

What about when cold temperatures last several days or more? Pumps, sprinkler heads and irrigation lines near the soil surface can freeze and crack, causing leaks. This damage, unlike winterkill, is easier and faster to recognize and address once the irrigation system is turned back on.

What about winterkill on areas that were not covered? Unfortunately, until there is a long-enough string of warm temperatures to stimulate greenup, the full effects of winter weather will not be fully known.

The Ugly – If you have concerns about turf health but cannot readily see any damage, the following method can help you rest easier or plan for recovery:

- Using a 0.5-inch soil probe, remove several turfgrass plugs from areas of concern. Record the areas sampled and the number of samples taken.
- Wrap the cores in paper towels, leaving the turf exposed.
- Place the wrapped cores into a cup with some water in the bottom. Place the cup inside near a window.
- Carefully inspect the cores for growth to assess the amount of viable, living turfgrass. If there is a high percentage of winterkill, take this time to start mapping affected areas and determining how much replacement sod or sprigs to order. Sod farms are busy and demand is high following cold winters, so it is better to be early rather than late.

Until the spring, we won't fully know the impact of this year's winter weather. However, the lessons learned this winter can help preparations for subsequent years. In the meantime, there is no time like the present to start planning for any necessary recovery work this spring.

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