



*Photos by D. Minner*

## Field Evaluation of Winterkill in Annual Bluegrass and Creeping Bentgrass

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### Objective

Determine the specific cause of winter injury on greens and determine whether superintendents should allow winter to take its natural course or actively manage to reduce winter injury.

## Summary

Every year, greens north of the transition zone suffer winter injury. When turf loss is substantial, the superintendent must explain why the grass died, and why it died on that particular course and not on other nearby courses.

The study was carried out on two separate greens for three years. The 10 potential winter injury scenarios were: dry, open; wet, no ice; continuous ice; continuous snow; impermeable cover with ice on top; ice removed after 60 days; natural-melt freeze cycles in spring; snow removed after 60 days; permeable cover with ice/snow removed; and permeable cover with ice/snow present.



## Results

- Annual bluegrass is far more likely than creeping bentgrass to be injured in winter.
- Continuous ice cover of 66 days caused bleaching of creeping bentgrass but never caused turfgrass kill.
- Annual bluegrass was injured under ice cover.
- The formation of ice may be more important than the duration of ice cover in predicting annual bluegrass winter injury when ice is present.
- There was no advantage in removing ice cover once it had formed. A better strategy might be to prevent any amount of ice forming on annual bluegrass.

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