

[54] **DISTINCT VARIETY OF KENTUCKY BLUEGRASS (*POA PRATENSIS*)**

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[57] ABSTRACT

A Kentucky bluegrass plant that is highly apomictic, thus providing a more uniform turf when propagated from seeds. The plant has good resistance to most diseases such as stripe smut, *Helminthosporium* leafspot,

dollar spot, and rust. The production of a high number of rhizomes presents a dense turf which keeps weed competition down. This low-growing cultivar has a medium-textured turf and maintains its medium-green color for a longer season than some other varieties of bluegrass. The new variety of Kentucky bluegrass plant was selected from a large number of other bluegrass plants released in 1969 by Rutgers University to FFR Cooperative for variety development. The new variety was the result of replicated tests in cultivated areas at West Lafayette, Indiana and Spokane, Washington as reported hereinafter and the variety subsequently has been named "Plush". The variety is characterized by its ability to maintain a high turf quality over a wide geographical area and its ability to withstand, better than most bluegrasses, the high summertime temperatures. The qualities and characteristics which this new variety yields make it desirable in lawns and presents itself as an excellent seed producer.

1 Drawing Figure

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BACKGROUND OF THE INVENTION

After this new Kentucky bluegrass plant was selected, it and 82 other selections were planted at West Lafayette, Ind. These selections were screened in replicated tests at West Lafayette, Ind., and Spokane, Wash., for seed yield, plant diseases, and/or general clonal performance. Promising material was seeded in 3-foot × 5-foot replicated turf plots in 1969. This new Kentucky bluegrass selection was labeled by FFR as 9031 and entered in several university tests as P-133. Subsequently, 9031 was named Plush by the Board of Directors of FFR Cooperative.

The new cultivar has been asexually reproduced by applicants by tiller division and the distinguishing characteristics remain true through succeeding generations.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a photograph showing the seedling of Plush variety bluegrass.

DETAILED DESCRIPTION OF THE NEW VARIETY

The new Plush variety of Kentucky bluegrass possesses the following combination of characteristics:

1. Highly apomictic.
2. Maintains good quality turf over a wide geographical area.
3. Excellent stripe smut (*Ustilago striiformis*) resistance.
4. Good *Helminthosporium* leafspot resistance.
5. Good dollar spot (*Sclerotinia homoeocarpa*) resistance.
6. Good rust (*Puccinia* spp.) tolerance.
7. Moderate *Fusarium* blight susceptibility.
8. Establishes faster than most other Kentucky bluegrasses.
9. Produces a dense turf.
10. Lower growing.

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11. Medium-green color that develops early and lasts later.
12. Upright leaves with a medium width.
13. Medium thatch accumulation.
14. Establishes fast when sodded.
15. Good heat tolerance.
16. Excellent seed production characteristics.

The characteristics of the new variety described above are hereafter described in more detail, and it should be noted that comparisons made in all tests are to other bluegrasses grown and managed in a similar manner to Plush. Plush is not compared to all bluegrasses grown, but only to recently improved varieties. These comparisons are not by only one observation, but in replicated tests.

Highly apomictic: Plush is highly apomictic, in that progeny of the maternal plant will resemble the maternal parent. This provides a uniform-looking turf. (Table 1)

Maintains a good quality turf over a wide geographical area: Some Kentucky bluegrasses that were selected in a specific area do not adapt very well to other regions of Kentucky bluegrass growing area. This often leads to an inferior quality turf such as experienced with Nugget, an Alaskan selection, when grown in the Midwest and South. Plush, a Northeastern selection, has maintained a good quality turf over a wide geographical area. Plush has ranked high in turf quality in tests at Rutgers University, Virginia Polytechnic Institute and State University, University of Illinois, University of Missouri, and FFR Cooperative (Tables 2, 3, 4, 5, 6, and 7).

Excellent stripe smut (*Ustilago striiformis*) resistance: Stripe smut is a fungus that attacks the leaves and floral parts of Kentucky bluegrass. This drastically lowers the quality of turf or reduces seed yield in production fields. Plush has good resistance to stripe smut. (Table 8)

Good Helminthosporium leafspot resistance: In the past, Helminthosporium leafspot, characterized by dark, purplish-red lesions on the leaves, has severely limited the production of good quality turf. As the disease progresses, the "melting-out" phase begins. This results in large patches of dead plants appearing in the turf. Plush has good resistance to Helminthosporium leafspot. (Tables 9, 10, 11, and 12)

Good dollarspot (*Sclerotinia homoeocarpa*) resistance: Although dollarspot is not a major disease, its presence can form several blighted areas, about the size of a silver dollar, in the turf. In tests at the University of Illinois, Plush has shown to have good dollarspot resistance (Table 13).

Good rust (*Puccinia* spp.) tolerance: A disease that severely damages Merion Kentucky bluegrass is leaf rust. Plush has good tolerance to rust in tests at FFR Cooperative, while Merion is severely damaged (Table 14).

Moderate Fusarium blight susceptibility: Fusarium blight is becoming a major disease of Kentucky bluegrass turfs that are under high management. Plush is slightly susceptible to Fusarium blight, but has better tolerance and resistance than Fylking and Pennstar in tests at Rutgers (Table 15).

Establishes faster than most other Kentucky bluegrasses: Weed competition often ruins a turf when seedlings are emerging. Good seedling vigor is characterized by germinating and spreading fast, thus establishing a dense turf. In tests at FFR Cooperative, Plush had better seedling vigor than most other elite Kentucky bluegrasses (Table 16).

Produces a dense turf: A dense turf does not only look attractive, but also hinders weed growth. One grass weed that causes major problems in turf is annual bluegrass (*Poa annua*). At the University of Illinois, a trial to measure the competitive ability of Kentucky bluegrass in annual bluegrasses was conducted. Ten-centimeters-in-diameter plugs of Kentucky bluegrass varieties from a two-year-old turf plot were placed in a solid stand of *Poa annua*. The trial was managed under conditions favorable to the development of annual bluegrass. After fourteen months, the plugs were measured to determine how much the *Poa annua* took over the plug. Because of its capability to produce a dense turf, Plush still had a diameter of 7.9 centimeters while several other bluegrass varieties had measurements of less than 7.0 centimeters (Table 17).

Kentucky bluegrass spreads by rhizomes. The more rhizomes per square foot, the better the density of the turf. In tests at Virginia Polytechnic Institute and State University, Plush had good rhizome production (Table 18).

In turf trials at FFR Cooperative, ratings for density were taken 12 and 30 months after seeding. Plush had a better density than Sodco at 12 months, and better than several other varieties at 30 months (Table 19).

Lower growing: Plush has a semi-dwarf growth characteristic. The plant height of Plush in an uncut turf situation is shorter than Fylking or Merion (Table 20).

Medium-green color that develops early and lasts late: Plush has lighter-green color than Adelphi, but is darker than Park. (Tables 21 and 22) This medium-green color tends to make many of the turf weeds, which tend to be lighter green, less noticeable when present. Plush's color develops early in the spring, earlier than Nugget or Cougar (Table 23). Plush maintains

its medium-green color longer into the fall and early winter than Merion, Kenblue, or Park (Table 24).

Upright leaves with a medium width: Plush's leaves tend to be more upright. This makes leaves easier to cut. Plush's leaf angle from the central axis is approximately 36°, compared to 51° for Merion (Table 25). The leaves of Plush are medium width. They are wider than Nugget and Fylking, but narrower than Merion (Table 25).

Medium thatch accumulation: Thatch is a major problem for newer turfgrasses. The build-up of non-decomposed, dead vegetative matter becomes a favorable environment for diseases. Plush has a thatch depth of 1.33 centimeters, compared to Nugget's 1.52 centimeters, in tests at the University of Illinois (Table 26).

Establishes fast when sodded: The ability of a Kentucky bluegrass to recover and start growing is very important when laying sod. One way to measure this ability is the root strength test. In this test, a one-foot-square piece of turf is pulled from the soil surface after it has had time to establish its roots. The pounds of force required to pull this from the surface give a good indication of how fast the variety recovers after being sodded. Plush had an average root pull strength of 335 pounds in tests at Virginia Polytechnic Institute and State University, compared to Merion's 266 pounds (Table 27).

Good heat tolerance: One aspect that limits the growth of Kentucky bluegrass in southern regions of bluegrass belt is its tolerance to the hot summertime temperatures. At Virginia Polytechnic Institute and State University, several Kentucky bluegrass cultivars were placed in a growth chamber. These six-inch-square pieces of sod were exposed to temperatures 50° C. for 16 hours and 30° C. for 8 hours for each day over a seven-day period. After the treatment, they were removed from chamber and sodded. Plush had retained 53% of its greenness, compared to Adelphi's 30%, Merion's 33%, or Kenblue's 65% (Table 28). After the cultivars were sodded, their recovery rates were measured by their root strength for a 6-inch-square piece of sod and percent ground cover. Plush had ratings of 85 pounds and 72 percent spread, respectively, compared to Adelphi's 58 pounds and 58% ground cover (Table 28).

Excellent seed production characteristics: In order to have a successful variety, seed must be plentiful and at a reasonable cost. A Kentucky bluegrass cultivar must have a good seed yield to be successful. Several factors determine a good yield. It must have good lodging resistance to prevent the seed head from lying on the ground. In tests at Spokane, Washington, Plush has good lodging resistance (Table 29). In order to harvest the seed more easily, the inflorescence should be high above vegetative material. Plush produces a culm of about 72 centimeters. Plush has a seed head higher than Nugget (Table 30). Also, the cultivar should be early-maturing. Early-maturing varieties in dry land production can take advantage of the winter moisture. Plush is earlier-maturing than Merion or Sodco (Table 31). Plush's seed yield is comparable to that of Fylking and Merion in tests at Spokane, Washington (Table 32).

The seed of Plush is darker in color than Merion or Baron, but is lighter than Adelphi or Nugget (Table 33). Plush has a larger seed size than most Kentucky bluegrasses (Table 33). Larger seeds usually have better germination vigor than small seeds.

TABLE 1

Seed Source	Percent Apomixis in Plush ^a	
	Number of Plants Tested	% Maternal-like Plants
Lot SW71	200	86
Lot RU69	350	89
Lot RU73	100	87
Total	650	Mean 87.33

^a1974 Apomixis Test of Plush Kentucky Bluegrass at FFR Cooperative, West Lafayette, Indiana.
P. R. Troutman

TABLE 2

Turf Quality at Rutgers University ^a					4-year mean
Variety	1972	1973	1974	1975	
Rating: 9 = best; 1 = poor					
Plush	6.0	6.5	6.7	6.5	6.4
Adelphi	7.0	6.7	6.8	6.9	6.8
Baron	4.5	5.7	5.8	5.1	5.3
Bonnieblue	6.3	6.7	6.8	6.6	6.6
Brunswick	5.5	6.9	7.5	7.3	6.8
Fylking	6.0	6.3	5.7	4.5	5.6
Galaxy	6.3	6.4	6.1	5.6	6.1
Glade	6.5	6.5	6.7	6.7	6.6
Kenblue	4.0	3.0	3.3	2.8	3.3
Majestic	7.3	7.0	6.3	6.0	6.6
Merion	6.3	6.8	6.6	5.7	6.4
Monopoly	4.5	5.5	5.4	6.3	5.4
Nugget	7.0	5.3	5.0	4.2	5.4
Park	3.8	2.9	3.0	2.1	3.0
Pennstar	6.0	6.5	5.7	4.6	5.7
Sodco	6.8	6.7	6.8	6.3	6.6
Sydsport	5.0	6.0	6.4	6.3	5.9
Vantage	3.3	5.1	5.7	5.5	5.0
Victa	4.5	5.7	5.8	5.4	5.4
Windsor	4.5	5.5	6.4	7.1	5.9
Grand Mean					5.7

^a1972 Regional Test of Kentucky Bluegrass and Fine Fescue varieties at Rutgers University.
C. Reed Funk

TABLE 3

Turf Quality at Virginia Polytechnic Institute and State University ^a				3-year mean
Variety	1973	1974	1975	
Rating: 9 = best; 1 = poor				
Plush	7.5	7.2	5.2	6.6
Adelphi	7.4	7.2	5.4	6.8
Baron	6.7	6.5	5.1	6.1
Bonnieblue	7.7	6.9	5.3	6.6
Brunswick	7.8	6.7	5.1	6.5
Fylking	6.6	6.1	4.5	5.7
Galaxy	7.6	6.7	4.7	6.3
Glade	7.1	6.5	5.4	6.3
Kenblue	7.0	5.9	5.1	6.0
Majestic	7.4	7.1	5.3	6.6
Merion	6.8	6.1	5.4	6.1
Monopoly	7.4	7.1	5.7	6.8
Nugget	6.2	6.1	5.0	5.8
Park	6.2	5.6	4.6	5.4
Pennstar	7.5	6.4	4.7	6.2
Sodco	7.9	6.9	5.8	6.9
Sydsport	7.4	6.9	5.4	6.6
Vantage	7.1	6.0	5.3	6.1
Victa	6.9	6.9	5.6	6.5
Windsor	7.3	6.4	4.6	6.1
Grand Mean				6.3

^a1972 Regional Kentucky Bluegrass Test at Virginia Polytechnic Institute and State University.
Lincoln Taylor.

TABLE 4

Turf Quality at University of Illinois ^a				
Variety	1973 Mean	1974 Mean	1975 Mean	3-Year Mean
Rating: 1 = best; 9 = poor				
Plush	2.9	2.6	2.3	2.6
Adelphi	2.6	2.4	3.2	2.7
Baron	2.9	3.2	3.4	3.2
Bonnieblue	3.1	3.1	3.0	3.1
Brunswick	2.6	2.8	3.0	2.8
Fylking	2.9	3.3	3.3	3.2

TABLE 4-continued

Variety	Turf Quality at University of Illinois ^a				3-Year Mean
	1973 Mean	1974 Mean	1975 Mean		
Galaxy	3.0	2.8	3.0		2.9
Glade	2.8	2.7	3.5		3.0
Kenblue	4.6	3.8	3.5		4.0
Majestic	3.0	2.7	3.2		3.0
Merion	3.2	2.9	2.6		2.9
Monopoly	3.1	2.1	2.2		2.5
Nugget	3.1	3.6	5.0		3.9
Park	4.9	3.3	3.0		3.7
Pennstar	3.1	3.5	3.3		3.3
Sodco	3.0	2.9	2.8		2.9
Sydsport	2.7	2.7	4.0		3.1
Vantage	3.3	2.9	2.7		3.0
Victa	3.0	3.1	3.0		3.0
Windsor	3.0	2.5	2.4		2.6
Grand Mean					3.1

^a1972 Regional Bluegrass Trials at University of Illinois.
A. J. Turgeon

TABLE 5

Turf Quality at the Southwest Research Center of the University of Missouri ^a		
	Variety	3-Year Mean
	Rating: 9 = best; 1 = poor	
25	Plush	4.6
	Adelphi	4.5
	Baron	4.6
	Bonnieblue	4.6
	Brunswick	4.8
30	Fylking	4.3
	Galaxy	4.7
	Glade	4.3
	Kenblue	3.4
	Majestic	4.5
	Merion	3.3
	Monopoly	4.6
	Nugget	3.0
	Park	4.1
	Pennstar	4.1
35	Sodco	4.1
	Sydsport	4.5
	Vantage	4.1
	Victa	4.9
	Windsor	4.3
	Grand Mean	4.3
	LSD at 5% Level	.5

^a1972 Regional Test of Kentucky Bluegrass at the Southwest Research Center of the University of Missouri.
John H. Dunn

TABLE 6

45		Turf Quality at FFR Cooperative ^a			
Variety		1970	1971	1973	3-year Mean
Rating: 1 = best; 9 = poor					
50	Plush	3.9	3.4	2.8	3.4
	Cougar	3.5	5.4	4.4	4.4
	Delta	6.1	7.3	6.1	6.5
	Fylking	3.9	4.7	4.1	4.2
	Geary	5.9	6.6	5.2	5.9
	Kenblue	5.3	7.2	6.3	6.3
55	Merion	3.3	3.8	4.3	3.8
	Newport	4.7	5.8	6.0	5.5
	Nudwarf	5.9	6.1	6.5	6.2
	Nugget	4.0	4.3	3.5	3.9
	Park	6.3	6.0	5.7	6.0
	Sodco	5.8	6.4	6.5	6.2
	S-21	6.5	6.3	6.6	6.5
	S. Dakota Common	5.8	6.4	6.5	6.2
	Grand Mean				5.4
60	LSD at 5% Level	1.38	1.17	1.44	

^aTurf Evaluations at FFR Cooperative, West Lafayette, Indiana.
P. R. Troutman

TABLE 7

Variety	Turf Quality Averaged Across Five Locations					
	Rutgers	VPI	Missouri	Ill	FFR	Mean
Rating ^b : 9 = best; 1 = poor						
Plush	6.4	6.6	4.6	7.4	6.7	6.3

TABLE 7-continued

Turf Quality Averaged Across Five Locations						
Variety	Rutgers	VPI	Location Missouri	Ill	FFR	Mean
Adelphi	6.8	6.8	4.5	7.3	X ^a	X
Baron	5.3	6.1	4.6	6.8	X	X
Bonnieblue	6.6	6.6	4.6	6.9	X	X
Brunswick	6.8	6.5	4.8	7.2	X	X
Fylking	5.6	5.7	4.3	6.8	5.8	5.6
Galaxy	6.1	6.3	4.7	7.1	X	X
Glade	6.6	6.3	4.3	7.0	X	X
Kenblue	3.3	6.0	3.4	6.0	3.8	4.5
Majestic	6.6	6.6	4.5	7.0	X	X
Merion	6.4	6.1	3.3	7.1	6.2	5.8
Monopoly	5.4	6.8	4.6	7.5	X	X
Nugget	5.4	5.8	3.0	6.1	6.1	5.3
Park	3.0	5.4	4.1	6.3	4.0	4.6
Pennstar	5.7	6.2	4.1	6.7	X	X
Sodco	6.6	6.9	3.9	7.1	3.8	5.7
Sydsport	5.9	6.6	4.5	6.9	X	X
Vantage	5.0	6.1	4.1	7.0	X	X
Victa	5.4	6.5	4.9	7.0	X	X
Windsor	5.9	6.1	4.3	6.4	X	X

^aNot Tested in this Trial^bRating for Illinois and FFR are converted to 9 = best; 1 = poor.

TABLE 8

Stripe Smut Resistance at Rutgers University ^a	
Variety	Infected Tillers
Number of tillers per square foot infected with stripe smut	
Plush	2
Adelphi	1
Baron	25
Glade	2
Merion	138
Windsor	90

^a1972 Regional Kentucky Bluegrass Trials at Rutgers University.
C. Reed Funk

TABLE 9

Helminthosporium Leafspot Tolerance at University of Illinois ^a				
Variety	1973	1974	1975	3-year mean
Rating: 1 = best; 9 = poor				
Plush	2.7	2.3	3.0	2.7
Adelphi	2.3	2.3	2.0	2.2
Baron	3.3	2.3	2.7	2.8
Bonnieblue	2.0	1.7	2.3	2.0
Brunswick	1.7	2.3	3.0	2.3
Fylking	2.7	2.0	2.3	2.3
Galaxy	1.7	1.3	2.0	1.7
Glade	3.0	2.3	2.7	2.7
Kenblue	5.7	5.7	5.0	5.5
Majestic	1.0	1.7	2.0	1.6
Merion	1.7	1.3	3.0	2.0
Monopoly	2.7	2.0	2.7	2.5
Nugget	2.0	1.3	1.0	1.4
Park	6.0	3.3	5.3	4.9
Pennstar	2.0	1.7	2.0	1.9
Sodco	3.0	2.7	3.0	2.9
Sydsport	2.0	2.3	2.0	2.1
Vantage	5.0	4.3	3.7	4.3
Victa	2.7	2.0	2.7	2.5
Windsor	3.0	2.7	3.0	2.9
Mean				2.7

^a1972 Regional Bluegrass Trials at University of Illinois
A. J. Turgeon

TABLE 10

Helminthosporium Leafspot Tolerance at Virginia Polytechnic Institute and State University ^a	
Variety	1974 Mean
Rating: 9 = best; 1 = poor	
Plush	6.3
Adelphi	6.7
Baron	6.7
Bonnieblue	8.7
Brunswick	6.7
Fylking	6.7
Galaxy	7.3
Glade	4.3

TABLE 10-continued

Helminthosporium Leafspot Tolerance at Virginia Polytechnic Institute and State University ^a	
Variety	1974 Mean
Kenblue	4.0
Majestic	7.7
Merion	7.0
Monopoly	6.0
Nugget	4.0
Park	7.0
Pennstar	6.7
Sodco	6.7
Sydsport	6.7
Vantage	7.0
Victa	6.7
Windsor	7.0
Grand Mean	6.5

^a1972 Regional Bluegrass Trials at Virginia Polytechnic Institute and State University.
Lincoln Taylor

TABLE 11

Helminthosporium Leafspot Tolerance at FFR Cooperative ^a				
Entry	5-5-72	4-19-73	5-22-74	3-year mean
Rating ^b : 1 = best; 9 = poor				
Plush	5.3	3.0	3.0	3.8
Cougar	6.3	4.3	5.0	5.2
Delta	5.0	8.3	6.7	6.7
Fylking	2.8	4.5	3.0	3.4
Geary	8.0	8.0	8.0	8.0
Kenblue	7.3	9.0	6.3	7.5
Merion	2.3	2.7	1.7	2.2
Newport	6.0	7.0	8.3	7.1
Nudwarf	7.3	9.0	7.3	7.9
Nugget	2.6	2.5	1.4	2.2
Park	7.0	9.2	6.7	7.6
Sodco	3.0	3.2	2.8	3.0
S-21	7.0	8.3	7.0	7.4
S. Dakota	8.0	8.7	7.3	8.0
Common				
Grand Mean				5.7
LSD at 5% Level	1.8	2.1	1.5	

^aTurf Evaluations at FFR Cooperative, West Lafayette, Indiana^bP. R. Troutman^cRating for Helminthosporium tolerance:

1 = good tolerance

9 = poor tolerance

TABLE 12

Helminthosporium Leafspot Tolerance Summary of the Three Locations				
Variety	U. of Illinois ^a	VPI & SU ^b	FFR	Mean
Ratings: 1 = best; 9 = poor				
Plush	2.7	3.7	3.8	3.4
Adelphi	2.2	3.3	X ^c	X
Baron	2.8	3.3	X	X
Bonnieblue	2.0	1.3	X	X
Brunswick	2.3	3.3	X	X
Fylking	2.3	3.3	3.4	3.0
Galaxy	1.7	2.7	X	X
Glade	2.7	5.7	X	X
Kenblue	5.5	6.0	7.5	6.3
Majestic	1.6	2.3	X	X
Merion	2.0	3.0	2.2	2.4
Monopoly	2.5	4.0	X	X
Nugget	1.4	6.0	2.2	3.2
Park	4.9	3.0	7.6	5.2
Pennstar	1.9	3.3	X	X
Sodco	2.9	3.3	3.0	3.1
Sydsport	2.1	3.3	X	X
Vantage	4.3	3.0	X	X
Victa	2.5	3.3	X	X
Windsor	2.9	3.0	X	X
Grand Mean				3.1

^aSummary of the three tables (9a, 9b, and 9c).^bThe ratings for Virginia Polytechnic Institute and State University are converted to a 1 = best, 9 = poor scale (table 9b).^cNot in this test

TABLE 13

Dollarspot Resistance at the University of Illinois ^a	
Variety	1975
Rating: 1 = most resistance; 9 = least	
Plush	1.0
Adelphi	1.0
Baron	1.0
Bonnieblue	1.0
Brunswick	1.7
Fylking	1.3
Galaxy	1.0
Glade	1.7
Kenblue	1.3
Majestic	1.0
Merion	1.3
Monopoly	1.0
Nugget	3.3
Park	1.0
Pennstar	1.0
Sodco	1.0
Sydsport	1.0
Vantage	1.0
Victa	1.0
Windsor	1.0

^a1972 Regional Kentucky Bluegrass Trials at the University of Illinois.
A. J. Turgeon

TABLE 14

Rust Tolerance at FFR Cooperative ^a			
Variety	1970	1973	2-year Mean
Rating: 1 = best; 9 = poor			
Plush	1.3	1.7	1.5
Cougar	1.7	2.3	2.0
Delta	2.3	1.0	1.6
Fylking	1.2	2.7	2.0
Geary	1.7	2.3	2.0
Kenblue	1.0	3.7	2.4
Merion	7.0	9.0	8.0
Newport	1.7	1.7	1.7
Nudwarf	1.3	2.7	2.0
Nugget	1.0	1.0	1.0
Park	1.7	4.0	2.8
Sodco	1.2	1.3	1.2
S-21	2.0	2.7	1.4
S. Dakota Common	1.3	1.7	2.0
Mean			2.3
LSD at 5% Level	1.2	2.1	

^aKentucky Bluegrass Evaluations at FFR Cooperative.
P. R. Troutman

TABLE 15

Fusarium Blight Resistance at Rutgers University ^a			
Variety	Percent Damage		
	1974	1975	Mean
Plush	10.0	24.4	17.2
Adelphi	1.7	.4	1.0
Baron	8.7	18.4	13.6
Bonnieblue	6.0	4.3	5.2
Brunswick	6.3	28.0	17.2
Fylking	17.0	30.8	23.9
Galaxy	7.7	8.4	8.0
Glade	.7	7.0	3.8
Kenblue	3.3	6.3	4.8
Majestic	6.0	8.4	7.2
Merion	9.0	15.4	12.2
Monopoly	2.7	.8	1.8
Nugget	5.3	29.2	17.2
Park	3.0	15.9	9.4
Pennstar	16.3	30.9	23.6
Sodco	4.7	5.3	5.0
Sydsport	1.7	3.0	2.4
Vantage	2.3	6.7	4.5
Victa	6.0	18.4	12.2
Windsor	.7	.3	.5
LSD at 5% Level	5.7		

^a1972 Regional Kentucky Bluegrass Trials at Rutgers University.
C. Reed Funk

TABLE 16

Seedling Vigor at FFR Cooperative ^a						
Variety	Days after seeding				Mean	
	13 days	33 days	61 days	71 days		
5	Rating: 1 = most vigor; 9 = least					
	Plush	3.0	2.0	2.0	1.3	2.1
	Adelphi	7.3	6.3	3.7	2.0	4.8
	Baron	6.3	5.7	4.7	3.3	5.0
	Bonnieblue	5.0	5.0	3.3	2.3	3.9
	Brunswick	2.7	3.0	3.3	2.7	2.9
10	Fylking	4.7	4.0	2.3	2.3	3.3
	Glade	3.0	3.3	3.3	1.7	2.8
	Kenblue	3.0	2.0	2.0	1.7	2.2
	Majestic	4.0	2.7	2.0	1.7	2.6
	Merion	6.7	5.7	4.0	1.3	4.4
	Nugget	4.7	3.0	4.7	2.7	3.8
	Park	1.3	1.3	1.7	2.0	1.6
15	Pennstar	5.0	3.0	3.0	2.3	3.3
	Sodco	6.3	4.7	3.7	2.3	4.3
	Sydsport	6.7	6.0	4.3	3.3	5.1
	Vantage	7.0	5.7	3.7	3.3	4.9
	Victa	5.0	2.3	2.7	2.3	3.1
	Windsor	5.0	4.0	3.0	2.0	3.5
	LSD at 5% Level	2.10	1.51	1.72	0.71	
20	^a 1976 Kentucky Bluegrass Evaluations at FFR Cooperative. P. R. Troutman					

^a1976 Kentucky Bluegrass Evaluations at FFR Cooperative.
P. R. Troutman

TABLE 17

Competitive ability of Kentucky Bluegrass Varieties in 0.75 in. Annual Bluegrass Turf at 14 Months ^a		
Plug Diameter (cm.)	Cultivar	
8.9 - 8.0	Warren's A-20 Touchdown, Parade	
	Glade, Baron, Brunswick	
7.9 - 7.0	Plush, Kenblue Warren's A-34	
	Adelphi, Sydsport	
6.9 - 6.0	Geronimo, Sodco Windsor, Nugget	
5.9 - 5.0	Pennstar Victa Bonnieblue	
4.9 - 4.0	Merion, Vantage Fylking	
3.9 - 3.0	Majestic, Campina Monopoly	
2.9 - 2.0	Park Galaxy	

^a1972 Regional Kentucky Bluegrass Trials at University of Illinois.
A. J. Turgeon

TABLE 18

Rhizome Production of Kentucky Bluegrass Cultivars in July, 1974 at Virginia Polytechnic Institute and State University ^a	
Variety	Number of Rhizomes per Square Foot
Plush	17
Adelphi	14
Baron	18
Bonnieblue	13
Brunswick	12
Fylking	9
Galaxy	19
Glade	13
Kenblue	8
Majestic	18
Merion	17
Monopoly	19
Nugget	11
Park	19
Pennstar	12
Sodco	14
Sydsport	15
Vantage	11
Victa	11
Windsor	12

^a1972 Regional Kentucky Bluegrass Trials at Virginia Polytechnic Institute and State University.
R. E. Schmidt

TABLE 19

Turf Density at FFR Cooperative ^a		
Variety	12 months	30 months
Rating: 1 = most dense; 9 = least dense		
Plush	5.4	2.5
Belturf	4.8	4.5
Cougar	4.8	3.5
Delta	4.2	6.5
Fylking	4.5	3.2
Geary	3.8	4.8

TABLE 19-continued

Turf Density at FFR Cooperative ^a		
Variety	12 months	30 months
Kenblue	4.0	7.8
Merion	5.5	4.8
Newport	4.0	5.0
Nudwarf	3.2	5.0
Nugget	5.4	7.2
Park	3.8	5.2
Pennstar	5.8	4.2
Sodco	7.2	6.5
S-21	3.5	7.8
S. Dakota Common	3.4	6.8
Windsor	4.5	5.5
LSD at 5% level	1.3	2.4

^aTurf Evaluations at FFR Cooperative.

P. R. Troutman

^bRatings taken 12 months and 30 months after seeding.

TABLE 20

Turf Dwarfness at FFR Cooperative ^a	
Variety	Dwarfness ^b
Rating: 1 = 10 cm; 9 = 30 cm	
Plush	2.9
Cougar	4.5
Delta	7.3
Fylking	6.8
Geary	5.9
Kenblue	7.3
Merion	3.5
Newport	5.1
Nudwarf	6.2
Nugget	2.2
Park	6.5
Sodco	3.9
S-21	5.5
S. Dakota Common	6.5
Mean	5.3
LSD at 5% Level	.7

^aBluegrass Evaluations at FFR Cooperative.

P. R. Troutman

^bRating is a mean of 12 observations from 1969-1974.

TABLE 21

Turf Color at FFR Cooperative ^a	
Variety	1976
Rating: 1 = dark green; 9 = light green	
Plush	4.7
Adelphi	2.3
Baron	3.7
Bonnieblue	2.7
Brunswick	1.7
Fylking	5.0
Glade	2.0
Kenblue	4.3
Majestic	3.0
Merion	2.3
Nugget	2.3
Park	7.3
Pennstar	4.7
Sodco	3.0
Sydsport	2.3
Vantage	4.7
Victa	4.0
Windsor	4.7
LSD at 5% Level	1.13

^a1976 Kentucky Bluegrass Evaluations at FFR Cooperative.

P. R. Troutman

TABLE 22

<u>Growing Season Color^a</u>					
Variety	Color				
	Rating: 1 = dark green; 9 = light green				
	4-24-70	5-21-71	6-10-70	9-9-72	Mean
Plush	3.0	4.0	4.0	4.3	3.8
Cougar	3.0	7.0	4.3	3.7	4.5
Delta	4.7	9.0	4.3	4.7	5.7
Fylking	3.1	5.0	5.0	4.4	4.4
Geary	5.3	8.7	7.3	5.3	6.6
Kenblue	5.0	8.7	7.0	4.7	6.4
Merion	2.7	3.0	4.3	2.0	3.0
Newport	3.8	7.3	4.4	4.7	5.0
Nudwarf	6.3	9.0	6.7	5.0	6.8

TABLE 22-continued

Growing Season Color ^a					
Variety	Color				
5 Nugget	3.3	1.7	2.4	2.6	2.5
Park	4.7	9.0	8.3	5.3	6.8
Sodco	2.6	2.7	3.2	2.8	2.8
S-21	8.0	8.3	8.3	7.7	8.1
S. Dakota Common	5.0	9.0	8.0	5.0	6.8
Mean					5.2
LSD at 5% Level	1.6	1.7	2.0	2.2	

10 ^aKentucky Bluegrass Evaluations at FFR Cooperative.

P. R. Troutman

TABLE 23

Early Spring Color at FFR Cooperative ^a	
Variety	Color
Rating: 1 = green; 9 = brown	
Plush	4.2
Cougar	6.5
Delta	3.8
Fylking	5.6
Geary	3.2
Kenblue	4.3
Merion	4.7
Newport	6.0
Nudwarf	3.8
Nugget	8.2
Park	3.5
Sodco	5.2
S-21	4.6
S. Dakota Common	4.8
Mean	4.9
LSD at 5% Level	2.4

^aKentucky Bluegrass Evaluations at FFR Cooperative.

P. R. Troutman

TABLE 24

Late Fall-Early Winter Color at FFR Cooperative ^a	
Variety	Color ^b
Rating: 1 = green; 9 = brown	
Plush	4.2
Cougar	7.1
Delta	7.9
Fylking	4.5
Geary	6.7
Kenblue	7.0
Merion	6.0
Nudwarf	5.8
Nugget	4.5
Park	6.5
Sodco	5.0
S-21	7.2
S. Dakota Common	7.1
Mean	6.1
LSD at 5% Level	1.0

^aBluegrass Evaluations at FFR Cooperative.

P. R. Troutman

TABLE 25

Leaf Blade Length, Width, and Angle ^a			
Variety	Leaf Blade Length (cm)	Leaf Blade Width (mm)	Leaf Blade Angle (degrees)
Plush	20.4	3.2	36.0
55 Fylking	22.6	2.1	42.0
Merion	21.3	3.4	51.0
Nugget	17.6	2.2	50.0
LSD at 5% Level	3.40	.62	8.56

^a1974 Greenhouse Evaluation at FFR Cooperative, West Lafayette, Indiana. Plants grown from tillers and replicated 6 times.

P. R. Troutman

TABLE 26

Thatch Depth at the University of Illinois ^a	
Variety	Centimeters
Plush	1.3
Adelphi	1.2
Baron	1.4
Bonnieblue	1.0

TABLE 26-continued

Thatch Depth at the University of Illinois ^a		
Variety	Centimeters	
Brunswick	1.5	5
Fylking	1.3	
Galaxy	1.2	
Glade	1.5	
Kenblue	1.0	
Majestic	1.4	
Merion	1.0	10
Monopoly	1.1	
Nugget	1.5	
Park	.7	
Pennstar	1.2	
Sodco	1.4	
Sydsport	1.2	
Vantage	1.0	15
Victa	1.5	
Windsor	1.2	

^a1972 Regional Kentucky Bluegrass Trials at the University of Illinois.
A. J. Turgeon

TABLE 27

Root Strength at Virginia Polytechnic Institute and State University ^a			
Variety	6 weeks growth	8 weeks growth	Mean
Measured in pounds of force required to pull one square foot of sod from soil surface.			
Plush	325	345	335
Adelphi	415	385	400
Baron	365	183	274
Bonnieblue	338	258	298
Brunswick	333	210	272
Fylking	373	185	279
Galaxy	310	245	278
Glade	345	178	262
Kenblue	252	353	302
Majestic	425	278	351
Merion	315	218	266
Monopoly	343	283	313
Nugget	423	225	325
Park	248	260	254
Pennstar	323	218	270
Sodco	328	280	304
Sydsport	410	268	339
Vantage	350	395	372
Victor	386	260	323
Windsor	308	335	322

^a1972 Regional Kentucky Bluegrass Trials at Virginia Polytechnic Institute and
State University.
R. E. Schmidt

TABLE 28

Variety	Heat Tolerance of Kentucky Bluegrass Cultivars at Virginia Polytechnic Institute and State University ^a			
	% Green After Heat	Root Strength Pounds	% Ground Cover	
Plush	53	85	72	
Adelphi	30	58	58	
Baron	40	76	72	
Bonnieblue	37	59	53	
Brunswick	52	65	73	
Fylking	33	41	42	
Galaxy	8	56	50	
Glade	35	43	50	
Kenblue	65	98	77	
Majestic	30	56	45	
Merion	33	77	53	
Monopoly	43	46	52	
Nugget	38	62	47	50
Park	48	93	70	
Sodco	45	76	68	
Sydsport	35	61	57	
Vantage	35	78	45	
Victa	35	50	55	
Windsor	40	70	73	65

^a1972 Regional Kentucky Bluegrass Trials at Virginia Polytechnic Institute and
State University.
R. E. Schmidt

TABLE 29

Lodging Resistance at Spokane, Washington ^a		
Variety	Rating: 1 = Lodged; 5 = Erect	
Plush		3.2
Cougar		4.8
Fylking		1.0
Kenblue		3.8
Merion		3.5
Newport		4.5
Nugget		5.0
Sodco		3.5
S. Dakota Common		3.0
LSD at 5% Level		1.98

^a1969 FFR Kentucky Bluegrass Seed Production Evaluation at Spokane, Washing-
ton.
Keith Wigen

TABLE 30

Seed Head Height at Spokane, Wash. ^a		
Variety		Height
	Rating: 1 = short culm; 5 = tall culm	
20	Plush	4.0
	Cougar	3.0
	Fylking	2.8
	Kcnblue	4.0
	Merion	3.5
	Newport	4.0
	Nugget	1.0
25	Sodco	3.0
	S. Dakota Common	4.5
	LSD at 5% Level	1.30

^a1969 FFR Kentucky Bluegrass Seed Production Evaluation at Spokane, Washing-
ton.
Keith Wigen

TABLE 31

Seed Head Emergence at Spokane, Washington ^a		
Variety	Avg. Rating ^b	
Plush		3.0
Fylking		3.0
Kenblue		3.5
Merion		1.5
Newport		3.5
Sodco		2.5
S. Dakota Common		3.5
Nugget		4.0

^a1969 FFR Kentucky Bluegrass Seed Production Evaluation at Spokane, Washing-
ton.
Keith Wigen

^b1 = no head emergence
2 = 1 - 25% emergence
3 = 50 - 75% emergence
4 = 75 - 100% emergence

TABLE 32

Seed Yield Evaluation at Spokane, Washington ^a			
Variety	1970 Mean Seed Yield kg/ha	1971 Mean Seed Yield kg/ha	2-Year Mean kg/ha
Plush	326.17	929.59	627.88
Fylking	244.63	1,223.15	733.89
Kenblue	212.06	962.34	587.20
Merion	195.66	848.05	521.86
Newport	130.51	782.81	1456.66
Nugget	81.54	521.88	301.71
Sodco	97.94	538.18	318.06
S. Dakota Common	163.09	913.12	538.11
Mean			510.67
LSD at 5% Level	130.51	375.10	

^a1969 FFR Kentucky Bluegrass Seed Production Evaluation at Spokane, Washing-
ton.
Keith Wigen

TABLE 33

Seed Size and Color at FFR Cooperative ^a			
Variety	Seed Length (mm)	Seed Width (mm)	Seed Color
Rating: 1 = light tan; 9 = dark brown			
Plush	2.9	.69	6.3

TABLE 33-continued

Seed Size and Color at FFR Cooperative ^a			
Variety	Seed Length (mm)	Seed Width (mm)	Seed Color
Adelphi	2.6	.61	8.0
Baron	2.5	.58	3.0
Bonnieblue	2.7	.69	5.7
Fylking	2.8	.76	6.0
Glade	2.5	.56	3.3
Kenblue	2.5	.55	2.7
Majestic	2.5	.66	6.2
Merion	2.4	.61	1.0

TABLE 33-continued

Seed Size and Color at FFR Cooperative ^a			
Variety	Seed Length (mm)	Seed Width (mm)	Seed Color
5 Nugget	3.2	.79	9.0
LSD at 5% Level	.169	.004	1.38

^aSeed Characteristics Evaluation at FFR Cooperative.
P. R. Troutman

10 What is claimed is:
1. A new and distinct variety of bluegrass plant, *Poa pratensis*, substantially as described and illustrated, and particularly characterized by a medium-green color, highly apomictic, vigorous rhizome production, and
15 good disease tolerance.
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U.S. Patent

Feb, 13, 1979

Plant 4,380

