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Michigan State University

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Performance of Tall Fescue Turfgrass Cultivars in Michigan: 2001-2003

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Tall fescue is a resilient grass that adapts well to a wide range of growing conditions. It is used in home lawns, grounds, parks, playgrounds and forages. It is also a popular choice for low-maintenance areas such as airports and fairgrounds, as a highway roadside stabilizer or for soil erosion control. Because of its ability to produce deep root systems, tall fescue is the most heat and drought tolerant of the cool-season turfgrasses. Research at MSU reveals that tall fescue roots have good tolerance to European chafer grub damage when compared with other cool-season grasses.

Tall fescue has a medium to coarse leaf texture and light to medium green color. It is primarily a bunch-type grass that occasionally produces short rhizomes. It is less wear tolerant than Kentucky bluegrass, so it has limited use on golf courses and athletic fields. Tall fescue performs well in open, sunny areas and is moderately shade tolerant. It is less well suited to heavily shaded conditions than the fine fescues but is more shade tolerant than Kentucky bluegrass and perennial ryegrass. This species is best suited to well-drained soils. It requires 2 to 3 pounds of nitrogen (N) per 1,000 square feet per growing season. Thatch development is minimal with tall fescue. Its suggested mowing

height ranges between 2 and 3 inches (higher in a dry summer). Tall fescue performs well in stands by itself but can be objectionable in a mixture with fine-textured cool-season turfgrass species because it tends to form coarse-textured clumps in an otherwise uniform stand.

Tall fescue seeds germinate relatively quickly (about 10 days under ideal conditions), but the young plants are somewhat slow to establish extensive root systems. To obtain a dense, fine-textured turf, tall fescue should be seeded at 6 to 8 pounds of seed per 1,000 square feet. Seeding tall fescue in August is highly recommended in Michigan to allow grass to develop the deep root system it needs to survive the cold winter. Tall fescue seeded in the summer tends to undergo excessive heat stress and is susceptible to seedling diseases. Planting tall fescue late in the fall may not allow it to develop a fully established root system before winter.

The most serious diseases of tall fescue in Michigan are the snow molds and brown patch. Snow mold diseases occur mostly in northern areas of the state during winters with prolonged snow cover. We identified snow mold damage in western Michigan on homeowner lawns, but the turf recovered within a few weeks after green-up in the spring. Brown patch is more common in the southeastern portion of the state during the hot, humid months of summer. It is especially severe when the turf is heavily fertilized with nitrogen. Other damaging diseases of tall fescue are net blotch, red thread, rust and pythium blight.

Several tall fescue cultivars show endophyte-enhanced resistance to various leaf- and stem-feeding insects. Endophytes are beneficial fungi that reside within tall fescue seed and grow in the stem and leaf sheath but not in the root or leaf blades. This does not harm the host plant, people or pets that occasionally eat the grass, but it may be detrimental to animals that con-

sume large quantities of the grass as a significant part of their nutritional requirements (i.e., cows, horses and/or sheep). Endophytes produce chemicals called alkaloids that protect tall fescue plants from insects and nematodes by discouraging leaf- and stem-feeding insects from destroying the plant and make the plants more tolerant to marginal soil environments and harsh management conditions. Tall fescues containing endophytes have shown increased resistance to sod webworms, fall armyworms and chinch bugs, allowing for quick establishment.

The National Turfgrass Evaluation Program (NTEP) tall fescue test was established in August 2001 at the Hancock Research Center at Michigan State University. The test consists of 84 commercial cultivars (see table for a sample of 22 of the 84 cultivars used). Each cultivar was seeded in 4-by 6-foot plots at a rate of 4.4 pounds of seed per 1,000 square feet. The entire test area received full sunlight. The test was mowed at 3 inches with a reel mower and fertilized twice each year of the test (spring and fall) with 1 pound of N per 1,000 square feet per application. The test plots were irrigated whenever necessary to prevent wilting. The plots were visually evaluated once per month during

the growing season for turfgrass quality and other parameters. "Quality" means the overall appearance of the turf and is made up of several components, including density, texture, uniformity, color, and freedom from disease and insect damage. Quality was rated using a scale of 1-9, where 9 = highest quality. Entries are listed in order of the highest seasonal average quality for 2002 and 2003 to the lowest seasonal average for the two years combined. Differences between two cultivars are statistically significant only if the LSD value listed on the table is exceeded by the numerical differences between two cultivars. All tall fescue cultivars listed in the table are significantly different from 'KY-31'. Little difference in turfgrass quality was found to occur among the tall fescue cultivars in this test during 2002 and 2003. The differences in growing conditions between 2002 and 2003 suggest that the average turfgrass quality of some improved cultivars may vary little among seasons. The entries showing the best seasonal average quality over the two-year test period are listed in the table. For more information, visit the Web at <http://www.ntep.org> and check out the Michigan State University data.

Performance of Tall Fescue Turfgrass Cultivars in 2002-2003

Turfgrass quality of tall fescue cultivars in 2002-03 trial established August 2001 at the Hancock Turfgrass Research Center.

Entry	Quality 2002	Quality 2003	Quality Average
SR 8550 (SRX 8BE4)	5.50	6.90	6.20
2nd MILLENNIUM	5.80	6.50	6.15
FALCON VI (F-4)	5.90	6.40	6.15
RAPTOR (CIS - TF- 33)	5.60	6.60	6.10
KALAHARI	5.70	6.40	6.05
TOMAHAWK RT	5.20	6.90	6.05
TEMPEST	5.60	6.50	6.05
BARLEXAS II	5.50	6.50	6.00
BLACKWATCH (PICK-OD3-01)	5.50	6.50	6.00
CAS-157	5.40	6.60	6.00
INFERNO (JT-99)	5.70	6.30	6.00
RIVERSIDE (ProSeeds 5301)	5.50	6.50	6.00
REBELEXEDA	5.50	6.50	6.00
SOUTHERN CHOICE II	5.60	6.40	6.00
TAHOE (CAS-157)	5.40	6.60	6.00
BARLEXAS	5.40	6.50	5.95
BINGO	5.40	6.50	5.95
GRANDE II	5.40	6.50	5.95
PADRE (NJ4)	5.40	6.50	5.95
TITAN LTD.	5.40	6.50	5.95
KY-31 E+	4.40	4.80	4.60
<i>LSD VALUE</i>	<i>0.70</i>	<i>0.70</i>	

Performance of Tall Fescue Turfgrass Cultivars in 2002-2003

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

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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: 2002-2003

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