

CULTIVAR EVALUATIONS AND RECOMMENDATIONS

Kenyon T. Payne
Crop and Soil Sciences
Michigan State University

Turfgrasses are the core and the framework of our respective professions. Although they perform a paramount role in our landscaping, outdoor recreational and athletic needs, not a single species originated in the U.S.A. Mankind started developing grasses for turf use thousands of years ago when he began confining flocks or ruminant animals to restricted areas. Only the grass species that could survive close and continued grazing on the forest edges of eastern Europe and western Asia survived through the centuries to provide us with the small number of cool season turfgrass species that we use today.

Because these species did not evolve through exposure to the climatic and soil conditions of North America, the challenge to develop cultivars adapted to the cool humid regions has been greater than had they been indigenous.

Modern turfgrass breeders have risen to the challenge and great strides have been made since World War II.

In the Kentucky bluegrasses, the 50's saw the developmental release of Newport and Windsor, and the landmark release of Merion as the first leaf spot resistant cultivar. Since then work has been expanded to other species with outstanding results - particularly in the genus Lolium - or the ryegrasses.

European turfgrass breeders, particularly the Dutch, have been strong contributors, and leadership in this country has come from Musser and Duich of Penn. State, Funk of Rutgers University and Burton of Georgia.

The Kentucky bluegrasses are the most used, have the greatest use potential, and currently enjoy the greatest number of improved varieties or cultivars. A recent count showed 66 named cultivars and many dozens of additional experimental strains which have demonstrated enough potential to have been released for testing.

A sound, coordinated program for evaluating turfgrass species has been developed which will provide specific information from a wide range of environmental conditions. This is designed to identify respectively for a given strain the following: (1) area of adaptation, (2) limits of adaptability, (3) disease and insect reaction, (4) color, texture, density and wear tolerance, and (5) general appearance.

Until recently, the interpretation of turfgrass performance information was complicated by a lack of standardization of note taking procedures and rating systems. It has now been agreed generally among turfgrass scientists to use a scale of 1 to 9, with 9 indicating the best in performance and 1 being the poorest for a given character.

The nationally conducted trials were initiated by the Northeastern Regional Research Committee, and are now coordinated by Dr. Jack Murray of the United States Department of Agriculture.

A turfgrass cultivar that possesses excellent qualities has the potential of increased value if it is widely adapted. Merion Kentucky bluegrass and Penncross creeping bentgrass are excellent examples. A broad adaption means a greater potential demand, which justifies increased seed

production, advertising campaigns, etc., as well as providing larger numbers of people with a desirable turfgrass.

Currently there are about a dozen major turfgrass seed producers in the United States. Most are in the Pacific Northwest. Along with many other elements of the economy this industry is suffering from an abundant supply of seed and the reduced home construction and sod industry that are the principal users. Given the alternative uses available to seed growers for the land, there is concern for an erosion of seed production potential.

As a homeowner, a landscape contractor, an athletic field supervisor, a golf course superintendent or a sod producer, how should you select grasses and cultivars when you are establishing a seeding?

1. First, determine the use to which the area will be put.
2. Determine the level of management anticipated. This may be high, medium, or low.
3. Select the species to be used.
4. Determine which cultivars of each species may be available through appropriate local seed sources.
5. Check with the local county agricultural agent or Michigan State University for the most recent information on cultivar evaluation, and select from those available and recommended.
6. Insist on Certified Seed to assure cultivar integrity.
7. Buy from the reputable dealer with the lowest price.

Since the Hancock Turfgrass Research Center has been established recently, only one year's data have been collected from the turfgrass cultivar evaluations. A summary of these for each species is appended to this report (Tables 1-8). It is generally felt that at least two, and preferably three years of information of this nature are needed for realistic comparisons.

Based on previous observations and experience, the following cultivars are recommended:

Kentucky Bluegrass

Adelphi	Brunswick	Majestic	Touchdown
Baron	Cheri	Parade	Victa
Bristol	Glade	Plush	Enmundi

(for shade: Bensun (A-34) or Nugget)

Other potential cultivars for Michigan include: Banff, America, Ram I. Blending 2 or three of the above is suggested for most situations.

Fine fescues

Banner, Biljart, Dawson, Ensylva, Highlight, Jade, Jamestown, Koket, Menuet, Pennlawn, Wintergreen

Perennial ryegrasses

Derby, Diplomat, Loretta, Manhattan, NK-200, Yorktown II

Creeping bentgrasses (golf course use)

Penncross, Penneagle

Meadow fescue

Beaumont

No tall fescues are considered sufficiently winter hardy to be recommended for lawn or athletic field use in Michigan.

APPENDUM

1982 Turfgrass Cultivar Evaluations
Hancock Turfgrass Research Center
Michigan State University
East Lansing, Michigan

Notes taken each month, May through October. Three replicates each.
Rating Scale: 9 = Best, 1 = Poorest

Table 1. National Kentucky Bluegrass Cultivar Test (KBI)

General Appearance

Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	Bristol	7.1	22	Wabash	5.7
2	Majestic	6.7	23	Trenton	5.6
3	Fylking	6.6	24	Rugby	5.6
4	Glade	6.6	25	Shasta	5.6
5	Eclipse	6.6	26	Touchdown	5.6
6	Birka	6.5	27	Barblue	5.4
7	Mystic	6.3	28	Harmony	5.4
8	Bono	6.3	29	Adelphi	5.3
9	Ram-1	6.3	30	Monopoly	5.2
10	Nugget	6.2	31	Merion	5.1
11	Vanessa	6.2	32	Geronimo	5.1
12	Emmundi	6.2	33	Holiday	5.0
13	Welcome	6.2	34	Victa	5.0
14	Bonnieblue	6.2	35	Bayside	5.0
15	Mosa	5.9	36	Cello	4.9
16	Cheri	5.9	37	Parade	4.9
17	Merit	5.9	38	Enoble	4.9
18	America	5.9	39	Sydsport	4.7
19	Plush	5.8	40	A-34	4.6
20	Baron	5.7	41	Kenblue	4.4
21	Columbia	5.7	42	Vantage	4.0

Table 2. National Kentucky Bluegrass Experimental Strain (Test 1) (KB2)

General Appearance

Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	1528T	7.4	22	A20-6A	5.0
2	N535	6.7	23	239-6A	5.0
3	MLM-18011	6.7	24	BA-61-91	5.0
4	Admiral	6.0	25	MER PP 43	4.8
5	Charlotte	6.0	26	Kimono	4.8
6	CEB VB 3965	5.8	27	K3-162	4.8
7	K1-152	5.8	28	Lovegreen	4.6
8	243	5.7	29	Apart	4.6
9	PSU-150	5.7	30	A20-6	4.6
10	PSU-173	5.6	31	K3-179	4.6
11	Mona	5.5	32	MER PP 300	4.5
12	SV-01617	5.5	33	Argyle	4.5
13	Banff	5.4	34	SH-2	4.5
14	225	5.3	35	WW AG 480	4.4
15	Escort	5.3	36	I-13	4.4
16	Aspen	5.3	37	NJ 735	4.2
17	WW AG 463	5.3	38	A20	4.0
18	Dormie	5.1	39	Piedmont	4.0
19	K3-173	5.0	40	S.D. Common	3.8
20	WW AG 478	5.0	41	H-7	3.8
21	PSU-190	5.0	42	S-21	3.7

Table 3. Kentucky Bluegrass Experimental Strain (Test 2) (EA1)

<u>General Appearance</u>					
Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	BA 70-21	8.2	34	A-1418	6.4
2	Entopper	7.8	35	Enaldo	6.4
3	EVB-3965	7.6	36	K6-31	6.4
4	Orna	7.5	37	255	6.3
5	Blacksburg	7.5	38	K6-32	6.3
6	H1217 Mom	7.5	39	Obelisk	6.3
7	1214	7.4	40	468 Wwag	6.2
8	Titleist	7.3	41	F-1328	6.2
9	F-1872	7.2	42	K3-174	6.2
10	VB-5515	7.2	43	K6-30	6.1
11	HV-54	7.2	44	BA 72-500	6.0
12	247	7.1	45	Ampell PP112	6.0
13	Nugget	7.0	46	K3-172	5.9
14	HV-71	7.0	47	K1-158	5.9
15	P-104	6.9	48	3-160	5.9
16	192	6.9	49	Entensa	5.8
17	H-6	6.9	50	Haga	5.8
18	Cougar	6.9	51	LO-EL	5.8
19	Delft	6.8	52	K3-226	5.7
20	LO-T6	6.8	53	K6-86	5.7
21	Pennstar	6.8	54	Scenic	5.7
22	BA 72-441	6.8	55	75-2499 Hunt	5.6
23	MBA-52	6.8	56	76-1034 Hunt	5.6
24	22	6.8	57	K3-137	5.4
25	ISI-128	6.7	58	Newport	5.4
26	Pacific	6.7	59	Merion	5.3
27	1190 Mom	6.6	60	Geary	5.3
28	K1-149	6.6	61	K2-161	5.3
29	229	6.5	62	Garfield	5.2
30	211	6.5	63	Park	4.7
31	BA 74-500	6.5	64	N-220	4.6
32	F-1873	6.5	65	Troy	4.5
33	BA 72-492-2	6.5	66	Delta	4.3

Table 4. Creeping Red Fescue Cultivars Test (G50)

General Appearance

Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	Dawson	7.7	11	Pennlawn	5.6
2	Polar	7.4	12	Moncorde	5.5
3	Erika	6.6	13	MSU X2	5.5
4	Ensylva	6.5	14	Accent	5.3
5	Adonis	6.4	15	Boreal	5.3
6	Satin	6.4	16	Ruby	5.1
7	FRT-GB Bar	6.2	17	Starlight	5.0
8	OASE	6.1	18	Common	4.7
9	MSU X1	6.0	19	Enzet	4.5
10	Illahee	5.9	20	Envira	4.0

Table 5. Creeping Red Fescue Experimental Strains Test (251)

General Appearance

Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	4211 FRR-4211 Mom	6.8	13	232 FRR-232 MOM	5.1
2	110 WWRs 110 WEIB	6.8	14	66223 MINN	5.1
3	108 WWRs 108 WEIB	6.4	15	66233 MINN	5.0
4	MSU X1	6.2	16	67123 MINN	4.9
5	SYNBLF Pure	6.0	17	71192 NK	4.9
6	113 WWRs 1133 WEIB	5.9	18	66136 MINN	4.9
7	K-29 NK	5.7	19	112 WWRs 112 WEIB	4.7
8	K4-21 NK	5.6	20	66354 MINN	4.7
9	66218 MINN	5.5	21	205 FRR-205 MOM	4.6
10	SYN4TW Pure	5.5	22	38 FRR-38 MOM	4.6
11	MSU X2	5.3	23	31 FRR-31 MOM	4.6
12	66111 MINN	5.2	24	79190 NK	4.6

Table 6. Chewings Fescue Cultivars Test (G52)

General Appearance

Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	Diamond	6.7	12	NK Wintergreen Found	5.6
2	Banner	6.2	13	Checker	5.6
3	Barfalla	6.2	14	Sonnet	5.6
4	Jade	6.2	15	Fidelimo	5.5
5	Highlight	6.1	16	Cirrus	5.3
6	Jamestown	6.1	17	Fortress	5.2
7	MSU Wintergreen BR	6.1	18	Agram	5.1
8	Shadow	6.0	19	Lifalla	4.6
9	Koket	5.8	20	Grelo	4.5
10	Longfellow	5.8	21	Cascade	3.3
11	Atlanta	5.6			

Table 7. Chewings Fescue Experimental Strains Test (G53)

General Appearance

Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	FRC SH-A BAR	7.2	8	FRC113 MOM	5.2
2	FRC WB BAR	6.0	9	FRC 64 MOM	4.7
3	FRC LAU BAR	5.9	10	MSU X3 (CB-2)	4.2
4	FRC WA BAR	5.8	11	FRC 92 MOM	4.2
5	TCE 80 PURE	5.8	12	ORE E	3.0
6	FRC112 MOM	5.7	13	FRC WC 80 BAR	2.8
7	FRC Z BAR	5.3			

Table 8. Tall Fescue Cultivars Test (G56)

<u>General Appearance</u>					
Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	Falcon	7.7	5	Fawn	6.9
2	Alta	7.3	6	Kentucky 31	6.7
3	Monaco	7.2	7	Kenhy	6.3
4	Forager	7.0	8	Backafall	6.0

Table 9. Tall Fescue Experimental Strains Test (G57)

<u>General Appearance</u>					
Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	TF 791 INTE	7.8	6	Kentucky 31	6.3
2	AG 125A PURE	7.2	7	7801 NAPB	5.7
3	147901 NAPB	7.2	8	SYN 55B PURE	5.7
4	GTF-80 PURE	7.1	9	K5-27 NK	5.7
5	7802 NAPB	6.5	10	79310 NK	5.4

Table 10. Meadow Fescue Cultivars (G58)

<u>General Appearance</u>		
Relative Rank	Cultivar	Rating
1	MER FP SYN I	7.4
2	Beaumont	6.8
3	FP 73-5 BAR	6.6
4	Mimer	6.5
5	Trader	6.4

Table 11. Perennial Ryegrass Cultivar Test (H25)

General Appearance

Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	Crown	6.8	20	Dasher	6.1
2	Ranger	6.8	21	Hunter	5.9
3	Acclaim	6.8	22	Diplomat	5.9
4	Pennfine	6.8	23	Venlona	5.8
5	Belle	6.8	24	Bellatrix	5.8
6	Blazer	6.8	25	Player	5.7
7	Jackpot	6.7	26	Idole	5.7
8	Premier	6.6	27	Trimmer	5.6
9	Fiesta	6.5	28	Manhattan	5.6
10	Omega	6.4	29	Elka	5.6
11	Yorktown II	6.3	30	Ensporta	5.6
12	Arno	6.3	31	Loretta	5.5
13	Citation	6.3	32	Regal	5.4
14	Pronto	6.2	33	Delray	5.4
15	Pennant	6.2	34	Princess	5.3
16	CBS	6.2	35	Runner	5.1
17	Goalie	6.2	36	NK 200	5.1
18	Derby	6.2	37	Compas	5.1
19	Clipper	6.2	38	Norlea	5.0

Table 12. Bentgrass Cultivar Test (AC1)

General Appearance

Relative Rank	Cultivar	Rating	Relative Rank	Cultivar	Rating
1	MSU-28	6.5	9	Seaside	5.3
2	B853WWK	6.3	10	Prominent	5.2
3	Kingstown	6.0	11	V852WWK	4.8
4	Emerald	5.8	12	Carmen	4.8
5	Penncross	5.8	13	V851WWK	1.7
6	V858WWK	5.7	14	MSU 18	2.8
7	Penneagle	5.7	15	MSU 38	2.8
8	Toronto	5.5			

Table 13. Fairway Species/Cultivars Test (B1)

General Appearance

Species	Cultivar	Rating
Kentucky Bluegrass	Bristol	8.3
	Baron	7.3
	Eclipse	7.3
	Enmundi	7.3
	Fylking	7.3
	Cheri	7.3
	Ram I	7.1
	Adelphi	7.0
	Victa	6.8
	A-34	6.8
	Merion	6.7
	Newport	6.7
	Merit	6.7
Creeping Red Fescue	Nugget	6.5
	Jamestown	7.8
Hard Fescue	Pennlawn	7.0
	Biljart	6.3
Perennial Ryegrass	Diplomat	7.5
	Pennfine	7.3
	Elka	7.2
	Derby	6.8
	Yorktown	6.7
	Delray	6.7
	Omega	6.5
	Manhattan	6.5
	Loretta	6.3
	Norlea	6.2
	NK-200	6.2
Tall Fescue	K-31	6.0
Meadow Fescue	Beaumont	5.5
Colonial Bentgrass	Astoria	7.0
	Tracenta	6.9
	Exeter	6.6
	Highland	6.4
Creeping Bentgrass	Penneagle	6.3
	Emerald	5.4