

Highlights of What You Can Expect at the U/M/MTGF Field Day on September 11

By Jack MacKenzie, CGCS
MTGF President

The Minnesota Turf and Grounds Foundation (MTGF) and the University of Minnesota annual Field Day provides turfgrass and related professionals an opportunity to learn about new research being conducted at the Turfgrass Research, Outreach and Education (TROE) Center. Leading researchers will demonstrate their projects and how they directly benefit turfgrass and related industries.

The following summaries are what you can expect at the U of M/MTGF Field Day on September 11.

Genetic Improvement of Prairie Junegrass for Use as a Turf

*Matthew D. Clark, Research Assistant
Department of Horticultural Science
University of Minnesota*

Prairie Junegrass (*Koeleria macrantha* (Ledeb.) Schultes), also known as junegrass, is a perennial, short-grass prairie species distributed throughout the Northern hemisphere. Until recently, the species has received little attention as a low-input turfgrass. However, North American germplasm demonstrates early green-up which suggests that native ecotypes may provide improved turfgrass traits. *Koeleria macrantha* represents a diverse natural range that provides the breeder with a broad genetic base from which to select important traits including turfgrass quality, color, density, mowability, growth habit, drought tolerance, disease resistance and seed production. This species is known to require fewer inputs than other cool-season turfgrasses and it demonstrates tolerance to many environmental stresses found in Minnesota.

At this session, attendees will learn about the genetic improvement to native prairie junegrass will result in top-performing turfgrass varieties. These varieties should reduce water, fertilizer and pesticide inputs and result in environmental benefits and reduced costs.

Breeding and Evaluating Perennial Ryegrass Cultivars for Minnesota

*Nancy Jo Ehlke, Eric Watkins, Don Wyse,
Donn Vellekson and Andrew Hollman
University of Minnesota
Department of Agronomy and Plant Genetics
and Department of Horticultural Sciences
St. Paul, Minnesota 55108*

Improvements in perennial ryegrass (*Lolium perenne* L.) turf quality traits such as color, density, texture, mowability, disease resistance and stress tolerance have played an important role in the popularity of perennial ryegrass. However, many improved turf-type cultivars do not have adequate levels of winter hardiness for the northern USA and Canada.

At this session, attendees will learn about new sources of winter hardiness that have been identified in public collections of perennial ryegrass. Topics include newly developed perennial ryegrass breeding populations, herbicide tolerance and rust resistance.

The University of Minnesota's perennial ryegrass breeding program has been highly successful. It has released four cultivars to date: PolarGreen, Ragnar, Ragnar II and Arctic Green, and is looking forward to additional releases.

2005 National Kentucky Bluegrass Trial

*Eric Watkins, Andrew Hollman,
Brian Horgan*

The University of Minnesota has a long history of breeding Kentucky bluegrass. The first variety "Park" was released in 1957 and is still in seed production in northern Minnesota. Park is a variety characterized as having excellent seedling vigor, but has dramatically lost market share due to poor disease resistance and turf quality.

At this session, you will learn about a number of new varieties and selection of Kentucky bluegrass that do well in Minnesota and the northern United States when grown under medium and high maintenance conditions. These new vari-

eties should be available to seed producers and turf managers within the next two years.

Participants will also learn about the University of Minnesota's participation in the National Turfgrass Evaluation Program (NTEP) and how test results generated by the program can be used by industry, extension specialists, turf managers and plant breeders to determine a variety's adaptation across a wide range of environments and levels of turf maintenance.

Converting Kentucky Bluegrass To Low Maintenance Turfgrass Species

*Matt Cavanaugh, graduate student,
Horticultural Science*

The majority of golf course rough in Minnesota is planted with Kentucky bluegrass which requires heavy maintenance. However, the cost of maintaining a golf course is on the rise. Fertilizer, pesticides, labor and fuel cost involved in maintaining golf courses continue to stress superintendents' maintenance budgets. Average prices for major fertilizer nutrients reached the highest level on record in April 2008 at 228 percent higher than the January 2000 level, according to the U.S. Department of Agriculture. Fuel costs have risen by 269 percent since 1992. Water restrictions are also increasing throughout the United States and golf courses are often scrutinized for their water use as golf is thought of as a luxury expenditure. Increasing maintenance costs and water restrictions have caused superintendents to rethink the proportion of their golf course that will be heavily maintained. Transitioning heavily maintained rough areas to low maintenance turfgrasses will allow golf course superintendents to reduce fertilizer and pesticide use, water use and labor costs required for mowing and additional maintenance.

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Field Day-

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At this session, attendees will learn about various methods for successfully converting Kentucky bluegrass to low maintenance turfgrass species which will result in significant cost savings for golf course superintendents.

Phosphorus Runoff from Turfgrass - Research Update

Carl Rosen, Brian Horgan, Andrew Hollman, Matt McNearney, and Peter Bierman
Department of Soil, Water, and Climate and Department of Horticultural Science
University of Minnesota

Even though statewide restrictions on applying phosphorus (P) fertilizer to turfgrass went into effect in 2005, there is still interest over the impact that this legislation has on water quality and turfgrass health. In order to determine the horticultural and environmental effects of restricting P in turfgrass fertilizer, a dedicated research facility was established at the

Turfgrass Research, Outreach, and Education (TROE) Center on the St. Paul Campus at the University of Minnesota during the 2004 growing season. An ongoing study is evaluating the effects of P fertilization and clipping management on P runoff from turfgrass.

At this session, attendees will learn about the results of the first three years of this study. Topics will include:

- The extent of P runoff following turfgrass fertilization
- + How clipping management affects P runoff
- + Various management practices on turf health
- + Best management practices to minimize movement of P from turfgrass

Grounds Track

Horticulture Display and Trial Garden Tour
Campus Landscape Design and Plant Material Walk and Talk
TRE Nursery Tour

James B. Calkins, Education Specialist, Department of Horticultural Science
Jeffrey H. Gillman, Associate Professor, Department of Horticultural Science
Chad P. Giblin, Assistant Scientist, Department of Horticultural Science

The Grounds Track features a tour of the Department of Horticultural Science Display & Trail Garden located on the St. Paul Campus. The Garden is used for teaching, research and extension activities and most of the design, planting, maintenance, and installation is performed by horticulture students. It provides an excellent opportunity to see some unique plants and observe landscape design principles and installation techniques. An important purpose of the Garden is to test new plant materials, and this year's trails include a variety of annual landscape grasses.

The tour will also feature a visit to the TRE Nursery and a tour of the St. Paul Campus Mall where different plants and landscape design and maintenance principles will be addressed.

- See you there!

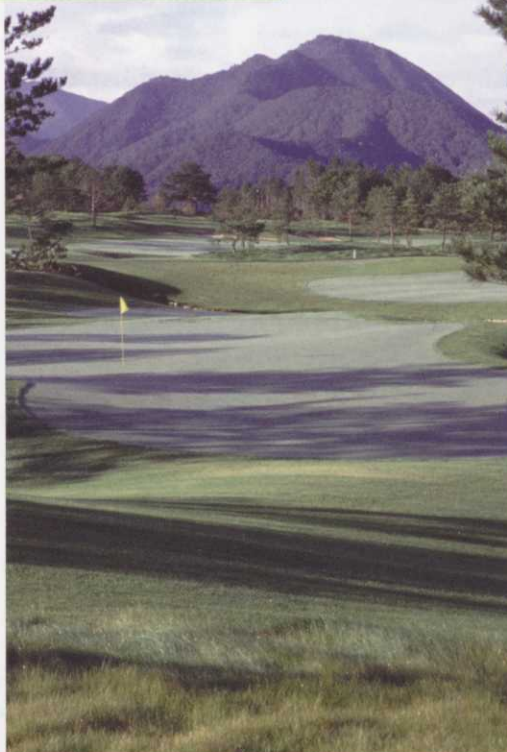
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