

CAN 'CHAMPION' BERMUDAGRASS SURVIVE THE WINTER IN NEBRASKA?

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INTRODUCTION

The use of ultradwarf bermudagrass for putting greens is slowly moving north due to lower management inputs and ability to thrive in hot summer months. The primary obstacle to the use of bermudagrass in northern climates is poor cold tolerance. In some cases, damage can be prevented by using insulation and protective covers. Reports have documented bermudagrass winter survival as far north as Kansas, but this research has never been replicated in Nebraska. The objective of this study was to evaluate whether bermudagrass can survive winter conditions in Nebraska under different covers or insulation.

MATERIALS AND METHODS

This study was conducted on four research *Cynodon dactylon* x 'Champion' ultradwarf putting greens (Fig. 1) at the John Seaton Anderson Turfgrass Research Center in Mead, NE. The putting greens were established on 6 June, 2014 from springs. The experimental treatments included permeable or impermeable covers (GreenJacket™, Genoa City, WI) alone or in combination with one or two layers GreenJacket™ AFS insulation. All treatments were compared to an untreated control and heavy sand topdressin. Individual plots measured 5'x 5' with four replicates. Treatments were applied on 15 December, 2014 and removed on 23 March, 2015.

RESULTS AND DISCUSSION

The establishment in 2014 was successful. Plots had a very high visual quality and color, often exceeding nearby bentgrass putting green plots. However, the bermudagrass lost its green color around early October, about two months earlier than the bentgrass. The GreenJacket™ permeable cover in conjunction with two layers of AFS insulation was only treatment combination (Fig. 2) that survived the winter; three of the four replications resumed growth by late spring. The permeable cover along with the insulation likely provided a means of temperature moderation and allowed winter precipitation to rehydrate the turf during winter. We observed that the impermeable cover was difficult to keep stapled to the small plots and was would lift off the surface during heavy winds. This likely exposed the surface to colder temperatures and desiccating conditions. These results indicate that bermudagrass can survive as a putting green in Nebraska if protective insulation and covers are utilized.



Figure 1. Plot space consisted of four separate bermudagrass greens established from springs on 6 June, 2014.



Figure 2. Image taken 9 September, 2015 depicting the treatment combination of 2x insulation with the permeable cover. Three out of four replications survived.