

Tall Fescue Turfs in Illinois

by Tom Fermanian, Associate Professor
Dept. of Horticulture, University of IL

It wasn't long ago that tall fescue (*Festuca Arundinacea* Schreb.) was considered a weed species within the borders of Illinois. This perception is just now beginning to change across the state. A little more in southern and central portions. Even the Chicagoland area and northern Illinois are loosening up.

Many new cultivars of tall fescue are becoming available. The National Turfgrass Evaluation Program (NTEP) is currently sponsoring a national tall fescue cultivar evaluation trial with 65 entries. A new test is approaching with well over 100 entries. Only eight varieties were available in 1980. Where there was once little choice among available varieties, now there is confusion. What has prompted this increase in breeding and release of new varieties? Certainly its increase in performance, particularly for uses in which tall fescue is best adapted.

When the expansion of breeding began in the early 80's, many new varieties of tall fescue were reported to have finer texture, a more prostrate growth habit, and darker green genetic color. While the prostrate growth habit and green color were found to be true, leaf texture in mature stands was similar to pasture-type varieties. Even with today's finer, dwarf-type tall fescues, leaf blades appear wider than most other cool season species. This has limited the use of tall fescue in truly high-performance, high-aesthetic turfs.

Tall fescue has gained popularity for medium to low maintenance areas with its rougher, courser turf. Would a golf course be interested in tall fescue? Are there areas on your course where you are trying to maintain turf with lower maintenance costs? For most courses there is at least a small area and for many courses there is considerable acreage that would be suitable for use with tall fescue.

What type of niche does tall fescue flourish in? It is a moderately dense, upright growing species. Turfs that require adequate cover, but not high densities and are mowed among 1.5 to 3 inches are ideal. One of the more valuable attributes of tall fescue is its ability to avoid injury in droughty soils. Tall fescue uses as much water for its growth as other cool season species. Its deeper (18 to 24 inches) root system allows it to draw required water from a greater volume of soil. It is not unusual to see green tall fescue contaminating dormant perennial ryegrass or Kentucky bluegrass turf.

Tall fescue is also extremely resistant to mechanical wear and tear. It is one of the tougher cool season turf species, providing excellent wear tolerance for well trafficked areas. Tall fescue provides an excellent turf in areas receiving high cart traffic and might be the solution to bare areas at the end of cart paths.

(cont'd. page 7)

FOR THE FINEST IN SOD
THORNTON'S SOD NURSERY

708 - 742-5030

Rt. 2 Box 72

Elgin, Ill. 60120



Since 1930

A TRADITION

*More than 60 years of
complete, dependable,
economical tree service.*

Nels J. Johnson, Tree Experts, Inc.

Nels J. Johnson, Sr.
President

Nels J. Johnson, Jr.
Vice President

Karl G. Johnson
Vice President

Complete economical tree service for Private Estates, Municipalities, Schools, Industrial Areas, Parks, Golf Courses.

All phases of Arboriculture, Diagnosing, Pruning, Treating, Transplanting, Fertilization, Hydraulic Spraying, Removals, Stump Routing, Municipal Forestry, Chempotherapy for elms, and other trees.

FULLY INSURED

MAIN OFFICE: 912 Pitner Avenue, Evanston, IL 60202

TELEPHONE: (708) 475-1877

FAX: (708) 475-0037

Hinsdale: (708) 325-0970

GENTURY RAIN AID

GOLF'S IRRIGATION PROFESSIONALS

RAIN BIRD
PREFERRED BY PROFESSIONALS WORLDWIDE

How CRA Helps Superintendents:

- Complete stock of irrigation supplies
- Water conservation analysis & troubleshooting
- Assistance in pumping improvement and pumping cost efficiency
- Drainage solutions
- Fountains • Aerators • Pump Management
- Improvements of energy-usage cost
- On-the-phone technical assistance

FREE 80-Page Catalog!

1-800-347-4272

• Downers Grove, IL • 5379 Walnut Ave. • (708) 515-8555 • Fax (708) 515-1228
• Palatine, IL • 315A S. Hicks Rd. • (708) 705-6200 • Fax (708) 705-6204

PRESSURE WASHERS



250
to
2,000
PSI

NEW AND USED

FREE DEMO

- SALES
- SERVICE
- PARTS
- CHEMICALS

Formerly Hotsy of Chicago

CALL TOLL FREE 1-800-666-3900

*The Cleaning Equipment Specialists Since 1976**



TIM LAYDEN
General Manager

708-893-0777 • FAX (708) 893-1045

Formerly Hotsy of Chicago

1-800-666-3900

Sales Service Parts Rentals Chemicals
25 S. Park Street • Roselle, Illinois 60172

There is also a lot **not** known about the use of tall fescue in Illinois. Not being one of the more commonly used species, there is a lack of research information on its relative performance throughout the state. Additionally, because of the availability of many new varieties, their specific performance is unknown.

With the assistance of an Illinois firm, Seaboard Seed Company, we set two years ago to examine the performance of a few selected tall fescue and perennial ryegrass (*Lolium perenne* L.) cultivars that might be particularly adapted for use in the Midwest. This project encompasses five separate experiments, looking at a range of performance indicators from growth in shade to disease resistance. One of the past limitations for using tall fescue has been its relative susceptibility to summer diseases such as brown patch and pythium blight. These two diseases still limit its overall performance in many poorly drained areas. Many of the new turf-type cultivars have increased resistance to these pathogens and have showed better performance than pasture-type tall fescues. Dr. Hank Wilkinson, of the University of Illinois, Department of Plant Pathology, is cooperating in the project by examining the genetic resistance of the selected cultivars to brown patch and pythium blight. This will be conducted in small greenhouse plots this fall.

In addition to an evaluation of disease resistance, many of the growth attributes of tall fescue are being examined. An advantage to using either tall fescue or perennial ryegrass is their rapid germination and establishment. Either species provides rapid germination and excellent seedling vigor, making overseeding a successful method of maintaining proper stand density. A field experiment was established at the University of Illinois Ornamental Horticulture Research Center (OHRC) to examine the germination potential and seedling vigor of the selected cultivars. Table 1 shows the percent germination of the selected cultivars 7 days after they were sown. This particular experiment is in full sun located on a well drained fertile soil. The analysis of the germination data indicated excellent performance for both the perennial ryegrass and tall fescues in comparison to Kentucky bluegrass (*Poa pratensis* L.).

Table 1. Percent Germination of Selected Tall Fescue and Perennial Ryegrass Cultivars Seven Days after Establishment in Full Sun.

| cultivar | % germination | |
|-------------------|---------------|-----------|
| Premium Sod Blend | 1.0 | a |
| Midnight | 1.0 | a |
| WVPB-88-TF-89-201 | 3.7 | a b |
| WVPB-88-TF-F-16 | 6.0 | a b |
| WVPB-88-TF-B-21 | 6.0 | a b |
| WVPB-88-TF-C-10 | 11.0 | a b |
| Hounddog | 11.7 | a b |
| Pennlawn | 15.0 | a b c |
| Pacer | 15.0 | a b c |
| WVPB-88-PR-D-10 | 18.3 | a b c |
| WVPB-88-PR-D-12 | 21.7 | a b c d |
| Mojave | 23.3 | a b c d e |
| WVPB-88-PR-89-57 | 23.3 | a b c d e |
| Gallway | 26.7 | b c d e |
| Arid | 26.7 | b c d e |
| Rebel | 28.3 | b c d e |
| Delray | 28.3 | b c d e |
| Rodeo | 36.7 | c d e f |
| Stallion | 45.0 | d e f |
| Pennfine | 46.7 | e f |
| Manhattan II | 46.7 | e f |
| Citation II | 53.3 | f |
| Patriot | 55.0 | f |

(cont'd. page 9)

(Tall Fescue continued)

This experiment was again evaluated 20 days after seeding to provide an indication of relative seedling vigor. The results of the evaluation are shown in Table 2 indicates a strong performance on the part of many of the tall fescue cultivars and, in particular, most of the perennial ryegrass cultivars. This experimental area will be maintained over the next 3 to 4 years for the continued evaluation of general performance.

Table 2. Percent Ground Cover of Selected Tall Fescue and Perennial Ryegrass Cultivars 20 Days after Establishment in Full Sun.

| Cultivar | % cover | |
|-------------------|---------|---------------|
| Premium Sod Blend | 28.3 | a |
| Midnight | 31.7 | a |
| Pennlawn | 45.0 | a b |
| WVPB-88-TF-89-201 | 45.0 | a b |
| WVPB-88-TF-B-21 | 51.7 | a b c |
| Hounddog | 56.7 | b c d |
| WVPB-88-TF-C-10 | 56.7 | b c d |
| WVPB-88-TF-F-16 | 56.7 | b c d |
| Citation II | 59.0 | b c d e |
| Pacer | 60.0 | b c d e f |
| Galloway | 63.3 | b c d e f g |
| Mojave | 66.7 | b c d e f g h |
| Rebel | 70.0 | c d e f g h |
| Arid | 70.0 | c d e f g h |
| WVPB-88-PR-D-12 | 78.3 | d e f g h |
| WVPB-88-PR-D-10 | 80.0 | d e f g h |
| WVPB-88-PR-89-57 | 80.0 | d e f g h |
| Patriot | 81.7 | e f g h |
| Rodeo | 81.7 | e f g h |
| Delray | 83.3 | f g h |
| Manhattan II | 86.7 | g h |
| Stallion | 88.3 | h |
| Pennfine | 90.0 | h |

LSD.01= 24.2

WARNING! This evaluation is an initial evaluation of cultivar performance. Subsequent evaluations may show different responses.

Fisher's Least Significant Difference Test (LSD) is a statistical procedure that determines if the difference found between two treatments is due to the treatment or if the difference is simply due to random chance. For each set of data a value (LSD₀₁) is calculated at a chosen level of significance. If the difference between two treatment means is greater than this calculated value then it is said to be a 'significant difference' or a difference not due to random chance. For each set of data, a letter(s) is placed by each treatment mean to show its relationship to every other treatment mean. If two means have one or more letters in common, it is probable that any difference between them is not significant but is a result of random chance. The level of significance that we use is 0.01 (LSD₀₁). In other words, 99% of the time these treatments are compared this difference will occur.

Table 3 shows the evaluated quality of plots in the experiment 10 months after establishment. After one year, most of the grasses achieved full maturity with several of the tall fescues showing maximum performance. In particular, two of the experimental varieties, WVPB-88-TF-C10 and WVPB-88-TF-89-201, provided excellent performance and showed good potential. It is important to note that true performance can only be judged over a period of several seasons and that initial evaluations can change dramatically in subsequent years.

In the northern half of the warm-season growing area, tall fescue is used as one of the principal shade species. For cool season areas, we generally depend on fine fescues for performance in low light areas. Tall fescue can also provide excellent turf in limited light. Use tall fescue for rough areas that would otherwise be limited if tree-lined areas provided too much shade.

(cont'd. page 10)

Ford Iron is here!



Better tractor loader backhoes are here—the Ford C Series.

- More powerful hydraulics with 6,000 pounds of lift capacity and 12,000 pounds of breakout force.
- Deeper-digging backhoes with XTRA-VATOR™ extendable dipperstick.
- Deluxe noise-absorbing cabs with dual entry/exit, adjustable swing-around suspension seat, all-around visibility and right-hand instrument console.
- Ford quality and service/parts backup.

See the rigs that are born to dig—today!



HUBER RANCH POWER EQUIP.

Rt. 41, Box 188, Schneider, IN
1-800-553-0552

FERTILIZERS? WILBUR-ELLIS!

WITH OUR EXCEPTIONALLY WIDE SELECTION, WE'LL HELP YOU WITH THE BEST FERTILIZER FOR YOUR SITUATION ... AT A VERY COMPETITIVE PRICE.

NUTRALENE Fertilizers - See the Difference

15-0-30) Greens Grades) with Nutralene
20-0-20)
24-4-12) Granular

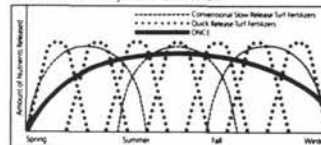
| Release Characteristics | 12-18 wks | 12-18 mos | 12-18 yrs | 1-4 yrs |
|------------------------------------------------------|-----------|-----------|-----------|---------|
| Hydraulic Release | • | • | • | • |
| Microbial Release | • | • | • | • |
| Not dependent on timing of particle size for release | • | • | • | • |
| Non-burning | • | • | • | • |
| Low Salt | • | • | • | • |
| Minimal Leaching | • | • | • | • |
| Minimal Volatilization | • | • | • | • |

ONCE Season Long - N, P, and K

Temperature Release - Not Affected by Water or Microbial Action (5-6 months)

Nutrients Released As Turf And Plants Need Them

24-6-11 5-6 months
25-0-18 5-6 months
35-0-6 5-6 months
0-0-47 5-6 months
15-12-13 5-6 months



Wilbur-Ellis Custom Fertilizers

18-3-12) Homogenous Greens Grades

18-5-9)

And a full line of blended and liquid fertilizers

Wilbur-Ellis

John Meyer or Joe Wollner
800-747-7400 — Chicago/Iand
800-892-4033 — Central Illinois

Bent Sod That Fits Your Course To a Tee!

from tee to green...

- PENNCROSS BENT SOD
- PENNLINKS BENT SOD
- PENNEAGLE BENT SOD
- XL-100 BLEND SOD
- A FULL LINE OF LANDSCAPE SUPPLIES

Illinois' largest sod grower



3900 West 167th Street,
Markham, IL 60426
708-596-7200



(Tall Fescue continued)

Table 3. Estimated Turf Quality of Selected Tall Fescue and Perennial Ryegrass Cultivars 10 Months after Establishment in Full Sun.

| Cultivar | Turf Quality | |
|-------------------|--------------|-----|
| Pennlawn | 3.0 | a |
| Rodeo | 3.3 | a |
| WVPB-88-PR-D-12 | 3.7 | a |
| Stallion | 3.7 | a |
| WVPB-88-PR-89-57 | 4.0 | a |
| WVPB-88-PR-D-10 | 4.0 | a |
| Delray | 4.0 | a |
| Pennfine | 4.0 | a |
| Patriot | 4.0 | a |
| Manhattan II | 4.0 | a |
| Citation II | 4.0 | a |
| Premium Sod Blend | 5.7 | b |
| Gallway | 7.7 | c |
| Hounddog | 8.0 | c d |
| Rebel | 8.0 | c d |
| WVPB-88-TF-B-21 | 8.0 | c d |
| Midnight | 8.0 | c d |
| Mojave | 8.0 | c d |
| Arid | 8.3 | c d |
| WVPB-88-TF-F-16 | 8.3 | c d |
| Pacer | 8.7 | c d |
| WVPB-88-TF-C-10 | 8.7 | c d |
| WVPB-88-TF-89-201 | 9.0 | d |

9 = best quality
LSD.01 = 1.1

WARNING! This evaluation is an initial evaluation of cultivar performance. Subsequent evaluations may show different responses.

Because tall fescue has an ability to grow well in shaded areas, this species can be used from the edge of the fairway through the edge of wooded areas. This degree of tolerance to low light is variable among cultivars and to evaluate the relative performance of the selected cultivars in the study, a shade tolerance study was established. The same selected perennial ryegrass and tall fescue cultivars were established at the base of a green ash grove at the OHRC. The trunk diameter of the ash trees ranged from 3'' to 6'' providing moderately dense canopies and partial to high levels of shade. While the overall performance of the cultivars was lower in the shade than in full sun, many entries in the experiment performed well under the stressful conditions. In particular, Arid and WVPB-88-TF-89-201 tall fescues provided good quality when evaluated ten months after their establishment (Table 4).

Table 4. Estimated Turf Quality of Selected Tall Fescue and Perennial Ryegrass Cultivars 10 Months after Establishment in Partial Shade.

| Cultivar | Turf Quality | |
|-------------------|--------------|---------|
| Midnight | 3.0 | a |
| Pennlawn | 3.0 | a |
| Pennfine | 4.0 | a b |
| Delray | 4.3 | a b c |
| Manhattan II | 4.7 | a b c d |
| Rodeo | 4.7 | a b c d |
| WVPB-88-PR-89-57 | 5.0 | a b c d |
| WVPB-88-TF-F-16 | 5.0 | a b c d |
| Citation II | 5.0 | a b c d |
| Pacer | 5.3 | a b c d |
| WVPB-88-PR-D-10 | 5.3 | a b c d |
| Patriot | 5.3 | a b c d |
| WVPB-88-PR-D-12 | 5.7 | a b c d |
| Hounddog | 5.7 | a b c d |
| Mojave | 5.7 | a b c d |
| Stallion | 6.0 | b c d |
| Rebel | 6.0 | b c d |
| Gallway | 6.3 | b c d |
| WVPB-88-TF-C-10 | 6.7 | b c d |
| WVPB-88-TF-B-21 | 6.7 | b c d |
| Arid | 7.0 | c d |
| WVPB-88-TF-89-201 | 7.3 | d |

9 = best Quality
LSD.01 = 2.9

Reach, Speed & Stability



Ford New Holland "Super Boom" skid-steer loaders do more for you:

- * Reach - Loads center of six-wheel dump.
- * Speed - Faster cycle times, speeds up loading/unloading operations.
- * Stability - Longer wheelbase with low center of gravity.

MARTIN IMPLEMENT SALES, INC.
16400 S. 104th Ave.
Orland Park, IL 60462
(708) 349-8430



(cont'd. page 11)

One of the more intriguing experiments in this study is the examination of root development among the selected cultivars. These cultivars were grown in 6' x 4" diameter PVC tubes in a greenhouse. Calcined clay was used as a rooting media to facilitate the separation of roots from the media. The plants have been growing in the greenhouse for 3 months and are now being harvested for root measurements. An objective of this study is to determine whether dwarf-type tall fescues have root systems to larger, standard type tall fescue cultivars. If a deep, extensive rooting mass is developed in dwarf-type cultivars similar to their standard counter parts, their use in droughty or low moisture areas will expand.

The results from experiments in this study will help to provide a greater understanding of the performance of tall fescue in Illinois. Several more years will be required to determine a true picture of their performance.

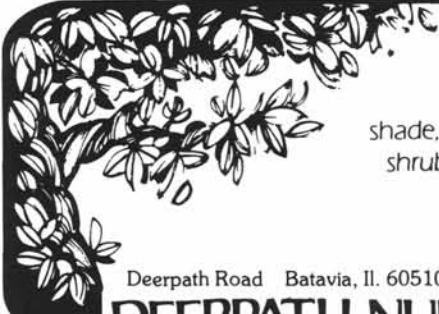
Meanwhile, much information exists on the relative performance of older cultivars of tall fescue that have shown good adaptation to many areas of Illinois. Table 5 is one small piece of information from the "Cool-Season Turfgrass Cultivar Recommendations" Horticulture facts sheet TG 12-91 that is available at county Cooperative Extension Offices. It indicates suggested cultivars of several species for general performance, shade tolerance, and resistance to common diseases. This information will help you begin to use currently available tall fescue cultivars for medium to low maintenance turf areas. As more information is gathered you can replace the initial cultivars with newer material through overseeding programs. Using tall fescue allows you to rapidly change genetic material, with

minimal disruption, in the turf through renovation programs using Roundup and slit seeding. Don't hesitate to experiment with tall fescue for areas that might have presented problems for other cool season species. You will be surprised at the relative quality a tall fescue turf can provide.

Table 5. Recommended Tall Fescue Varieties for Illinois*

| | | | |
|-----------|-----------|----------|--------------|
| Adventure | Chieftan | Legend | Rebel |
| Apache | Falcon | Marathon | Rebel II |
| Arid | Finelawn | Mesa | Sundance |
| Aztec | Galway | Monarch | Thoroughbred |
| Bonanza | Hounddog | Mustang | Trailblazer |
| Brookston | Jaguar | Olympic | Trident |
| Carefree | Jaguar II | Pacer | Wrangler |

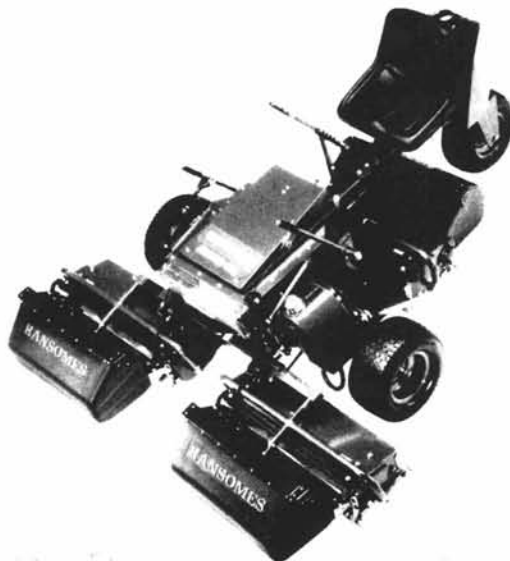
*From "Cool-Season Turfgrass Cultivar Recommendations" Horticulture facts TG 12-91.



Selected varieties of shade, ornamental trees, shrubs and evergreens.

Deerpath Road Batavia, Il. 60510 708/879-0120

DEERPATH NURSERIES



RANSOMES

The Motor 180 is versatile enough to trim golf tees and surrounds, ideal for large private and public lawns, just the machine for maintaining smaller playing fields. Its low profile design hugs the ground giving outstanding stability and performance, even on steep slopes. Instant response from the single foot pedal control for forward or reverse drive gives the ultimate in handling ability. Choice of 5 knife fixed head and 7 knife floating head cutting units lets you choose the right finish for your turf. With cutter drive completely independent of ground speed the cutting efficiency is maintained even when manoeuvring at low speed. Units latch out of work manually. Mechanical lift to units from the operator's seat and grasscatchers are optional.

Grounds for Ransomes.

ASK FOR A DEMONSTRATION NOW!

OLSEN DISTRIBUTING COMPANY

969 N. Pepper Road

Barrington, Illinois 60010

1-708-381-9333