



US00PP09977P

United States Patent [19]

Meier et al.

[11] Patent Number: Plant 9,977

[45] Date of Patent: Jul. 22, 1997

[54] BA 77-279 KENTUCKY BLUEGRASS

[75] Inventors: Virgil D. Meier, Marysville, Ohio; Jay B. Burr, S.E. Salem, Oreg.

[73] Assignee: OMS Investments, Inc., Wilmington, Del.

[21] Appl. No.: 604,763

[22] Filed: Feb. 23, 1996

[51] Int. Cl.⁶ A01H 5/00

[52] U.S. Cl. Plt./90.2

[58] Field of Search Plt./90.2

[56] References Cited

U.S. PATENT DOCUMENTS

- P.P. 3,156 5/1972 Fuchigami et al. Plt./90.2
- P.P. 3,186 5/1972 Barenbrug et al. Plt./90.2
- P.P. 4,336 11/1978 Mayer et al. Plt./90.2

- P.P. 6,280 9/1988 Meier et al. Plt./90.2
- P.P. 6,537 1/1989 Meier et al. Plt./90.2
- P.P. 6,538 1/1989 Meier et al. Plt./90.2
- P.P. 6,585 2/1989 Meier et al. Plt./90.2
- P.P. 7,831 3/1992 Meier et al. Plt./90.2
- P.P. 8,490 12/1993 Meier et al. Plt./90.2
- P.P. 9,036 1/1995 Meier et al. Plt./90.2
- P.P. 9,209 7/1995 Meier et al. Plt./90.2
- P.P. 9,611 7/1996 Meier et al. Plt./90.2

Primary Examiner—James R. Feyrer

[57] ABSTRACT

A variety of Kentucky Bluegrass having a high level of resistance to leaf spot and melting out disease; a medium to high level of resistance to several rust diseases and dollar spot; a dark green color throughout the growing season; a good level of drought tolerance; high quality dense persistent turf formation under a wide variety of environmental conditions; and a medium level of seed yielding capacity.

1 Drawing Sheet

1

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a new and distinct variety of *Poa pratensis* that has been designated Ba 77-279 Kentucky Bluegrass.

2. Description of Related Art

Kentucky bluegrasses have been disclosed in U.S. Pat. No. P.P. 3,156, issued May 9, 1972; U.S. Pat. No. P.P. 3,186, issued May 23, 1972; U.S. Pat. No. P.P. 4,336, issued Nov. 28, 1978; U.S. Pat. No. P.P. 6,280, issued Sep. 6, 1988; U.S. Pat. Nos. P.P. 6,538 and 6,538, issued on Jan. 17, 1989; U.S. Pat. No. P.P. 6,585, issued Feb. 7, 1989; U.S. Pat. No. P.P. 7,831, issued Mar. 17, 1992; U.S. Pat. No. P.P. 8,490, issued Dec. 7, 1993; U.S. Pat. No. P.P. 9,036, issued Jan. 3, 1995; U.S. Pat. No. P.P. 9,209, issued Jul. 18, 1995; and pending U.S. Plant patent applications Ser. No. 08/453,864, filed May 30, 1995, and Ser. No. 08/532,995, filed Sep. 22, 1995.

SUMMARY OF THE VARIETY

Ba 77-279 plant material originated by crossing Ba73-709, an unreleased Kentucky bluegrass plant maintained in the O. M. Scott plant nursery, as the seed parent with a Merion Kentucky bluegrass plant as the pollen parent. As a result of this breeding, a distinct variety was produced and asexually propagated by rhizomes, tillers and disseminules.

Seed of Ba 77-279 Kentucky Bluegrass was produced first at Marysville, Ohio and later at Gervais, Oreg. This seed was used to plant turf performance evaluation trials and later seed production fields. Asexual production of Ba 77-279 by propagules (tillers and rhizomes) and by disseminules (modified caryopses produced by apomixis) has consistently produced progeny plants indistinguishable from the mother plant. The apomixis level of Ba 77-279 is approximately 89% based upon examining seedling characteristics of approximately 100 to 150 seedlings from different crop years in a growth chamber.

Ba 77-279 has a number of highly desirable characteristics including a high level of resistance to Drechslera spp. that causes leaf spot, melting out and crown rot; a medium

2

to high level of resistance to Puccinia spp. that causes several types of rust infections and *Schlerotinia homoeocarpa* that causes dollar spot. Ba 77-279 has an attractive leafy turf growth habit; moderately wide leaf blades and an attractive dark green color which can be maintained throughout the entire growing season. Ba 77-279 demonstrates good drought tolerance and excellent turf performance as evidenced by consistently high scores for quality, color and density. Ba 77-279 has a medium seed yield potential in the bluegrass seed production region of the northwestern U.S.

In comparison with a number of other bluegrass varieties, Ba 77-279 is average for seed size, number of whorls per panicle, vegetative leaf width, and ligule length. Ba 77-279 is below average in panicle length and width, number of florets per spikelet, flag leaf and vegetative leaf length and width, peduncle length and width, culm length and lemma hair content. Ba 77-279 is above average in spikelet width.

In comparison to many other varieties, Ba 77-279 is significantly greater in rachella length, spikelet length, flag leaf ligule length and internode length. Ba 77-279 has significantly less number of branches per whorl in the panicle, number of nodes in the culm and vegetative leaf ligule hair content as compared with other Bluegrass varieties. In comparison to most varieties, Ba 77-279 is significantly greater in outer and inner glume length and flag leaf thickness. Ba 77-279 is much darker green than either of its parents (Ba73-709 and Merion).

BRIEF DESCRIPTION OF THE DRAWINGS

- FIG. 1 is a Ba 77-279 Kentucky Bluegrass panicle;
- FIG. 2 is a Ba 77-279 Kentucky Bluegrass seed; and
- FIG. 3 is a Ba 77-279 Kentucky Bluegrass plant shortly after completing anthesis.

DETAILED DESCRIPTION OF THE VARIETY

Ba 77-279 Kentucky Bluegrass (*Poa pratensis* L.) is perennial with creeping rhizomes forming a dense turf. When plants overwinter in the field under freezing tempera-

tures and are then brought into the greenhouse during late winter to continue growth undisturbed by clipping under moderate temperatures (60°–80° F.), culms are erect averaging 36.3 cm in length and 3.0 nodes per culm and the uppermost internode averages 12.7 cm in length. The peduncle averages 20.0 cm in length and 0.64 mm in width. The flag leaf averages 4.7 cm in length, 3.5 mm in width and 0.29 mm in thickness and the ligule 1.5 mm in length. The vegetative leaf averages 17.4 cm in length, 3.4 mm in width, 0.345 mm in thickness and a ligule length of 0.22 mm.

The panicle averages 77.1 mm in length, 66.0 mm in width, and 9.2 whorls. The lowest whorl averages 2.3 branches and the third whorl from the button of the panicle average 2.1 branches. A spikelet in the lowest whorl averages 5.4 mm in length, 2.6 mm in width, 3.1 florets and the outer glume and inner glume average 3.7 and 4.1 mm in length, respectively. A spikelet from the third whorl from the bottom of the panicle is 5.3 mm in length, 2.9 mm in width, 3.1 florets, and the outer glume and inner glume averages 3.7 and 4.0 mm in length, respectively.

The conditioned seed of Ba 77-279 averages 2.99 mm in length, 0.85 mm in width, and a rachilla length of 0.82 mm. The seed count for Ba 77-279 averages approximately 1,039,000 seeds per pound.

Comparisons of Ba 77-279 with other Kentucky Bluegrass varieties in terms of seed dimension and seed numbers per pound are shown in Tables 1 and 2 as follows:

TABLE 1

Morphological Comparison of Seed and Rachilla Measurements and Lemma Hair of Ba 77-279 and Other Kentucky Bluegrass Varieties at Marysville, OH After Conditioning

Variety	Seed			Lemma* Hair
	Length mm	Width mm	Rachilla mm	
Ba 77-279	2.99	.85	.82	3.4
Ba 74-114	3.23	0.89	0.88	4.2
Ba 73-366	3.04	0.91	0.80	4.4
Ba 73-381	3.00	0.94	0.86	4.9
Abbey	2.97	0.89	0.80	3.8
Adelphi	2.70	0.84	0.65	4.4
America	2.40	0.68	0.68	2.8
Baron	3.08	0.81	0.71	5.0
Bristol	2.94	0.88	0.73	4.3
Chateau	2.81	0.86	0.71	4.5
Coventry	2.71	0.81	0.70	4.0
Eclipse	2.77	0.83	0.68	3.5
Georgetown	2.94	0.82	0.74	4.9
Gnome	2.78	0.83	0.75	4.1
Kelly	3.07	0.89	0.75	4.2
Marquis	2.97	0.87	0.83	4.7
Midnight	2.94	0.76	0.78	5.7
Nassau	3.07	0.86	0.68	3.4
Ram I	3.23	0.89	0.80	6.0
Touchdown	2.93	0.88	0.71	4.6
Victa	3.00	0.80	0.82	3.5
LSD (.05)	0.16	0.05	0.13	0.86

*Rating Scale: 0-9; 9 = abundant row of hairs

TABLE 2

Comparison of Seed Numbers Per Pound of Ba 77-279 and Other Kentucky Bluegrass Varieties at Marysville, OH After Conditioning

Variety	Seeds Per Pound
Ba 77-279	1,039,000
Ba 74-114	978,000
Ba 73-366	1,025,586

TABLE 2-continued

Comparison of Seed Numbers Per Pound of Ba 77-279 and Other Kentucky Bluegrass Varieties at Marysville, OH After Conditioning

Variety	Seeds Per Pound
Ba 73-381	1,171,000
Abbey	1,003,037
Adelphi	1,383,976
America	1,659,824
Baron	1,051,693
Bristol	1,270,821
Chateau	1,300,105
Coventry	1,246,200
Eclipse	1,335,668
Georgetown	1,431,000
Gnome	1,017,641
Kelly	921,166
Marquis	1,054,642
Midnight	1,227,000
Nassau	1,127,130
Ram I	1,214,000
Touchdown	1,211,000
Victa	1,038,298

Ba 77-279 differs significantly morphologically from many other Kentucky Bluegrass varieties in regard to the following characteristics: (1) seed length; (2) rachilla length; (3) panicle length; (4) number of branches in the whorl; (5) spikelet length and width; (6) glume length and width; (7) culm length and internode length; (8) flag leaf thickness; and (9) vegetative leaf with and sheath color.

Since environmental conditions such as soil and climate may influence morphological characteristics to some extent, comparisons of morphological characteristics of Ba 77-279 were made with other Kentucky Bluegrass varieties and the comparisons are set forth in the following Tables 3-8:

TABLE 3

Morphological Comparison of Panicles, Whorl Number and Whorl Branches of Ba 77-279 and Other Kentucky Bluegrass Varieties in the Greenhouse at Marysville, OH

Variety	Panicles			Number of Branches		
	Nodding*	Length mm	Width mm	Whorl Number	Lowest Whorl	Third Whorl
Ba 77-279	2.4	77.1	66.0	9.2	2.3	2.1
Ba 74-114	2.0	88.8	62.0	9.3	2.1	2.1
Ba 73-366	1.6	88.8	68.4	8.8	4.3	3.7
Ba 73-381	1.1	80.2	55.3	9.8	4.1	3.9
Abbey	1.6	80.4	59.3	9.3	3.8	3.3
Adelphi	1.8	106.8	76.4	10.0	3.6	3.0
America	2.3	67.7	51.1	8.8	3.3	3.5
Baron	2.2	92.6	71.0	10.0	3.4	2.8
Bristol	2.0	85.5	61.5	8.4	2.8	2.7
Chateau	2.9	65.2	57.3	8.5	3.3	2.8
Coventry	2.5	64.0	54.2	8.4	3.3	2.5
Eclipse	1.3	89.2	74.0	10.7	3.3	2.1
Georgetown	1.0	80.0	57.0	7.4	2.1	2.6
Gnome	1.1	80.6	56.0	10.6	4.6	3.9
Kelly	2.0	88.0	70.2	9.8	4.6	3.7
Marquis	1.1	82.0	63.0	10.3	3.9	3.6
Midnight	2.0	75.8	48.4	7.1	2.9	3.0
Nassau	2.2	91.2	68.6	10.0	2.5	2.1
Ram I	1.3	67.7	47.0	7.3	3.0	3.2
Touchdown	1.1	73.1	75.0	7.6	2.1	2.3
Victa	1.7	74.9	58.3	10.0	4.7	3.5
LSD (.05)	0.68	7.35	8.62	0.66	0.72	0.50

*Rate Scale: 1-9; 9 = most nodding

TABLE 4

Morphological Comparison of Spikelets and Florets of Ba 77-279 and Other Kentucky Bluegrass Varieties in the Greenhouse at Marysville, OH

Variety	Spikelet*				Number of Florets	
	Lowest Whorl		Third Whorl		Per Spikelet	
	Length mm	Width mm	Length mm	Width mm	Lowest Whorl	Third Whorl
Ba 77-279	5.4	2.6	5.3	2.9	3.1	3.1
Ba 74-114	5.6	3.2	5.6	3.3	4.1	4.1
Ba 73-366	4.6	2.5	4.7	2.6	2.6	2.8
Ba 73-381	4.7	2.4	4.6	2.6	2.7	2.7
Abbey	4.4	2.2	4.5	2.2	3.0	3.0
Adelphi	4.6	2.2	4.8	2.2	4.4	4.4
America	4.6	2.2	4.4	2.3	4.5	4.3
Baron	5.4	2.8	5.4	3.1	4.0	4.2
Bristol	4.9	2.4	5.0	2.5	4.2	4.5
Chateau	4.4	2.4	4.4	2.4	3.4	3.5
Coventry	4.4	2.2	4.5	2.4	3.2	3.5
Eclipse	4.6	2.4	4.6	2.4	3.6	3.6
Georgetown	5.0	2.3	5.0	2.6	4.8	4.9
Gnome	4.6	2.5	4.6	2.9	3.2	3.2
Kelly	5.1	2.5	5.2	2.8	3.7	3.8
Marquis	4.3	2.2	4.4	2.3	3.1	2.9
Midnight	5.3	2.5	5.5	2.4	4.4	4.7
Nassau	4.7	2.6	4.8	3.0	4.2	4.3
Ram I	5.4	2.6	5.3	2.8	3.6	3.4
Touchdown	5.1	2.9	4.8	2.8	4.1	4.0
Victa	4.5	2.5	4.5	2.4	3.3	3.2
LSD (.05)	0.41	0.35	0.38	0.35	0.58	0.53

*Microscope measurements

TABLE 5

Morphological Comparison of Glumes of Ba 77-279 and Other Kentucky Bluegrass Varieties in the Greenhouse at Marysville, OH

Variety	Glume Hairs*							
	Glume Length (mm)				Lowest Third			
	Outer		Inner		Whorl		Whorl	
Lowest Whorl	Third Whorl	Lowest Whorl	Third Whorl	Outer	In-ner	Outer	In-ner	
Ba 77-279	3.7	3.7	4.1	4.0	2.1	3.0	2.0	2.3
Ba 74-114	3.5	3.3	3.9	3.8	2.6	3.2	2.2	2.8
Ba 73-366	2.8	2.8	3.2	3.1	1.7	1.3	1.3	2.0
Ba 73-381	2.8	2.9	3.2	3.1	1.7	2.3	2.1	2.3
Abbey	2.7	2.7	3.1	3.1	0.6	0.9	1.0	1.0
Adelphi	2.7	2.6	3.0	3.1	0.6	2.7	1.1	1.9
America	2.1	2.1	2.5	2.5	0.2	0.5	0.3	0.3
Baron	3.1	3.2	3.6	3.7	4.8	4.4	4.2	4.6
Bristol	2.8	3.0	3.3	3.4	1.0	2.2	0.8	2.2
Chateau	2.8	2.9	3.1	3.2	1.5	2.6	2.0	1.8
Coventry	2.7	2.8	3.1	3.1	1.5	2.7	1.6	2.4
Eclipse	3.0	3.0	3.4	3.4	1.5	1.9	1.8	1.9
Georgetown	2.8	2.8	3.1	3.1	1.7	2.7	1.2	2.4
Gnome	2.8	2.9	3.3	3.3	1.0	1.9	1.2	1.6
Kelly	3.0	3.1	3.4	3.5	1.3	1.5	1.1	0.8
Marquis	2.8	2.7	3.1	3.1	0.9	1.1	1.7	1.8
Midnight	2.6	2.6	3.0	3.1	1.8	2.8	1.0	2.4
Nassau	2.6	2.7	2.9	3.0	2.1	2.6	4.2	4.4
Ram I	2.9	3.0	3.6	3.5	1.1	2.3	0.7	1.2
Touchdown	3.3	3.3	3.8	3.8	0.7	2.1	1.1	1.4
Victa	2.8	2.7	3.1	3.1	0.8	1.1	1.1	1.3
LSD (.05)	0.23	0.22	0.22	0.23	0.9	0.9	0.9	0.9

*Rating Scale: 0-9; 9 = many hairs

TABLE 6

Morphological Comparison of Flag Leaves of Ba 77-279 and Other Kentucky Bluegrass Varieties in the Greenhouse at Marysville, OH

Variety	Length cm	Width mm	Thickness mm	Leaf Angle ^{1/}	Leaf Curve ^{2/}	Ligule mm
Ba 77-279	4.7	3.5	0.29	2.1	4.5	1.5
Ba 74-114	5.3	3.4	0.23	1.4	5.0	1.2
Ba 73-366	4.5	3.6	0.18	5.1	4.4	1.5
Ba 73-381	4.3	3.5	0.22	1.9	5.0	1.3
Abbey	3.8	3.4	0.14	2.7	4.1	1.3
Adelphi	5.7	3.4	0.18	5.2	5.0	1.1
America	4.3	2.6	0.21	4.6	5.0	0.6
Baron	7.0	4.2	0.15	9.2	4.4	1.2
Bristol	4.3	3.2	0.21	2.3	5.0	0.6
Chateau	4.0	2.7	0.19	3.4	2.0	0.9
Coventry	3.7	3.0	0.14	0.7	4.3	0.9
Eclipse	3.9	3.2	0.19	8.7	5.0	1.1
Georgetown	5.7	2.8	0.22	1.9	5.0	0.6
Gnome	4.5	3.5	0.18	4.3	5.0	0.8
Kelly	4.8	4.1	0.18	3.1	4.4	1.5
Marquis	5.5	3.6	0.24	2.7	4.6	0.8
Midnight	3.8	2.6	0.19	1.1	5.0	0.4
Nassau	6.0	3.7	0.19	5.9	4.7	1.1
Ram I	3.4	3.1	0.19	1.0	4.8	0.7
Touchdown	4.1	2.7	0.16	3.4	4.1	1.1
Victa	3.9	3.7	0.27	2.1	4.6	1.3
LSD (.05)	1.0	0.42	0.025	2.50	0.40	0.17

Variety	Hairs ^{3/}		
	Leaf Margin	Ligule	Sheath Color ^{4/}
Ba 77-279	0.6	0.7	0.9
Ba 74-114	0.5	2.1	1.8
Ba 73-366	0.4	2.2	0.5
Ba 73-381	0.4	3.6	1.5
Abbey	0.8	1.6	0.2
Adelphi	1.8	1.6	0.4
America	0.4	0.7	1.9
Baron	1.0	3.8	2.6
Bristol	0.4	1.9	2.0
Chateau	1.1	3.1	0.3
Coventry	0.8	1.7	2.0
Eclipse	1.0	1.0	0.2
Georgetown	0.6	2.0	2.0
Gnome	0.9	3.2	1.5
Kelly	1.1	2.5	2.2
Marquis	0.5	3.8	1.5
Midnight	0.4	0.3	2.0
Nassau	2.6	2.4	0.8
Ram I	0.5	1.3	2.0
Touchdown	1.0	1.0	7.7
Victa	1.0	0.8	0.5
LSD (.05)	0.47	0.70	0.76

^{1/}Degrees from the stem^{2/}Rating Scale: 1-9; 1 = curves up; 5 = no curve; 9 = curves down^{3/}Rating Scale: 0-9; 0 = none; 9 = many^{4/}Rating Scale: 0-9; 0 = no color; 9 = dark purple

TABLE 7

Morphological Comparison of Peduncles, Culms, Node Numbers Per Culm and Internode Length of Ba 77-279 and Other Kentucky Bluegrass Varieties in the Greenhouse at Marysville, OH

Variety	Peduncle Length cm	Peduncle Width mm	Culm Length cm	Nodes Per Culm	Top Internode Length cm
Ba 77-279	20.0	0.64	36.3	3.0	12.7
Ba 74-114	24.7	0.71	44.9	3.7	13.4
Ba 73-366	26.4	0.70	42.7	4.1	9.2
Ba 73-381	24.3	0.81	39.5	3.1	10.8
Abbey	23.2	0.65	41.3	4.1	11.0

TABLE 7-continued

Morphological Comparison of Peduncles, Culms, Node Numbers Per Culm and Internode Length of Ba 77-279 and Other Kentucky Bluegrass Varieties in the Greenhouse at Marysville, OH					
Variety	Peduncle Length cm	Peduncle Width mm	Culm Length cm	Nodes Per Culm	Top Internode Length cm
Adelphi	24.5	0.66	40.0	4.0	10.4
America	16.2	0.62	31.8	3.1	11.0
Baron	34.0	0.70	52.8	4.2	12.8
Bristol	22.9	0.73	43.5	4.0	12.6
Chateau	20.7	0.61	38.9	4.4	9.9
Coventry	19.6	0.49	34.7	4.5	7.9
Eclipse	23.7	0.66	39.2	4.9	9.9
Georgetown	21.7	0.68	37.5	3.2	11.1
Gnome	19.4	0.84	35.3	3.1	9.2
Kelly	29.4	0.75	46.6	3.6	11.8
Marquis	27.1	0.83	34.1	3.4	7.8
Midnight	20.5	0.72	29.5	2.8	7.6
Nassau	25.0	0.66	36.0	3.9	7.4
Ram I	22.2	0.69	30.5	2.5	6.6
Touchdown	23.6	0.52	38.0	4.0	8.4
Victa	21.2	0.81	37.9	3.7	10.3
LSD (.05)	3.17	0.077	3.32	0.44	1.94

TABLE 8

Morphological Comparison of Vegetative Leaves of Ba 77-279 and Other Kentucky Bluegrass Varieties in the Greenhouse at Marysville, OH

Variety	Length cm	Width mm	Thickness	Leaf	
			mm	Angle ^{1/}	Curve ^{2/}
Ba 77-279	17.4	3.4	0.34	67.9	5.5
Ba 74-114	18.9	4.5	0.36	50.9	5.0
Ba 73-366	22.9	3.8	0.40	53.0	7.1
Ba 73-381	22.1	3.3	0.30	62.5	8.2
Abbey	20.7	3.6	0.28	51.3	7.4
Adelphi	19.4	3.7	0.28	67.0	4.6
America	21.4	3.1	0.32	66.0	6.4
Baron	18.2	4.3	0.29	35.0	4.4
Bristol	18.2	3.7	0.32	65.5	6.9
Chateau	23.1	3.3	0.33	39.7	5.4
Coventry	23.4	3.6	0.25	63.0	7.3
Eclipse	20.3	4.4	0.30	65.5	5.4
Georgetown	19.5	3.6	0.29	56.7	5.8
Gnome	18.2	2.9	0.29	43.2	6.6
Kelly	22.8	3.9	0.30	55.5	7.0
Marquis	19.7	3.7	0.38	46.4	7.8
Midnight	19.5	3.5	0.31	63.3	5.0
Nassau	16.3	3.7	0.29	63.2	4.9
Ram I	19.1	3.6	0.27	70.8	6.5
Touchdown	16.7	3.7	0.24	51.3	4.0
Victa	21.5	3.6	0.36	56.3	6.7
LSD (.05)	3.50	0.43	0.044	15.90	1.54

Hairs^{3/}

Variety	Hairs ^{3/}				
	Ligule Length mm	Leaf Ligule	Leaf Margin	Sheath Roughness ^{4/}	Sheath Color ^{5/}
Ba 77-279	0.22	1.5	2.0	8.8	0.2
Ba 74-114	0.14	3.3	2.6	8.7	2.0
Ba 73-366	0.23	5.2	4.2	8.5	0.0
Ba 73-381	0.16	3.2	0.7	8.2	2.0
Abbey	0.32	4.4	2.8	7.7	0.0
Adelphi	0.34	2.6	3.4	8.8	0.0
America	0.12	1.7	2.1	8.4	2.0
Baron	0.33	4.6	3.6	7.4	0.4
Bristol	0.12	2.6	3.0	8.9	2.0
Chateau	0.22	3.3	3.1	7.8	0.5
Coventry	0.32	3.1	2.4	8.1	0.3
Eclipse	0.38	2.8	2.6	9.0	0.2
Georgetown	0.14	2.5	2.4	8.5	2.0

TABLE 8-continued

Gnome	0.23	1.6	0.8	7.5	1.4
Kelly	0.34	4.6	2.4	8.8	0.0
Marquis	0.21	3.6	1.1	6.8	1.1
Midnight	0.10	1.3	1.6	7.7	2.0
Nassau	0.34	2.5	3.3	8.5	1.4
Ram I	0.09	1.8	2.0	7.7	2.0
Touchdown	0.29	1.4	1.3	7.9	8.0
Victa	0.26	2.3	1.7	7.9	0.1
LSD (.05)	0.045	0.79	0.70	0.89	0.57

^{1/}Degrees from the stem^{2/}Rating Scale: 1-9; 1 = curves up; 5 = no curve; 9 = curves down^{3/}Rating Scale: 0-9; 0 = none; 9 = many^{4/}Rating Scale: 1-9; 1 = rough; 9 = smooth^{5/}Rating Scale: 0-9; 0 = no color; 9 = dark purple color

Ba 77-279 has been an outstanding performer as exhibited by high turf quality ratings and dark green color at a number of locations across the U.S. in comparison to other Kentucky Bluegrass varieties. With regard to a comparative analysis conducted for purposes of determining color of Ba 77-279 plants relative to other Kentucky Bluegrass varieties, readings were taken of the vegetative color of Ba 77-279 during mid-May while the turf was actively growing with adequate nutrient and water availability. The readings were taken in full sun with several actively growing leaves being compared, one at a time, utilizing color chips from the Munsell Book of Color as a reference. On this basis, the color of Ba 77-279 was determined to be 7.5 GY 4/4. During the same time period, the color of similar leaves of other Kentucky Bluegrass varieties were determined by the same procedure to be as follows: Ba 74-114 — 7.5 GY 4/4; Ba 73-381 — 5 GY 4/4; Ba 73-366 — 5 GY 4/4; Ba 73-540 — 5 GY 4/4; Abbey — 5 GY 3/4; and Coventry — 5 GY 4/4. However, it should be noted that the general apparent color of turf does not always correlate directly with the color of the individual actively growing leaves within the turf and that turf color varies with nutrient level and time of year with some varieties being darker or lighter green depending on such factors.

Ba 77-279 demonstrates a dark green color which can be maintained throughout the growing season. It also has a medium wide leaf, good density and seedling vigor. Comparisons of Ba 77-279 with other Kentucky bluegrass varieties for quality, color, density and seedling vigor are set forth hereinafter in Tables 9-13:

TABLE 9

A Comparison of Quality of Ba 77-279 and Other Kentucky Bluegrass Varieties In Three Tests Conducted at Nineteen (19) Locations in the U.S. in Three Tests Conducted.

Variety	Test (Annual Means)		
	A	B	C
Ba 77-279	6.1	6.4	5.9
Ba 73-366	5.5	5.5	5.3
Ba 73-381	5.4	5.6	5.3
Ba 74-114	5.3	5.6	5.1
Abbey	5.5	5.5	5.3
Able I	5.8	6.1	5.9
A-34	5.6	5.7	5.5
Banff	6.0	5.9	5.4
Baron	5.8	5.7	5.3
Classic	5.8	5.9	5.4
Coventry	5.9	6.0	5.7
Eclipse	5.9	6.2	6.0
Estate	5.9	5.9	5.6

TABLE 9-continued

A Comparison of Quality of Ba 77-279 and Other Kentucky Bluegrass Varieties In Three Tests Conducted at Nineteen (19) Locations in the U.S. in Three Tests Conducted.

Variety	Test (Annual Means)		
	A	B	C
Georgetown	5.9	5.9	5.4
Glade	6.2	6.0	5.6
Gnome	5.5	5.5	5.3
Haga	5.9	5.8	5.5
Kelly	5.5	5.4	5.2
Kenblue	4.6	4.5	4.3
Marquis	5.4	5.5	5.4
Merion	4.2	4.8	4.9
Merit	5.4	5.5	5.3
Midnight	6.2	6.4	6.3
Monopoly	5.3	5.5	5.3
Nassau	5.6	5.8	5.2
Ram I	6.1	5.9	5.4
South Dakota	4.1	4.2	4.2
Touchdown	5.5	5.9	5.5
LSD (.05)	0.3	0.2	0.2

Rating Scale: 1-9; 9 = ideal turf

TABLE 10

A Comparison of Genetic Color of Ba 77-279 and Other Kentucky Bluegrass Varieties in Three Tests (A-C) Conducted at Ten (10) Locations in the US

Variety	TESTS (Annual Means)		
	A	B	C
Ba 77-279	6.9	6.8	7.2
Ba 74-114	7.0	7.2	7.2
Ba 73-366	5.5	5.5	5.9
Ba 73-381	6.0	5.7	6.4
Abbey	5.6	5.9	5.8
Able I	6.6	6.8	6.8
A-34	5.0	5.4	4.6
Banff	5.1	6.0	5.5
Baron	6.0	6.0	5.9
Classic	5.2	5.9	5.2
Coventry	5.9	5.6	5.8
Eclipse	6.3	6.6	6.4
Estate	5.8	5.3	5.3
Georgetown	5.2	6.1	5.3
Glade	6.7	6.3	6.7
Gnome	6.0	6.1	5.8
Haga	5.1	5.8	5.3
Kelly	5.6	5.7	6.1
Kenblue	4.6	5.0	5.3
Marquis	6.1	6.1	6.4
Merion	5.7	5.8	5.4
Merit	5.7	5.7	6.2
Midnight	7.1	7.3	7.7
Monopoly	4.8	4.9	4.8
Nassau	6.0	6.6	6.5
Ram I	6.7	5.9	6.6
South Dakota	4.5	4.8	4.7
Touchdown	5.5	5.5	5.3
LSD (.05)	0.5	0.4	0.7

Rating Scale: 1-9; 9 = dark green.

TABLE 11

A Comparison of Fall Density of Ba 77-279 and Other Kentucky Bluegrass Varieties at Martinsville, New Jersey

Variety	Fall Density
Ba 77-279	7.0
Ba 73-366	5.3
Ba 73-381	5.3
Ba 74-114	5.7
Abbey	4.7
Able I	4.7
A-34	5.7
Banff	6.3
Baron	5.7
Classic	6.3
Coventry	6.0
Eclipse	5.3
Estate	5.0
Georgetown	6.7
Glade	5.7
Gnome	6.0
Haga	6.7
Kelly	5.0
Kenblue	5.0
Marquis	5.7
Merion	3.7
Merit	5.3
Midnight	7.3
Monopoly	5.0
Nassau	5.3
Ram I	6.7
South Dakota	3.0
Touchdown	5.7
LSD (.05)	1.4

Ratings Scale: 1-9; 9 = maximum density

TABLE 12

A Comparison of Leaf Texture of Ba 77-279 and Other Kentucky Bluegrass Varieties at Martinsville, NJ.

Variety	Leaf Texture
BA 77-279	5.3
Ba 74-114	4.0
Ba 73-366	4.3
Ba 73-381	4.0
Abbey	5.0
Able I	5.7
A-34	4.3
Banff	5.3
Baron	5.0
Classic	5.3
Coventry	5.0
Eclipse	5.7
Estate	4.3
Georgetown	6.0
Glade	5.0
Gnome	5.3
Haga	5.7
Kelly	4.3
Kenblue	6.0
Marquis	4.3
Merion	4.0
Merit	4.7
Midnight	6.7
Monopoly	5.0
Nassau	5.0
Ram I	5.0
South Dakota	3.7
Touchdown	5.3
LSD (.05)	0.9

Rating Scale: 1-9; 9 = very fine

TABLE 13

A Comparison of Seedling Vigor of Ba 77-279 and Other Kentucky Bluegrass Varieties at Six Locations in the U.S. and Canada*

Variety	Seedling Vigor Mean
Ba 77-279	6.2
Ba 73-366	6.3
Ba 73-381	6.3
Ba 74-114	5.3
Abbey	6.4
Able I	6.3
A-34	6.0
Banff	7.7
Baron	6.7
Classic	7.1
Coventry	6.1
Eclipse	6.1
Estate	6.1
Georgetown	7.0
Glade	6.7
Gnome	6.3
Haga	7.1
Kelly	6.6
Kenblue	7.4
Marquis	6.3
Merion	2.6
Merit	6.4
Midnight	5.4
Monopoly	7.1
Nassau	6.4
Ram I	6.5
South Dakota	6.7
Touchdown	5.8
LSD (.05)	0.7

Rating Scale: 1-9; 9 = Maximum vigor

Locations: Fort Collins, CO; Post Falls, ID; North Brunswick, NJ; Adelphi, NJ; Richmond Hill, Ontario; pooled data from Halsey, Hubbard and Gervais, OR.

Turf diseases are one of the major causes of inconsistent and poor turf performance. Ba 77-279 has been found to have a high level of resistance to leaf spot and melting out caused by *Drechslera poae* (formerly called *Helminthosporium vagans*). Ba 77-279 furthermore has been found to have a medium to high level of resistance to dollar spot caused by *Sclerotinia homoeocarpa* and to several rust diseases caused by *Puccinia* spp.

Comparisons of disease incidence of Ba 77-279 as compared with other Kentucky Bluegrass varieties in regard to leaf spot, dollar spot, and rusts, are presented in Tables 14-18.

TABLE 14

A Comparison of Leaf Spot Incidence in Ba 77-279 and Other Kentucky Bluegrass Varieties in Two (2) Tests Conducted at Seven (7) Locations in the U.S.

Variety	Means	
	Test 1*	Test 2**
Ba 77-279	6.0	7.4
Ba 73-366	4.3	5.1
Ba 73-381	2.0	5.8
Ba 74-114	4.7	6.8
Abbey	4.7	5.1
Able I	6.0	7.1
A-34	4.7	5.4
Banff	4.7	5.9
Baron	4.0	5.4
Classic	3.3	5.4
Coventry	3.7	5.8
Eclipse	6.3	7.4

TABLE 14-continued

A Comparison of Leaf Spot Incidence in Ba 77-279 and Other Kentucky Bluegrass Varieties in Two (2) Tests Conducted at Seven (7) Locations in the U.S.

Variety	Means	
	Test 1*	Test 2**
Estate	4.0	5.9
Georgetown	6.0	6.3
Glade	3.0	4.8
Gnome	3.7	5.7
Haga	3.7	5.9
Kelly	4.7	5.1
Kenblue	1.7	1.8
Marquis	3.7	5.6
Merion	7.3	7.3
Merit	4.3	5.4
Midnight	5.7	6.6
Monopoly	4.3	5.2
Nassau	4.3	6.2
Ram I	4.3	4.9
South Dakota	1.0	1.8
Touchdown	5.3	6.3
LSD (.05)	1.5	0.7

Rating Scale: 1-9; 9 = no disease

*Locations: Pooled data from Halsey, Hubbard and Gervais, OR.

**Locations: Post Falls, ID; North Brunswick and Adelphia, NJ; Marysville, OH LSD

TABLE 15

A Comparison of Dollar Spot Disease Incidence of Ba 77-279 and Other Kentucky Bluegrass Varieties in Three (3) Tests Conducted at Five (5) Locations in the U.S.

Variety	Means		
	Test A ¹	Test B ²	Test C ³
Ba 77-279	8.3	7.8	7.0
Ba 73-366	8.3	7.1	6.2
Ba 73-381	7.3	6.6	6.4
Ba 74-114	8.3	7.9	4.8
Abbey	8.0	6.8	6.3
Able I	8.3	6.8	6.1
A-34	7.7	6.7	6.0
Banff	7.7	6.4	6.2
Baron	7.7	6.9	6.8
Classic	8.0	7.4	6.3
Coventry	7.7	5.9	5.9
Eclipse	8.3	7.5	7.2
Estate	8.3	5.3	5.6
Georgetown	8.0	6.9	6.1
Glade	7.7	7.0	6.4
Gnome	8.0	6.7	6.1
Haga	7.7	6.3	6.2
Kelly	8.0	7.3	6.3
Kenblue	8.0	6.8	6.8
Marquis	8.0	6.8	6.7
Merion	7.7	6.9	6.1
Merit	8.0	6.8	6.7
Midnight	8.3	8.0	6.6
Monopoly	8.0	7.1	6.7
Nassau	8.0	7.4	6.7
Ram I	7.3	6.0	4.9
South Dakota	8.0	7.3	5.8
Touchdown	8.0	6.8	6.1
LSD (.05)	0.9	1.1	0.8

Rating Scale: 1-9; 9 = no disease

¹Locations: Kingston, RI

²Locations: Urbana, IL; Adelphia, NJ; Kingston, RI; Haymarket, VA

³Locations: Urbana, IL; Silver Spring, MD; Kingston, RI

TABLE 16

A Comparison of Stem Rust Disease Incidence in Ba 77-279 and Other Kentucky Bluegrass Varieties at Kingston, R.I.

Variety	Stem Rust
Ba 77-279	7.3
Ba 73-366	6.7
Ba 73-381	7.3
Ba 74-114	5.7
Abbey	7.0
Able I	3.3
A-34	4.3
Banff	7.7
Baron	7.0
Classic	8.0
Coventry	6.7
Eclipse	4.0
Estate	6.3
Georgetown	8.7
Glade	7.7
Gnome	7.0
Haga	8.0
Kelly	8.0
Kenblue	5.7
Marquis	6.7
Merion	1.0
Merit	6.3
Midnight	8.0
Monopoly	6.3
Nassau	8.0
Ram I	8.0
South Dakota	4.3
Touchdown	2.3
LSD (.05)	1.4

Rating Scale: 1-9; 9 = no disease

TABLE 17

A Comparison of Leaf Rust Disease Incidence in Ba 77-279 and Other Kentucky Bluegrass Varieties at Kingston, R.I.

Variety	Leaf Rust
Ba 77-279	6.0
Ba 74-114	6.7
Ba 73-366	5.7
Ba 73-381	6.3
Abbey	6.3
Able I	7.0
A-34	6.0
Banff	7.0
Baron	8.3
Classic	8.7
Coventry	7.0
Eclipse	5.7
Estate	6.3
Georgetown	7.7
Glade	7.0
Gnome	6.7
Haga	7.0
Kelly	5.0
Kenblue	6.7
Marquis	6.3
Merion	2.3
Merit	6.0
Midnight	6.0
Monopoly	5.3
Nassau	7.0
Ram I	6.7
South Dakota	6.7
Touchdown	3.7
LSD (.05)	2.4

Rating Scale: 1-9; 9 = no disease

TABLE 18

A Comparison of Stripe Rust Disease Incidence in Ba 77-279 and Other Kentucky Bluegrass Varieties in Tests Conducted at Three Locations^{1/} in Oregon

Variety	Stripe Rust
Ba 77-279	6.0
Ba 74-114	6.7
Ba 73-366	5.0
Ba 73-381	4.7
Abbey	4.3
Able I	6.0
A-34	5.0
Banff	6.0
Baron	6.0
Classic	6.3
Coventry	5.0
Eclipse	6.0
Estate	5.7
Georgetown	6.3
Glade	3.0
Gnome	4.7
Haga	6.3
Kelly	5.0
Kenblue	3.3
Marquis	5.3
Merion	3.7
Merit	5.0
Midnight	4.7
Monopoly	5.3
Nassau	5.3
Ram I	6.0
South Dakota	4.0
Touchdown	3.0
LSD (.05)	1.2

Rating Scale: 1-9; 9 = no disease

^{1/}Pooled data from Halsey, Hubbard and Gervais, Oregon.

Ba 77-279 has shown good drought tolerance and has a medium seed yielding capability. Comparisons for drought tolerance and seed yields of Ba 77-279 with other Kentucky Bluegrass are presented in Table 19-20.

TABLE 19

A Comparison of Drought Tolerance of Ba 77-279 and Other Kentucky Bluegrass Varieties at Carbondale, IL.

Variety	Drought Tolerance
Ba 77-279	5.0
Ba 73-366	3.0
Ba 73-381	2.0
Ba 74-114	3.0
Abbey	3.7
Able I	4.0
A-34	4.0
Banff	4.7
Baron	3.0
Classic	3.7
Coventry	4.3
Eclipse	4.0
Estate	4.7
Georgetown	4.0
Glade	3.7
Gnome	3.3
Haga	4.0
Kelly	2.7
Kenblue	2.7
Marquis	3.3

TABLE 19-continued

A Comparison of Drought Tolerance of Ba 77-279 and Other Kentucky Bluegrass Varieties at Carbondale, IL.

Variety	Drought Tolerance
Merion	3.7
Merit	2.7
Midnight	4.3
Monopoly	2.7
Nassau	3.3
Ram I	4.7
South Dakota	2.7
Touchdown	4.7
LSD (.05)	1.6

Rating Scale: 1-9; 9 = no dormancy

TABLE 20

A Comparison of Seed Yield in Pounds Per Acre of Ba 77-279 and Coventry Kentucky Bluegrass In Two (2) Tests Conducted at Gervais, Oregon.

	Test A	Test B
Ba 77-279	672	382
Coventry	568	425
LSD (.05)	162	97

What is claimed is:

1. A variety of Kentucky Bluegrass plant, substantially as shown and described, characterized by a high level of resistance to leaf spot and melting out disease; a medium to high level of resistance to several rust diseases and dollar spot; a dark green color throughout the growing season; a good level of drought tolerance; high quality dense persistent turf formation under a wide variety of environmental conditions; and a medium level of seed yielding capacity.

* * * * *

FIG. 1



FIG. 3



FIG. 2

