

TURFGRASS IN THE NORTH

research at SNRAS in sports turf vegetation, landscaping, disease prevention and resistance, and the economic and agricultural impact of subarctic turfgrass & sporting greens



Background: two turfgrass test plots at the Matanuska Experiment Station in aerial view, June 17, 2003.

Inset: the same fields September 8, 2005.

For a view of proposed additional research fields, see inside.

Sports turf is big business.

The Palmer Research and Extension Center, in the School of Natural Resources and Agricultural Sciences at the University of Alaska Fairbanks, has entered the sports turf research arena. We have an established golf green for variety testing at the Matanuska Experiment Farm and another at the Settlers Bay Golf and Country Club. A third has been developed at the Moose Run Golf Course.

Athletics are an important part of the Alaska lifestyle. Adequate facilities to pursue that lifestyle are in short demand and, therefore, playing time is highly contested. Each summer, in the Municipality of Anchorage alone, **more than 11,000 soccer players compete for playing time on 125 existing fields.** The story is similar for baseball and football. The development of new facilities and the maintenance of old fields are budgeted at over **\$12,000,000 for 2008.** Similar



Above: research green developed by Moose Run Golf Course (Matt Leseman, superintendent, www.mooserungolfcourse.com) and Dr. G.A. Mitchell (UAF Palmer) to learn if top cultivars from the Matanuska Experiment Farm variety trials perform with similar success in Anchorage bowl.

demands and requirements for these athletic resources exist throughout the rest of the state. Grasses suitable for this demanding job are limited and their performance in the harsh growing conditions normal for these high latitudes are relatively unknown. **Successful grasses must exhibit winter hardiness, early spring greenup, and good color and texture combined**

with the durability to deal with both early and late-season use. Nugget bluegrass, bred in Alaska, is one variety used in the test program to develop a sports turf for Alaska. The Turfgrass Research Program at the Palmer Research and Extension Center exists to help turfgrass managers and the sport industry to develop and economically maintain safe, high-quality playing surfaces for the people of Alaska.



Left: Diatomaceous earth is applied to management plots. Best Management Practices help Alaska turf come to play earlier, maintain longer intervals of intense use, and prepare for the winter hardening-off process with the highest levels of carbohydrate reserves. Alaska turf prepares itself for a 160-day dormancy, which is 30 to 40 percent longer than other northern states. Huge carbohydrate reserves are necessary for this additional respiration process to occur and not all varieties have the capacity for this length of dormancy.

Turfgrass Research Program

In the past, the program has worked with the golf industry to:

- » Identify grass cultivars for greens and fairways suitable to the Alaska climate
- » Improve winter hardiness of planted grasses
- » Accelerate spring greenup
- » Develop successful spot repair techniques
- » Improve communication and outreach to interested parties

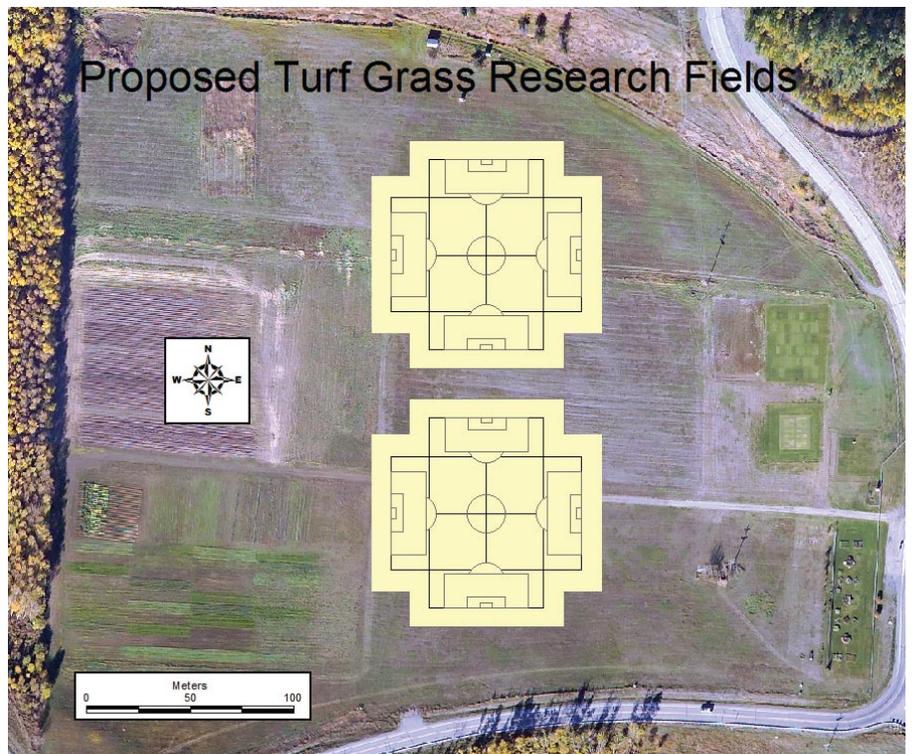
In the future, the program will:

- » Identify grass cultivars suitable for multi-use sports fields in Alaska
- » Research techniques to improve wear and abrasion resistance
- » Develop new construction techniques and field designs to improve usability and decrease maintenance and construction costs
- » Develop maintenance techniques specifically designed for unique growing season
- » Develop precision agricultural techniques to maximize resource utilization while minimizing adverse impacts to the environment
- » Provide onsite demonstrations and outreach to transfer research results to turfgrass managers and other interested parties



Above: Turf cultivars are selected for extreme northern vigor and evaluated for color, quality, density, disease resistance, and spring greenup. Each treatment is scored and receives a number modeled after the National Turf Evaluation Program standard.

Right: two proposed research fields for turfgrass study. Note comparative size with existing fields, at far right.



Program workshops are well attended by golf course and turf managers. The business opportunity is in seed production. Growing seed for a demanding market is high risk—but the demand is high, too, as are the returns. This is the future of the Turfgrass Program at the University of Alaska Fairbanks!

For more information on turfgrass research at SNRAS, please contact Dr. Norman R. Harris, pfnrh@uaa.alaska.edu, 907.746.9467 (ph), 907.232.5732 (cell), or 907.746.2677 (fax).



Above: Preliminary work conducted with protective covering materials demonstrate improvements in survival from winter injury.



Above: Superintendent meetings at the Palmer Experiment Station allow turf growers to learn the varieties and methods of the cultivar study, and share their experience and successful techniques with station workers.

Left: Fertilizer study addresses sufficiency levels for top-performing cultivars in southcentral Alaska.



Left: Lysing sticks, also known as lysimeter tubes or soil solution access tubes, collect samples of fertilizer components captured from various root levels of the golf green's profile. Samples taken below root zones track any components that were not utilized by plant uptake.

**School of Natural Resources & Agricultural Sciences
Agricultural & Forestry Experiment Station**

**SNRAS/AFES • University of Alaska Fairbanks
PO Box 757200 • Fairbanks, AK 99775-7200**

**www.uaf.edu/snras/ • fysnras@uaf.edu
907.474.7083**

The University of Alaska Fairbanks is accredited by the Commission on Colleges of the Northwest Association of Schools and Colleges. UAF is an AA/EEO employer and educational institution.

