

To cover or not to cover, is not the question

Winter kill of cold and moisture sensitive grasses on greens and tees has become a growing problem as drought conditions throughout the upper Midwest and East, coupled with erratic temperature changes have left course superintendents running for cover.

The question is no longer whether covers work, but which ones work best. The process of selecting the right cover has largely been one of trial and error with an emphasis on both, trial and error, mostly error. Mistakes can prove costly when greens must be rebuilt forcing club members to play temporary greens.

Roger Kisch, manager of South View Country Club in St. Paul, Minnesota said it best, "Dead grass is not an option." "To loose a green on a private club, or any golf course is brutal." Kisch has been a golf course superintendent for 36 years. He began using covers six years ago with one green covered and now has 13 holes protected adding two or three covers a year. Many of the older greens that do not drain well suffer most when the temperature fluctuates from freeze to thaw and back, Kisch said. "Before covers came along, we had a lot of kill in rainy years and years when there was very little snow cover. We had a lot of problems."

Kisch estimates that covers are needed only 50 percent of the time, the rest of time they are an insurance policy. Some of his greens have never been covered as they face north and hold the snow and show no signs of damage. These greens are generally well drained and have a preponderance of Bent grass, which is generally less susceptible to crown hydration.

"What we are trying to do is give them live grass in all kinds of weather. The name of the game is live turf and whatever you have to do, including covers, is what you do."

After experimenting with different types of covers, Kisch chose GreenJacket, a non-permeable cover from Sto-Cote Products, Genoa City, Wisconsin. "I've tried just about everything out there," Kisch said. Kisch selected the GreenJacket product because it can be put down over frozen ground and is easy to deploy and store. Recognizing that weather forecasting is often less than reliable, Kisch believes it is important to have as many options as possible to prevent damage to the course. Knowing when to cover can be a difficult decision. Cover too early, and the paying membership will complain that the course is closed during warm weather. Cover too late, and an early snow will prevent you from getting your covers down at all.

Covers alone are not enough, Kisch said. He still treats for Snow Mold and other diseases prior to covering. Moisture trapped beneath the cover provides an ideal breeding ground for such diseases.

Since the advent of covers, research has been ongoing to determine the benefits and drawbacks covers have when tested using actual conditions. Under the direction of Jon Powell, Assistant Professor Turfgrass Pathology of the University of Minnesota department of Plant Pathology, a two year field trial has been underway to test different cover materials. The project, sponsored by the Minnesota Golf Course Superintendents Association, evaluated the effectiveness of different covers based on spring green-up and the prevention of crown hydration and subsequent winter kill.

The trial was conducted on two greens at the Rolling Green Country Club, Hamel, MN. Both permeable and non-permeable covers were tested. The water permeable covers tested included wood-fiber, wood fiber with black netting, a white winter blanket a green and a clear woven plastic. The non-permeable covers used included a 6 mil clear plastic, a 6 mil clear plastic on wood-fiber, a 6 mil white reinforced vinyl, a generic green tarp, a closed cell foam cover, and a closed cell foam that did not allow any light to pass.

The older type wood fiber covers did well but were difficult to handle and store, Powell said. Non-permeable covers were superior, keeping out water and preventing crown hydration and desiccation. "Color plays a critical role," Powell said. "White to neutral colors work best." Darker colors collect heat and can cause the underlying turf to prematurely start a growth cycle leaving it susceptible to the next freeze. The closed cell foam covers had an advantage in colder weather as they provided additional insulation.

Of the non-permeable covers tested, the GreenJacket cover proved to be one of the best. Initially when this cover was tested there was a problem with wind catching the cover and ripping the fabric. Later versions have corrected the problem, Powell said. They have fixed their stake down system.

Dale Caldwell has been the superintendent at the Minneapolis Golf Club for 18 seasons. The course was built in 1919 and is a tree lined park-type course with bentgrass and annual bluegrass greens. "I have always used covers," Caldwell said. For a number of years he used the American Excelsior Wood fiber covers with good success. However, storage and handling were a problem and the covers developed a mold that then transferred to the greens they covered.

They also tried HPI, Hinsperger matt covers but were not happy with the results. Two years ago he switched to the GreenJacket covers. This past winter all but two of his greens were under the Green Jacket system. The other two greens were covered with the older wood fiber covers. "The strangest thing I have ever seen happened," Caldwell said. "The wood fiber covers froze to the greens. We uncovered them as soon as we could even though it was raining." The grass beneath had a strange, "pasty green" color, Caldwell said. Three days later it turned brown. Fortunately it was not a total kill and the effected areas are now coming back. The GreenJacket covered greens showed no sign of damage and were green and ready to go when uncovered with only one exception. A five square foot area that had become submerged due to poor drainage had turned yellow. Once being uncovered and dried out, this small area has recovered with no permanent damage.

Caldwell's advice to his fellow superintendents is to clear free standing water as soon as possible and remove covers quickly.

The general consensus of all those we talked to is that covers are no longer an option but have become a necessity in cold climates where the weather is often unpredictable. Research and actual experience has demonstrated that non-permeable white or neutral colored covers work best. However, any cover in a bad winter is better than no cover at all because "Dead grass is not an option."