

The USGA Green Section Record



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Nature Calls

Going green? Consider eco-friendly composting toilets

by [Bob Vaurek](#), senior agronomist, North-Central Region



The modern composting toilet is a considerable upgrade from the smelly, dark pit-latrines we recall from childhood camping trips. Exteriors can be customized to suit tastes that range from elegant to utilitarian.

The Rules of Golf address the issue of providing players relief from immovable obstructions, such as cart paths or sprinkler heads. However, they don't address the kind of relief players need on the third or fourth hole after several cups of clubhouse coffee. When nature calls, the call must be answered, so comfort stations need to be available at convenient locations throughout a golf course.

Several types of comfort facilities are available for golf courses. They range from renting a basic portable toilet to the construction of a permanent restroom facility complete with indoor plumbing for toilets and sinks. [To find out which option is best for your course read on.](#)

Thatch Legislation



A Southwest Regional Update

by [Brian Whitlark](#), agronomist



(L) If not properly maintained, thatch accumulates and may increase to levels detrimental to both turf health and putting quality. (R) Labor intensive core aeration, followed by sand topdressing, is essential to both remove thatch and organic matter and create channels for improved water and air exchange in the soil.

If the highly partisan politicians can agree to pass tax legislation in such a short period of time, then surely the Green Committee and board members at your golf course can agree to pass thatch legislation! Far too many golf course visits in 2010 raised the question -- can we forego aeration this year? Unlike the slumbering economy the past two years, thatch never sleeps. Thatch and organic matter continuously accumulate at the surface and within one to two inches below. Removing organic matter and thatch through proper aeration techniques and verticutting, and dilution through topdressing, are absolutely necessary every year in almost all circumstances. In addition, prudent use of fertilizers is important to produce healthy turf, but be sure to curb excessive thatch accumulation.

[Read the rest of this update.](#)

One Result, Many Causes



A North-Central Regional Update

by [Bob Vavrek](#), senior agronomist

Winterkill begets winterkill at many older golf courses across the upper Midwest that have playing surfaces dominated by *Poa annua*. Courses with greens affected by severe winter

injury, typically seed creeping bentgrass into the thin and bare areas. However, the end result is usually an even higher percentage of *Poa annua* due to minimal bentgrass seedling survival on a green that is kept open to play and aggressively maintained at low heights of cut during recovery. Many of the new *Poa* plants that germinate from seed already in the greens will likely have less ability to tolerate winter stress versus the older *Poa* plants they replaced. Consequently, a vicious cycle of winter injury can occur.

[Read the rest of this update.](#)

Winter injury on turf is not a new subject. A quick search of the early issues of the *Record* (then called *Turf Culture*) yielded an article on this subject written in December of 1936.

[Read the 1936 article.](#)



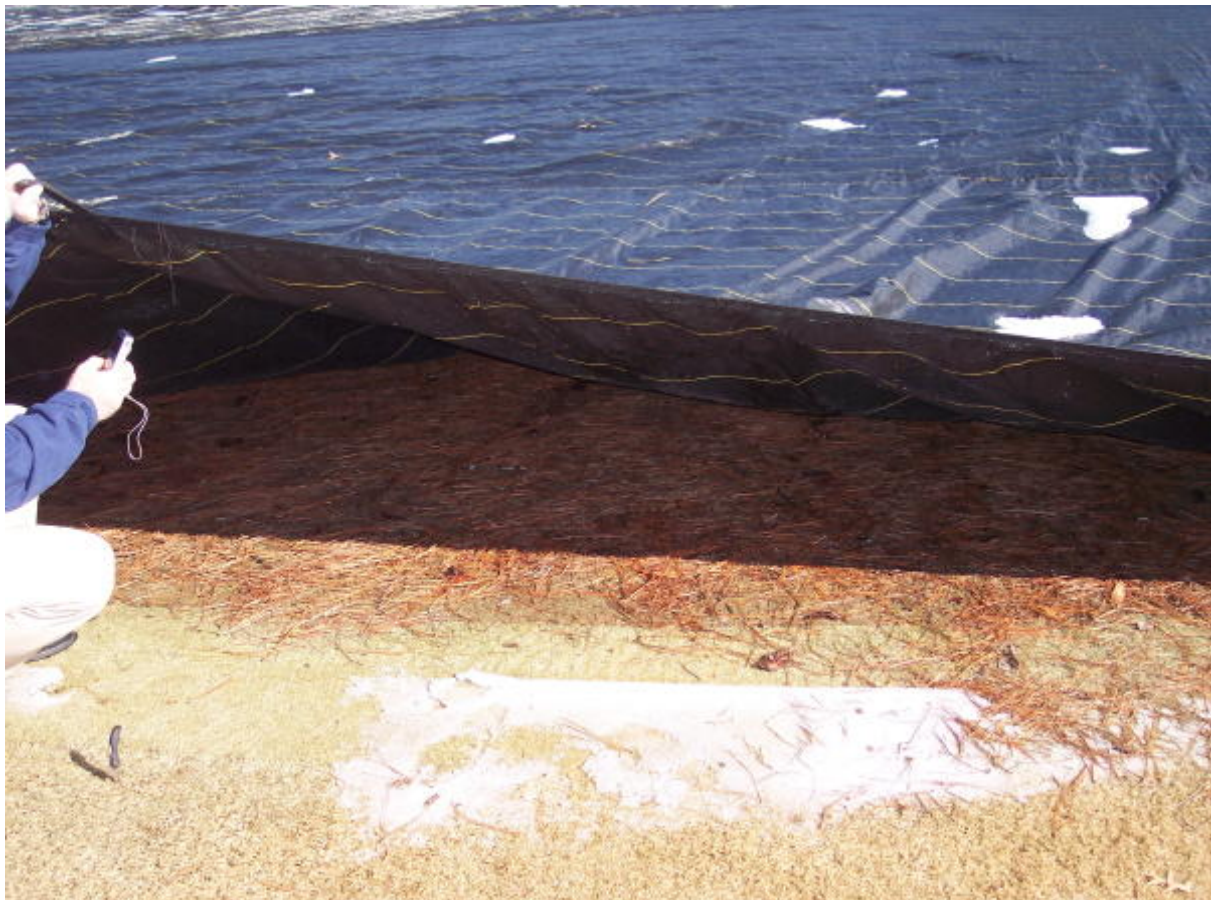
Some forms of ice, or cold-temperature-induced injury to turf, are relatively easy to diagnose, such as cart and foot traffic across heavily frosted playing surfaces. However, the exact cause of other types of more severe winterkill, such as ice suffocation or thaw/freeze injury, are more difficult to determine.

Layer Up For Extra Warmth - Pine Straw Adds Protection For Winter Injury Prevention



A Southeast Regional Update

by [Patrick O'Brien](#) and [Chris Hartwiger](#), agronomists



Applying a two- to four-inch layer of pine straw to an ultradwarf bermudagrass putting green before pulling on a lightweight cover offers an additional level of winter injury protection.

Ice and snow accumulation, followed by a bitter wind and cold air, blasted golf courses in the Southeast during the week of January 8 - 14, 2011, and the forecast this week has called for lows in the single digits in several southern cities. Several superintendents with ultradwarf putting greens have taken extra precautions to reduce the risk of winter injury.

At the Atlanta Athletic Club, home of the 2011 PGA Championship, Kasey Kauf and the maintenance staff on the Highlands Course added a two-inch layer of pine straw directly on top of the putting greens before putting on the lightweight covers.

This same technique of straw plus a cover was implemented by Anniston Country Club Superintendent Russell Nichols on several of his shaded or north-facing putting greens. Russell was interested to evaluate the effectiveness of this technique. On January 8, 2011, soil temperature measurements were taken in the top two inches on the #2 green prior to adding pine straw and the cover. The air temperature was 40 degrees and the soil temperature was 38. Approximately twenty-four hours later, the air temperature was 28 degrees and the soil temperature under the pine straw plus cover increased to 42 degrees. Russell then checked the eighth green, and the soil temperature was 35 degrees. Overall, Russell and the staff were pleased with the results and felt reassured that using pine straw plus a cover offered extra protection. This information is summarized in the table below.

Table 1: Anniston Country Club Winter Cover Observations

Green Location and Description	Date and Time	Air Temperature	Soil Temperature
#2 Green Before Straw + Covering	1/8/11, 8:30 AM	40 F	38 F
#2 Green, Pine Straw and Cover	1/12/11, AM	28 F	42 F
# 8 Green, Cover Only	1/12/11, AM	29 F	35 F

[Read the rest of this update.](#)

Turf *Twisters*

Frost

by the Green Section staff

Q: During the spring our golf course superintendent has an irritating habit of delaying morning play until the frost has melted on the greens. Is this truly necessary to protect the health of the turf? (Missouri)

A: The short answer to your question is yes. The long answer is that ice crystals on the surface of the grass makes them brittle enough to break off at their base when stepped on. In fact, the turf can become so brittle that even a small animal, such as a goose, can cause unsightly damage to the turf.

The Green Section offers a short animation explaining the problems of frost in greater detail. To see this animation, click on the image below.



[Click on the image or this link to see the animation](#)

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