

Using Covers To Help Protect Against Winter Injury

Ekwanok Country Club
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Issue

During the harsh winter of 2013-2014, Ekwanok Country Club lost close to 90 percent of its *Poa annua* and creeping bentgrass putting green turf to cold temperature injury. Due to the short growing and playing season at Ekwanok, the recovery process from this loss affected a significant portion of the golf season. Based on the severity of turf loss and the course's history of cold temperature injury, the superintendent at the time, Ted Maddocks, decided to investigate using a cover system to protect the greens during winter.

Action

The putting green cover system he decided on includes several components. A closed-cell foam insulation material rests on the turf and an impermeable cover is placed over the foam. Air tubes are placed underneath the foam material to provide ventilation. In late fall, the cover system is installed on all of the greens to reduce turf exposure to wind, cold temperatures and ice



Foam insulation is placed on the turf and an impermeable cover is placed over the foam. Air tubes below the covers provide ventilation.

encasement. Ekwanok purchased 19 impermeable covers and 145,000 square feet of insulation material in the fall of 2014 and they had the system ready for use that winter.

Results

The winter of 2014-2015 was just as brutal as the previous one and there was turf loss across the golf course; however, the greens were unharmed. The winter of 2015-2016 was very mild and the covers performed just as well. That year, the greens came out of winter at least four weeks ahead of the rest of the golf course and golfers enjoyed mid-season playing conditions in early spring.

Cold temperature injury occurs on an almost yearly basis at Ekwanok; but the cover system has reduced, and will hopefully eliminate, winter damage on the putting greens. Reducing cold temperature injury helps to keep the putting greens open and healthy throughout the short playing season. This has translated into more early-season play and healthier greens in summer. When the putting greens come out of winter in good condition it also allows the staff to focus on maintenance and improvement efforts that would not have been possible if the greens required significant repairs.

The cover system used at Ekwanok has been effective, but it is also time and labor intensive. Incorporating such a complex covering process into the short time available for winter cleanup and preparation can be challenging, especially when trying to time cover installation according to long-range weather forecasts. Nevertheless, the maintenance staff will continue to explore new ways to streamline installation and minimize upkeep. While there is never a guaranteed method of preventing winter injury, the results of the cover system at Ekwanok are well worth the challenges.