

Report of 1962 Michigan Turfgrass Trials

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The major portion of this report concerns establishment data of turfgrass selections and mixtures. Thus, the following rankings only reflect the ability of grass selections to establish a dense turf. Overall turfgrass performance requires 4 to 5 years of evaluation including thatching tendencies and disease resistance.

Establishment data were taken in terms of (a) growth (height in inches) and (b) a visual turf quality rating (1-best, 9-poorest) which includes uniformity, density, and texture.

Vertical mowing, renovation, and thatch removal

Grasses under high management levels are producing large quantities of organic material which accumulate as thatch over a 4 to 5 year period. This thatch layer provides an ideal environment for disease activity and under dry conditions can inhibit moisture movement.

Several machines are now on the market for thatch removal including the (1) Aero-Thatch, (2) E-Z Rake, (3) Henderson, (4) Jacobson Thin Cut, (5) Ryan Ren-o-thin, and (6) West Point Verticut. These machines are relatively new, particularly at the homeowner level. In the near future, thatch removal may become an annual practice on lawns maintained under high fertility and moisture levels. The machines are available on a rental basis.

The concept of thatch removal is not new. It has been widely utilized by professional turfmen on bentgrass for many years. However, its utilization at the homeowner level is just being introduced.

Table 1. Bluegrass variety establishment evaluation. Planted July 26, 1962.

Entry	Selection	Growth (inches)			Turf Quality (1-best, 9-poorest)			
		8-3-62	8-7-62	8-10-62	8-1-62	10-1-62	Ave. of 5 ratings	Poa annua %
1	Roughstalk	0.7	1.2	1.7	1.7	1.3	1.4	0
2	Delta	0.4	1.0	1.4	2.3	1.3	1.6	0
3	Park	0.6	1.9	1.5	2.0	2.7	1.7	0
4	Common	0.3	0.8	1.1	3.3	3.7	2.5	0
5	Newport	0.3	0.8	1.1	4.0	3.0	2.7	60
6	C-1	0.3	0.6	1.1	4.7	3.3	3.3	0
7	Merion	0.0	0.3	1.1	6.0	4.3	3.6	0
8	Campus	0.4	1.1	1.3	2.7	2.0	2.0	0
9	Prato	0.4	0.8	1.1	2.7	2.0	2.0	5
10	C.B.	0.5	0.9	1.1	2.7	2.0	2.1	40
11	K5(47)	0.2	0.9	1.2	2.7	1.7	2.1	0
12	PNW	0.5	0.8	1.1	3.7	3.0	2.7	0
13	IBB #15	0.4	0.8	1.2	2.7	3.0	2.7	0
14	Brabantia	0.5	0.8	0.9	3.0	3.7	2.8	0
15	IBB #17	0.4	0.7	1.1	4.0	3.3	2.8	0
16	Z. W. B.	0.4	0.8	1.3	4.3	3.7	2.9	75
17	IBB #16	0.4	0.9	1.1	3.3	3.0	3.0	0

Table 2. Red fescue variety establishment evaluation. Planted July 11, 1962.

Entry	Selection	Growth (inches) 7-23-62	Turf Quality (1-best, 9-poorest)		
			8-15-62	10-1-62	Average of 5 ratings
1	Common Chewings	1.1	3.7	1.7	2.7
2	Rainier	1.9	3.7	3.0	3.3
3	Pennlawn	1.9	4.0	2.7	3.3
4	Ilahee	1.9	4.8	2.0	3.4
5	Olds	1.7	4.0	3.3	3.6
6	Common Creeping	1.9	6.2	5.0	5.6
7	Highlight	2.0	2.2	1.0	1.6
8	S-59	2.0	2.7	1.3	2.0
9	Oase	1.8	4.3	1.0	2.6
10	Duraturf	1.1	3.0	2.3	2.6
11	Syn B	2.0	3.5	2.3	2.9
12	Grand Praire	1.2	4.0	2.7	3.3
13	Syn A	1.7	5.0	2.7	3.8
14	Golfrood	1.5	6.7	2.0	4.3
15	S. L. 3	1.2	8.3	6.3	7.3
16	MSU-18-Fr (Sweden)	1.5	2.0	1.6	1.8
17	MSU-36-Fr (Neth)	2.1	3.6	2.3	2.9
18	MSU-3-Fr (Clone 1)	1.3	4.0	2.6	3.3

Table 3. Annual ryegrass variety establishment evaluation. Planted July 10, 1962.

Entry	Selection	Growth (inches) 7-26-62	Quality Rating (1-best, 9-poorest)			Density (shoots/ 4 sq. in.) 9-11-62
			10-1-62	11-1-62	Ave. of 2 ratings	
1	Common	4.2	1.0	1.7	1.3	52
2	E1506	3.2	1.0	1.0	1.0	57
3	MSU-3-Lm*	4.0	1.0	1.0	1.0	58
4	MSU-2-Lm	3.2	1.0	1.0	1.0	52

* Excellent upright growth habit.

Table 4. Perennial ryegrass variety establishment evaluation. Planted July 10, 1962.

Entry	Selection	Growth (inches) 7-26-62	Quality Rating (1-best, 9-poorest)			Density (shoots/ 4 sq. in.) 9-11-62
			10-1-62	11-1-62	Ave. of 2 ratings	
1	Common	4.2	1.0	1.0	1.0	79
2	Brabantia	3.8	1.0	1.0	1.0	91
3	S-23	3.2	1.0	1.3	1.1	95
4	A2272	3.0	1.0	1.3	1.1	89
5	Pelo	3.0	1.0	1.3	1.1	81
6	Norlea*	4.0	1.0	2.7	1.8	73
7	MSU-21-Lp(Comp)	3.4	1.3	1.0	1.1	89
8	MSU-6-Lp(Clonel)	2.6	1.3	1.0	1.1	94
9	MSU-17-Lp(Bdg)	3.4	1.0	1.0	1.0	73

* Dark green color

Table 5. Tall fescue variety establishment evaluation. Planted July 10, 1962.

Entry	Selection	Growth (inches) 7-26-62	Quality Rating (1-best, 9-poorest)			Density (shoots/ 4 sq. in.) 9-11-62
			10-1-62	11-1-62	Ave. of 2 ratings	
1	Kentucky 31	2.2	1.0	1.0	1.0	52
2	Alta	2.5	1.3	1.0	1.1	51
3	Traveler*	2.4	1.3	1.0	1.1	47
4	Syn A	2.5	2.0	1.7	1.8	52
5	S-170	1.7	3.0	1.0	2.0	30
6	MSU-1-Fp(Swed)	2.9	1.0	1.3	1.1	90
7	MSU-7-Fe(Italy)	2.2	1.0	1.3	1.1	70

* High percent of off types (40%)

Table 6. Bentgrass variety establishment evaluation. Entries 1 to 9 were planted October 25, 1961 and entries 10 to 14 were planted June 4, 1962.

Entry	Selection	Spring Growth		Rate of Cover		Turf Quality		Fall discoloration	
		(1-best, 9-poorest) Ave. of 2 ratings	(1-best, 9-poorest) Ave. of 2 ratings	(1-best, 9-poorest) Ave. of 2 ratings	(1-best, 9-poorest) Ave. of 4 ratings	(1-No discolor 9-Dicolor)	(1-best, 9-poorest) Ave. of 4 ratings	(1-best, 9-poorest) Ave. of 4 ratings	(1-No discolor 9-Dicolor)
1	Pennlu	5.4	3.1	1.9	3				
2	Nimisilla	3.2	3.3	2.2	7				
3	Toronto (C-15)	5.4	4.0	2.5	3				
4	Cohansey (C-7)	6.4	4.6	2.8	9				
5	Congressional (C-19)	5.0	3.9	3.0	5				
6	Arlington (C-1)	7.2	5.8	4.5	3				
7	Washington (C-50)	6.2	4.8	4.7	6				
8	C-1 & C-19	6.8	5.8	5.0	5				
9	MSU -12-Ap	4.6	6.4	5.1	7				
10	Evansville	---	8.3	5.8	7				
11	Old Orchard (C-52)	---	---	6.3	6				
12	Penncross	---	---	3.7	2				
13	Seaside	---	---	4.1	1				
14	Astoria	---	---	6.8	3				

Table 7. Turf quality and disease resistance of grass mixtures grown under shade conditions. Planted Sept. 7, 1961.

Entry	Treatment (% P.G.S.)	Quality Rating			Ave. of	Powdery Mildew	Fading out
		4-1-62	7-1-62	9-1-62	10 ratings	(1-least, 9-most)	(1-least, 9-most)
1	Commercial Mixture*	4.3	3.3	2.3	3.1	1.3	4.0
2	100% <i>Poa trivialis</i>	2.7	3.3	3.0	3.2	1.0	4.7
3	50% <i>P. trivialis</i> -50% Com. bluegrass	3.0	3.0	3.0	3.3	1.5	2.7
4	50% <i>P. trivialis</i> -50% Pennlawn red fescue	3.3	2.7	3.7	3.6	1.0	2.7
5	33% <i>P. trivialis</i> , 33% Pennlawn red fescue	3.3	4.0	3.7	3.8	1.5	3.0
6	33% Com. bluegrass						
6	75% Com. bluegrass						
6	25% Pennlawn red fescue						
7	33% Com. bluegrass, 33% Perennial rye-	2.7	7.2	8.3	6.2	6.1	2.3
7	grass, 33% Pennlawn red fescue						
8	100% Pennlawn red fescue	7.3	6.5	7.3	6.4	1.3	6.3
8	100% Pennlawn red fescue	2.3	7.0	8.3	6.5	2.8	5.0
9	50% Com. bluegrass						
9	50% Pennlawn red fescue	2.3	8.3	9.0	6.8	5.8	5.7
10	50% Com. bluegrass						
10	50% Kent. 31 tall fescue	7.0	6.7	7.7	6.9	4.6	3.3
11	25% Com. bluegrass						
11	75% Pennlawn red fescue	4.7	8.5	8.3	7.0	4.1	7.0
12	100% Common Kentucky bluegrass	2.7	8.7	9.0	7.9	7.5	3.0
13	100% Kentucky 31 tall fescue	7.0	7.0	8.0	7.3	1.5	6.0
14	100% Merion Kentucky bluegrass	2.0	9.0	9.0	9.0	8.0	1.0
15	50% Merion, 50% Pennlawn	3.0	7.0	9.0	8.3	4.5	4.0
16	100% Norlea perennial ryegrass	5.0	6.0	8.0	7.3	1.0	2.0
17	100% Common perennial ryegrass	6.0	6.0	7.0	6.8	1.0	4.0

* Creeping red fescue 24%, Chewings fescue 8%, *Poa trivialis* 45%, Common Kentucky Bluegrass 20%, and Common perennial ryegrass 24%.

Table 8. Percent composition and density of grass mixtures grown under shade conditions. Planted Sept. 7, 1961.

Entry	Treatment (% P.G.S.)	Density (shoots/4sq.in) 9-11-62	% Composition				
			Common Kentucky Bluegrass	<u>Poa</u> <u>trivialis</u>	Pennlawn Red Fescue	Kent.31 Tall Fescue	Common Perennial Ryegrass
1	Commercial Mixture*	66	0	91	7	1	1
2	100% <u>Poa trivialis</u>	54	--	100	--	--	--
3	50% <u>P. trivialis</u> -50% Com. bluegrass	56	3	97	--	--	--
4	50% <u>P. trivialis</u> -50% Pennlawn red fescue	48	--	91	9	--	--
5	33% <u>P. trivialis</u> , 33% Pennlawn red fescue	46	1	91	8	--	--
6	75% Com. bluegrass	27	11	--	89	--	--
7	25% Pennlawn red fescue	22	2	--	21	--	77
8	33% Com. bluegrass, 33% Perennial ryegrass, 33% Pennlawn red fescue	25	--	--	100	--	--
9	100% Pennlawn red fescue	16	6	--	94	--	--
10	50% Com. bluegrass	16	12	--	--	88	--
11	50% Kent, 31 tall fescue	22	10	--	90	--	--
12	25% Com. bluegrass	15	100	--	--	--	--
	75% Pennlawn red fescue						
	100% Common Kentucky bluegrass						
13	100% Kentucky 31 tall fescue	18	--	--	--	100	--
14	100% Merion Kentucky bluegrass	9	100	--	--	--	--
15	50% Merion, 50% Pennlawn	8	12	--	88	--	--
16	100% Norlea perennial ryegrass	10	--	--	--	--	100
17	100% Common perennial ryegrass	22	--	--	--	--	100

* Creeping red fescue 24%, Chewings fescue 8%, Poa trivialis 45%, Common Kentucky Bluegrass 20%, and Common Perennial ryegrass 24%

Table 9. Establishment evaluation of eighteen grass mixtures. Planted August 20, 1962.

Entry	Percent Species Composition (% on P. G. S. basis)										(Inches) Growth		Quality Rating (1-best-9-poorest) 10-1-62
	MKB	CKB	PRF	CRF	PR	AR	KTF	R	RB	8-22-62	Ave. of 3 ratings		
	1		43		11	11	30	5			2.5	3.2	
2		60		20	20					1.5	2.1	1.0	
3	33		33		33					1.8	2.5	1.3	
4		33		33						1.8	2.6	1.3	
5		20					80			0.7	1.5	1.7	
6							80			0.7	1.3	2.0	
7		27		3	3			46		0.5	1.1	2.0	
8		51		2	2			33		0.5	0.9	2.7	
9	25									0.3	0.7	2.7	
10		50								0.6	0.8	3.0	
11		75								0.5	0.6	3.0	
12			50						50	0.4	0.6	3.0	
13		75								0.3	0.5	3.0	
14		83		1	1		2			0.2	0.5	3.0	
15		25								0.5	0.6	3.3	
16		50							50	0.5	0.5	4.0	
17	75									0.4	0.5	4.3	
18	50									0.2	0.4	4.3	

MKB - Merion Kentucky bluegrass
 CKB - Common Kentucky bluegrass
 PRF - Pennlawn Red Fescue
 CRF - Creeping Red Fescue
 RR - Perennial Ryegrass

AR - Annual Ryegrass
 KTF - Kentucky 31 Tall Fescue
 R - Redtop
 RB - Roughstalk Bluegrass