



Performance of Fineleaf Fescue Cultivars and Selections in Michigan, 2004-06

Suleiman Bughrara

Department of Crop and Soil Sciences, Michigan State University



Five species of fescue — chewings fescue, strong creeping red fescue, slender creeping red fescue, hard fescue and sheep fescue — are all commonly identified by their fine leaf texture. Their leaves are medium to dark green, almost blue, and narrow and needle-like. They are primarily bunch-type grasses except for creeping red fescue, which can produce rhizomes. Fineleaf fescues are considered low-maintenance grasses because of their very slow growth habit and minimal fertilizer requirements. They are less wear-tolerant than other cool-season grasses and therefore have limited use on golf courses and athletic fields. Fineleaf fescues should be mowed at 2 to 3 inches or higher, particularly in the summer. They will become dormant in dry, full-sun conditions.

These grasses are well-adapted to infertile, acidic soils and tolerate shade better than other cool-season grasses. Thatch can become a significant problem if fine fescue is not managed properly — fineleaf fescues are the most aggressive thatch producers of the cool-season grasses. Fineleaf fescues are commonly used in mixtures with Kentucky bluegrass and/or perennial ryegrass whenever a low-maintenance lawn is desired. Fineleaf fescues have few major pest problems. Under wet conditions,

however, red thread and leaf spot can attack these species. Like the ryegrasses and tall fescue, certain fine fescue cultivars have endophytes, beneficial fungi that reside within fine fescue seed and grow in the stem and leaf sheath but not in the root or leaf blade. They are not harmful to the host plant, people or pets that occasionally eat the grass. Endophyte-containing fineleaf fescue may be detrimental to animals that consume large quantities of the grass as a significant part of their nutritional requirements, however, such as cows, horses and/or sheep. Endophytes produce chemicals called alkaloids that protect the plants from leaf- and stem-feeding insects and nematodes. They also make the plants more tolerant of marginal soil environments and harsh management conditions. Fineleaf fescues containing endophytes have shown increased resistance to sod webworms, fall armyworms and chinch bugs.

Chewings fescue is a bunch-type grass with higher density and finer texture than slender and strong creeping red fescues. Chewings fescue is not wear-tolerant and requires less mowing than other grasses. It is the most popular grass to mix with perennial ryegrass.

Strong creeping red fescue spreads through rhizomes and tends to have a more open turf canopy than other fine fescue species. It is often added to tall fescue, Kentucky bluegrass and perennial ryegrass mixtures to improve and increase the shade tolerance. It has similar color, growth habit and density but better establishment and seedling vigor than most Kentucky bluegrass cultivars. After establishment, it will dominate heavily shaded areas where Kentucky bluegrass is not competitive.

Slender creeping red fescue spreads through rhizomes and tends to have a more open turf canopy. Slender creeping red fescue is known for its fine-textured leaves, good density and lower maintenance require-

ment than other cool-season grasses. It has good salt tolerance and is well-adapted to shaded areas with poor, drought-prone and slightly acid soils. It commonly is used in mixtures with other grasses for low-maintenance lawns.

Sheep fescue is a bunchgrass that produces a blue-green leaf. It is well-adapted to moist soils and does especially well in sandy or gravel soil types. It is sometimes used as a cover crop for native warm-season grass and wildflower seedlings. It is good for erosion control and is sometimes used in landscaping.

Hard fescues are well-adapted to the low-maintenance approach; the chewings and red fescues perform better in traditional lawn mixtures that receive regular fertilizer applications. It has lower nutrient requirements, better disease resistance, low maintenance needs and a slower growth rate than other cool-season grasses. Hard fescue is used for soil erosion control in low-maintenance areas and reclamation planting in areas not easily maintained. It stays green longer than other fescues late in the fall.

The National Turfgrass Evaluation Program (NTEP) fineleaf fescue cultivars and selections test was established in September 2003 at the Hancock Turfgrass Research Center at Michigan State University. The test comprised 54 commercial cultivars and a selection of chewings, strong and slender creeping red, hard and sheep fescues (see Table 1). The test area was mowed frequently during periods of active growth and received between 1 and 2 pounds of nitrogen per 1,000 square feet each year split into three to four applications, and frequent irrigation during the summer.

The plots were visually evaluated once per month during the growing season for turfgrass quality and other parameters. "Quality" means overall appearance. Components are density, texture, uniformity, color, and freedom from disease and insect damage. Quality was rated using a scale of 1 to 9, where 9 equals the highest quality. Entries are listed in order of species and seasonal average quality for 2004, 2005 and 2006. For comparison, average turfgrass quality and percent living ground cover of creeping bentgrass grown at seven locations in the United States (Iowa, Illinois, Indiana, Minnesota, North Dakota and South Dakota) are included in Table 1.

Differences between two entries are statistically significant only if the numerical difference between the two entries exceeds the LSD value listed in the table. For example, if cultivar 'Zodiac' is 0.5 unit higher in quality than cultivar 'Musica', this difference is significant because the LSD value (0.4) is smaller. If the LSD value is greater than the numerical difference between the two cultivars, then the difference is not significant. Coefficient of variation indicates the percent variation of the mean. Smaller variation indicates good data validation.

Few differences in turfgrass quality were found among the fineleaf fescue entries in this test during 2004-06 in spite of the differences noted in growing conditions in 2004, 2005 and 2006. The average turfgrass quality of some improved cultivars varied little across the seasons. The entries showing the best seasonal average quality over the three-year test period are listed in the table. For more information, visit: www.ntep.org under Michigan State University data.

Performance of Fineleaf Fescue Cultivars and Selections in Michigan, 2004-06

Table 1. Turfgrass quality of chewings, strong and slender creeping red, hard and sheep fescue cultivars and selected lines grown at Michigan State University (Hancock Turfgrass Research Center) and six other locations in the United States for the years 2004-06.

CULTIVAR AND SELECTION	----- QUALITY ¹ -----				
	2004		2005		2006
	MI	Average of 6 states	MI	Average of 6 states	MI
CHEWINGS FESCUE					
ZODIAC (BUR 4601)	7.0	6.5	6.6	6.1	6.0
PST-4TZ	6.6	6.4	6.1	5.8	6.4
LONGFELLOW II	7.0	6.4	5.7	5.7	6.3
IS-FRC 17	7.0	6.3	5.6	5.6	5.8
SRX 51G	6.7	6.3	6.5	5.8	6.3
DP 77-9886	6.7	6.1	5.0	5.6	5.0
COLUMBRA II (ACF 174)	7.0	6.1	6.2	5.5	5.9
AMBASSADOR	6.7	6.1	5.8	5.5	5.5
7 SEAS	6.6	6.0	5.4	5.5	5.8
J-5 (JAMESTOWN 5)	6.3	5.9	4.8	5.3	4.7
CASCADE	6.6	5.9	4.8	5.1	4.5
DP 77-9885	6.5	5.8	5.8	5.5	5.8
COMPASS (ACF 188)	6.9	5.6	5.6	5.4	5.9
MUSICA	6.5	5.7	5.5	5.8	5.3
STRONG CREEPING RED FESCUE					
RAZOR	6.9	6.2	5.4	5.6	5.4
PICK CRF 1-03	6.5	6.2	6.4	5.8	5.7
JASPER II	6.5	6.2	5.3	5.5	4.9
MUSICA	7.0	6.2	6.7	6.0	5.3
PST-8000	6.5	6.1	6.3	6.1	6.5
CELESTIAL	6.5	6.0	5.3	5.6	5.2
TL 53	6.6	6.0	6.2	6.0	6.0
IS-FRR 29	6.5	6.0	6.1	5.8	5.8
EDGEWOOD (C03-RCE)	6.5	6.0	5.8	5.8	6.5
DP 77-9360	6.3	6.0	6.3	5.8	6.2
5001	6.4	6.0	6.3	6.0	6.0
IS-FRR 30	6.5	5.9	6.3	5.9	6.7
IS-FRR 23	6.5	5.9	5.6	5.3	5.3
DP 77-9578	6.6	5.9	5.9	5.8	5.8
C-SMX	6.5	5.9	5.5	5.7	6.0
DLF-RCM	6.7	5.9	6.2	5.9	6.3
DP 77-9579	6.3	5.9	5.8	5.7	5.9
C03-4676	6.6	5.9	5.0	5.2	4.8
BMXC-S02	6.5	5.9	6.0	5.6	5.0
PATHFINDER	6.3	5.9	5.3	5.6	5.4
ASC 245	6.4	5.7	5.7	5.3	5.2
TL1	6.5	5.7	5.3	5.3	5.7
AUDUBON	6.2	5.6	4.1	5.3	4.5
ORACLE	6.4	5.3	4.4	5.0	4.4
SHADEMASTER	6.2	5.1	4.4	4.7	3.6
BOREAL	6.1	5.1	4.0	4.7	4.0
SLENDER CREEPING RED FESCUE					
SRX 55R	6.4	5.9	4.3	5.3	5.5
SEABREEZE	6.2	5.5	4.5	5.2	4.8
DAWSON E	6.3	5.4	4.0	5.0	4.3

Continued

Performance of Fineleaf Fescue Cultivars and Selections in Michigan, 2004-06

CULTIVAR AND SELECTION	----- QUALITY ¹ -----				
	2004		2005		2006
	MI	Average of 6 states	MI	Average of 6 states	MI
HARD AND SHEEP FESCUE					
PICK HF #2	7.1	6.1	6.2	5.9	6.3
RELIANT IV (A01630REL)	6.8	5.9	5.8	5.9	5.6
IS-FL 28	7.0	5.9	5.9	5.7	6.3
OXFORD	6.8	5.8	5.4	5.7	5.3
BERKSHIRE	6.9	5.7	5.8	5.8	5.9
PREDATOR	6.9	5.7	5.5	5.7	5.3
SRX 3K	6.6	5.7	4.6	5.1	4.6
SCALDIS	6.5	5.6	4.5	5.0	4.0
SR 3000	6.7	5.6	5.0	5.3	4.7
SPM	7.0	5.5	5.8	5.4	6.2
QUATRO	6.9	5.3	3.9	4.4	3.9
LSD²	0.4	0.3	0.7	0.3	1.3
C.V. (%)³	3.7	9.7	7.9	9.0	13.4

¹ 9 = best turf quality.

² LSD, least significant differences: Subtract one entry's mean from another entry's mean. If this value is larger than the corresponding LSD value, then the difference is statistically significant.

³ C.V. (%), coefficient of variation, indicates the percent variation of the mean.

Sources of Seed

The following list of seed companies is included to help the reader who may not be able to find sources of some varieties of seed — it is not intended as a recommendation of these companies or as an inclusive/exclusive listing.

CSI/GEOTURF INC.
1225 76th Street
Byron Center, MI 49315
Phone: 888-208-5772

J. MOLLEMA & SONS
4660 E. Paris, S.E.
Grand Rapids, MI 49512
Phone: 800-234-4769

MICHIGAN STATE SEED SOLUTIONS
717 N. Clinton
Grand Ledge, MI 48837
Phone: 800-647-8873, 517-627-2164

RHINO SEED AND LANDSCAPE SUPPLY
850 Old US-23
Brighton, MI 48114
Phone: 810-632-5640

SOUTHERN MICHIGAN SEED
48580 County Road 352
Decatur, MI 49045
Phone: 269-423-7051

STANDISH MILLING COMPANY INC.
1331 West Cedar Street
Standish, MI 48658
Phone: 989-846-6911

SWEENEY SEED COMPANY
110 South Washington Street
Mount Pleasant, MI 48858
Phone: 800-344-2482

TRI TURF
3751 Blair Townhall Road
Traverse City, MI 49684
Phone: 800-636-7039

Other Publications in this Series

(The following publications and other materials on lawns, turfgrasses and related topics are available online at: www.emdc.msue.msu.edu or from your MSU county Extension office — look under "Government, County" in your phone book.)

E-2910, Establishing a New Lawn Using Seed

E-2911, Nine Steps for Establishing a New Lawn Using Sod

E-2912, Turfgrass Species and Cultivar Selection

E-2913, Calendar for Lawn Care

E-2917, Performance of Bentgrass Cultivars and Selection Under Putting Green and Fairway Conditions (for golf courses)

E-2924, Performance of Kentucky Bluegrass Cultivars in Michigan, 2001-2005

E-3040, Performance of Perennial Ryegrass Cultivars in Michigan, 2005-06

For more materials available online, visit the MSU Extension Web site: www.emdc.msue.msu.edu



MSU is an affirmative-action, equal-opportunity employer. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, gender identity, religion, age, height, weight, disability, political beliefs, sexual orientation, marital status, family status or veteran status. Issued in furtherance of MSU Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Thomas G. Coon, Director, MSU Extension, East Lansing, MI 48824. This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned.

New 3/08 – 300 – KME/MSUP