

Low-Input Species for Golf Course Fairways

By Eric Watkins, Andrew Hollman and Brian Horgan
University of Minnesota

Currently, turfgrass species options for golf course fairways in Minnesota are limited. As restrictions on water use, fertilization and pesticide applications on golf courses continue to increase, superintendents will need to use species that require reduced inputs on fairways. As researchers, we need to be forward-looking; we can envision a day in the not-to-distant future when water use and pesticides are severely restricted on golf courses in Minnesota and currently used cultivars and species will not be adequate.

In order to address the potential problem, we initiated a low-input fairway trial. The objective of the study is to evaluate alternative grass species under low-input fairway conditions. In September 2005, 17 species were established on native soil at the TROE Center in St. Paul. Each species was evaluated at 3 levels of traffic (0, 3 and 6 passes per week using a drum-type wear machine) and plots were mowed at either 0.75 or 1.00 in. Species evaluated included creeping bentgrass (*Agrostis palustris*), colonial bentgrass (*Agrostis tenuis*), velvet bentgrass (*Agrostis canina*), redtop (*Agrostis alba*), Kentucky bluegrass (*Poa pratensis*), creeping bluegrass (*Poa annua* var. *reptans*), rough bluegrass (*Poa trivialis*), supina bluegrass (*Poa supina*), Canada bluegrass (*Poa compressa*), tall fescue (*Festuca arundinacea*), hard fescue (*Festuca trachyphylla*), Chewings fescue (*Festuca rubra* var. *commutata*), sheep fescue (*Festuca ovina*), perennial ryegrass (*Lolium perenne*), tufted



hairgrass (*Deschampsia cespitosa*), alkaligrass (*Puccinellia distans*), and timothy (*Phleum nodosum*).

During the first year, the top performing species when mowed at 0.75 in. under high traffic were velvet bentgrass, supina bluegrass, creeping bentgrass, Kentucky bluegrass, tall fescue and colonial bentgrass. Overall, the most consistently top performing species regardless of management level was velvet bentgrass. A major drawback to velvet bentgrass use is excessive thatch production. When wear was applied to the velvet bentgrass plots, thatch levels were reduced and velvet bentgrass flourished. In recent years, we have noticed discoloration and poor performance of velvet bentgrass in the bentgrass greens trial. We have not, to this point, noticed similar problems under low-input fairway conditions.

Turf performance during 2006 was determined through visual ratings. For 2007, we will continue to rate each plot visually for overall turfgrass quality, color, density, disease, etc. Additionally, we will begin taking measurements on surface hardness and soil compaction so that the effect of the traffic treatments can be quantified. As we continue to traffic the plots, overall turf performance of most species will most likely decline. An additional summer of stress should continue to yield interesting data. The results from this research will be used to design further studies that look for new options for lower-input golf course fairways.

Be sure to come to the University of Minnesota Turf and Grounds Field Day on September 13 on the St. Paul campus. We will discuss data from 2007 and should have a better idea of which species have the potential to be used on a wide-scale in Minnesota.

HEDBERG
LANDSCAPE & MASONRY SUPPLIES
"Built on Service"

Everything for
your Golf Course
but the Grass

The Midwest's largest selection of natural stone and
concrete products for your grounds and facilities. Five
metro locations for easy pick up and fast delivery.

Supplier of: **INTERLOCK**
CONCRETE PRODUCTS INC.

MULCH • STONE • PAVERS • RETAINING WALLS • FIRE ROCK
POND FILTRATION • AERATION SYSTEMS • FOUNTAINS

Farmington • 4375 170th Street West • 651-423-5048
Ham Lake • 14630 Highway 65 • 763-413-8330
Golden Valley • 9200 10th Avenue North • 763-225-0540
Stillwater • 8400 60th Street North • 651-748-3158
Plymouth • 1205 Nathan Lane North • 763-545-4400
www.hedberglandscape.com

AUTHORIZED
Aquascape PRO
DISTRIBUTOR

Pond bottom aeration and surface aeration options enhance the
visual beauty of your ponds and solve water quality issues.