

TURFGRASS TRENDS

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PATHOLOGY

Winter Injury Understanding the Effects and Research Efforts

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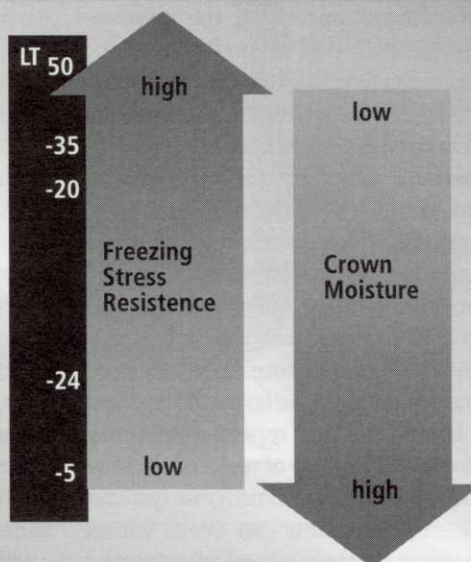
Over the years, golf course management has been impacted by the introduction of various technologies. Technology has enabled the golf course superintendent to maintain higher quality conditions than would be expected if the technology was not available. Does it then follow that technology gives us control?

The answer is different depending on who you ask. Certainly, mechanical and chemical technology have provided tools used to achieve superior putting surfaces. Still, one must wonder how much we can actually control. When it comes to the various aspects of winter injury on our northern golf turf, the last few winters provided the harsh reality of exactly how much we can control — precious little.

Recent devastating losses from winter injury have revitalized interest in this otherwise neglected area, as evidenced by articles in popular trade magazines, conference topics and

COOL-SEASON TURFGRASS RESISTANCE TO FREEZING STRESS

Rough Bluegrass
Creeping Bentgrass
Kentucky Bluegrass
Canada Bluegrass
Colonial Bentgrass
Annual Bluegrass
Fine-leaf Fescues
Tall Fescues
Perennial Ryegrass



Winter hardiness is extremely dependent on the species of turf.

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Freezing Stress Resistance
Cold Acclimation
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Annual Growth Cycle of Turfgrass Roots
Resource Allocation
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Impacts on Management

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