

2003-2004 Greens Cover Study Results

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We started this year with much discussion on why so many of our putting greens were in poor condition. We proposed some reasons that centered on the root zone moisture content just prior to the greens being covered (Hole Notes, May 2004).

Unfortunately, the winter cover studies that we conducted at two locations in 2003-2004 were on putting greens composed primarily of creeping bentgrass (TROE Center and Rolling Green C.C.). As such, our research did not replicate the devastating damage that some of you experienced with Poa/bent greens. Regardless, there are some lessons that we learned that will be shared through pictures and brief discussions.

Materials and Methods

The study was conducted on push-up greens comprised



of a mixture of creeping bentgrass and annual bluegrass at Rolling Green CC (RG) and on a USGA green seeded to L-93 creeping bentgrass at the TROE Center on the St. Paul Campus (campus).

The treatments included in the research project were:

1. Uncovered control
2. Basic green/brown tarp purchased from Menards; laid green side up
3. GreenJacket which is a non-permeable cross-laminated high-density polyethylene with reinforcing tabs
4. Crane Creek which is a two layer system with straw placed between the layers. The lower layer is a polyester mesh that is staked to the ground and the upper layer is a non-permeable polyethylene cover that is laced to the lower mesh layer. The lacing attachment process is supposed to allow maximum air exchange. This treatment used 3-4 bales per 1000 ft² evenly spread between the layers
5. American Excelsior which is a four-foot wide roll of wood fiber inside netting. (only included on the USGA green on campus).

The covers were installed the first week of November, 2003 on the greens at RG and the second week of November, 2003 on the campus green. Covers were removed the last week of March, 2004. The plots were rated for turf quality (TQ), color, and percent injury (PI) the day of cover removal and then weekly until all treatments had ratings that were not statistically different. All treatments were replicated three times at each location.

The **Green/Brown** tarp (placed green side up) provided excellent turfgrass protection compared to non-covered turf. However, securing this tarp to the surface is a problem and you can expect when the snow cover is gone, a strong wind can tear the tarp and expose the turf surface.

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Because of the straw insulation layer in the **Crane Creek** covers, predicting the correct removal time is essential. This year, we waited too long to remove the covers and observed accelerated growth beneath the covers. The turf had grown to 0.75 inches and required several successive mowing height reductions to bring the putting green back to its desired height of cut. We also observed excessive etiolation and some patch-like areas following cover removal. After approximately two weeks the etiolated turf had turned green. The patches, on-the-other-hand took four weeks to heal and kept the TQ ratings suppressed because of it.



The **American Excelsior** covers were only used at the St. Paul campus on the USGA green and they provided good overall TQ and color ratings. (Continued on Page 11)



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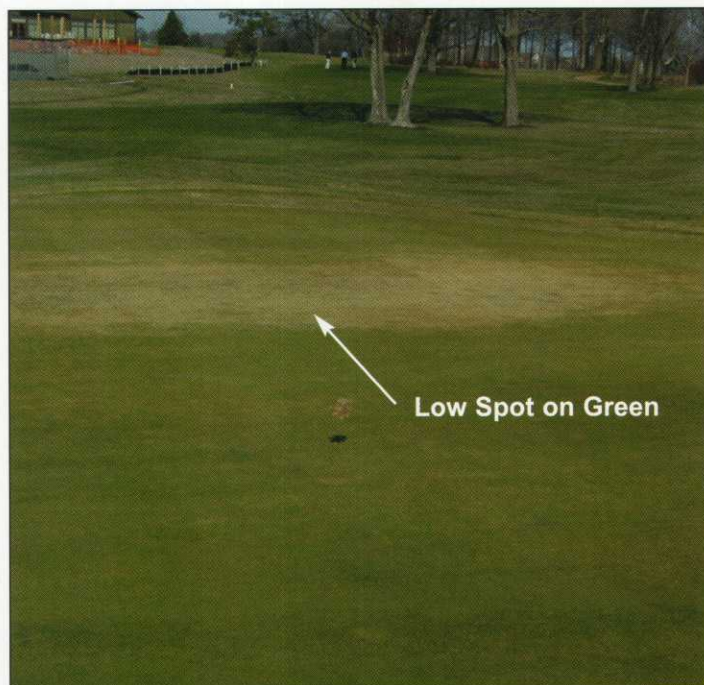
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GreenJacket plots took longer to green up than some of the other plots at the TROE Center and had TQ ratings that were intermediate but ratings were significantly better than the non-covered plots. At RG, one of the putting greens covered with a GreenJacket had some damage which was associated with a low spot on the green where water may have moved to possibly



causing crown hydration. The other two greens at RG did not have the same damage. New for 2004-2005, GreenJacket will offer a foam insulation layer that will be placed between the turf and the cover. Although we have not evaluated this foam insulation, golf courses in the area have used the foam in problem areas of their greens and have had positive results.



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