



Photos by M. Goatley

Turf Covers for Winter Protection of Bermudagrass Greens

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Objective

Determine how various commercially available and experimental turf covers modify surface temperatures of a bermudagrass green when covers are applied before predicted severe winter temperatures.

Summary

Because golf can be played throughout much of the winter in areas where bermudagrass is adapted, turf covers are often applied to greens on a temporary basis to provide short-term, low-temperature protection. Little published research is available that details the value of using turf covers on a temporary basis on bermudagrass greens and which covers perform the best.

Ten different turf covers were applied to a bermudagrass green whenever a minimum temperature of less than 28o F was forecast for at least two consecutive nights during the winters of 2000 - 2003. Spring green-up, photosynthetically active radiation, and temperature modification under the covers were measured to assess the benefits of the turf covers.



Results

- Temperature responses varied with cover composition, permeability, color and, to a lesser extent, thickness.
- An experimental translucent overwintering blanket provided the highest average daily maximum temperatures, but also had the greatest temperature range, indicating the potential for excessive heating under the cover.
- A commercially available interwoven polyethylene cover also provided high daily mean soil surface temperatures, but its mean daily minimum temperatures were not significantly different from the uncovered control in two of the three years, apparently indicating much of the energy acquired during the day was lost after sundown.
- Doubled layers of commercially available white or black polypropylene covers had only slightly increased mean daily minimum temperatures as compared to single layers.
- All covers provided some degree of potentially desirable temperature modifications, but selection and use would depend on the particular needs of the superintendent.

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