

TURF EXPERIMENTS
at
Rhode Island Agricultural Experiment Station
1939

Lawn Plats

1. Old Lawn Plats: established in 1905. Keeping soil acid vs. alkaline in reaction, when seeded with Kentucky Bluegrass, Rhode Island bent, Redtop, and Red Fescue.
2. Effects of compost topdressing on different grasses.
3. Effect of nitrate, organic, and ammonia nitrogen on Kentucky bluegrass and Piper velvet bent.
4. Effect of different soil reactions on Rhode Island and velvet bent plats fertilized with nitrate of soda and with sulfate of ammonia plus lime.
5. Results of arsenate of lead and other weed treatments.
6. Plats planted with different grasses as compared with colonial bent.
7. Persistence of Wild White clover and White Dutch clover in Kentucky bluegrass mixture.
8. Disease control study.
9. Fescue comparison.

Golf Green Plats

1. Section A: Comparison of different strains and varieties of bent grasses. Stolons vs. seed.
Reproduction test -- individual plants from different grasses.
Comparison of treatments for prevention of brownpatch diseases.
2. Section D: Comparison of fertilizer ratios on Piper velvet, Rhode Island colonial, and Washington creeping bents.
3. Section E: Comparison of different sources of nitrogen on Piper velvet, Rhode Island colonial, and Washington creeping bents.

Seed Plats

1. Section B: Comparison of individual plants from promising strains of velvet and colonial bents.
2. Section C: Fertilizer test with velvet bent.
A test of Piper velvet bent grown for seed with different kinds of fertilizer mixtures and with and without lime.
3. Velvet bents for increase of seed: Piper and Kernwood velvet bents from several plantings.

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Test of Varieties and Strains of Grasses for Greens

Plats are 20 x 20 feet. Compost is applied in April, June, August, and October on all plats and every month on Creeping bents. Approximately 12 pounds per 1000 square feet of a 9-9-7 complete fertilizer has been applied in April and the season at 2½ to 5 pounds per 1000 square feet.

36 SEASIDE bent R. I. 37 seed	35 TRIPLE A Bent seed	34 PIPER stolons	33 METROPOLITAN seed*	32 WASHINGTON c. b. seed B-1	31 2-6-3 6-10-3 0-0-0 6-2-3 R. I. COLONIAL 6-6-5 6-6-3 Bent Sect. C 6-6-1 4-6-3
30 ASTORIA bent R. I. 34 seed	29 OREGON bent seed	28 FLOSSMORE c. b. stolons	27 N. Z. SEASIDE B-8 c. b.	26 (lime) WASHINGTON c. b. stolons (lit. lime)	25 6-6-3 6-6-5 4-6-3 6-6-1 R. I. COLONIAL 2-6-3 6-10-3 Bent Sect. C 0-0-0 6-2-3
24 F. RIVER Hi'land "C" v. b. v. b. stolons stolons	23 HYPER YORK- v. b. shire* seed B-20	22 PIPER v. b. seed*	21 KERN WOOD v. b. v. b. seed seed* B-9	20 B. P. I. HIGHLAND v. b. seed* B-14	19 NEWPORT v. b. seed
18 PIPER K'WOOD Inc. #1 Inc. seed seed B. P. I. MT. RIDGE stolons	17 YORKSHIRE v. b. stolons	16 PIPER v. b. stolons	15 MERION v. b. stolons seed	14 B. P. I. HIGHLAND v. b. stolons (lime) (lime)	13 NEWPORT v. b. stolons
12 Selfed B-11 plants seed*	11 WESTERN bent seed	10 P. E. I. N. Z. Col. Col.	9 DES MOINES SIOUX c. b. c. b. stolons stolons	8 R. I. COLONIAL Pr. Is. L. Comp.	7 P. E. I. seed R. I. COLONIAL New Zealand seed
6 Selfed B-17* plants	5 WOOD- HILL B-4* c. b.	4 NARRAGANSETT c. b. seed (lit. lime)	3 SOUTH GERMAN MIXED seed (lit. lime)	3 PENN. PENN? v. b. v. b. 7(30) 1 4(30) 2 PENN. PIPER v. b. v. b. 3(30) 3 stolons	1 WYKAGYL NICHOL v. b. AVE. #1 v. b. v. b. VALENT. NICHOL #2 AVE. #2 v. b. v. b.
COOS CO. bent seed	SEASIDE bent Marshland, Ore.				



= Each strip from a different self-pollinated plant from our nursery.

= A 10-foot strip running through the center of all plats is treated for brownpatch with mercury chemicals during July, Aug., and Sept.

* = Seed from the same strain grown in our seed section.

Abbreviations = "c. b.", creeping bent; "v. b.", velvet bent.

/// = Low area covered with ice

Water - Feb 12, 40

Highland in wet area.

SECTION C

Fertilizer Test for Piper velvet bent grown for Seed

Plats are 11 x 22 feet (1/180 A.). All were seeded with Piper velvet bent in August, 1935. The figures refer to the percentages of nitrogen, phosphorus, and potash in the fertilizer mixtures used. The fertilizer amounts to 1000 pounds per acre of each formula. Sulfate of ammonia, superphosphate, and muriate of potash used for the mixture. Limestone has been used on all plats at 1 ton per acre in 1932 and 1938, except the east halves of plats 1 to 7. In 1939 limestone applied on west halves of plats 1 to 7 at rate of 1 ton per acre.

		N								
		35	34	33	32	31	30	29		
		2-6-3	6-10-3	6-6-1	0-0-0 Check	6-6-3	4-6-3	6-2-3		
		28	27	26	25	24	23	22		
		4-6-3	6-6-1	6-6-3	6-2-3	2-6-3	0-0-0	6-10-3		
		21	20	19	18	17	16	15		
W		0-0-0 Check	4-6-3	6-2-3	2-6-3	6-10-3	6-6-3	6-6-1	E	
		14	13	12	11	10	9	8		
		4-6-3	2-6-3	6-10-3	0-0-0 Check	6-6-1	6-2-3	6-6-3		
		7	6	5	4	3	2	1		
		2-6-3	0-0-0	6-6-1	6-6-3	4-6-3	6-10-3	6-2-3		
		S								

SECTION D

Test of Fertilizer Ratios on Three Popular Bent Grasses

Plats are 10 x 10 feet. Grasses are divided by fescue paths. Topsoil (Sterilized) is applied on Colonial and velvet bents bimonthly and on creeping bents every month.

Fertilizers are applied according to the plan below in which one block of grass is labelled with the respective ratios. Approximately 34 pounds per 1000 square feet of each fertilizer is used during the season. Approximately 10 pounds per 1000 square feet was applied in September, 1932, as a preceding fertilizer.

Comparisons between the effects of nitrogen, phosphorus, and potash may be had as follows:

	Nitrogen	Phosphorus	Potash	Phos. & Potash
Low amount	5-6-4	10-0-4	10-6-0	10-0-0
Medium amount	10-6-4	10-6-4	10-6-4	
High amount	20-6-4	10-12-4	10-6-8	

	12	11	10	9	8	7	6	5	4	3	2	1
F	R. I. Colonial Bent (seed)			Piper velvet bent (stolons)				Washington creeping bent (stolons)				
E												
D	Washington creeping bent (stolons)			R. I. Colonial Bent (seed)				Piper velvet bent (stolons)				
C												
B	Piper velvet bent (stolons)			Washington creeping bent (stolons)				R. I. Colonial bent (seed)				
A												

	4	3	2	1
B	20-6-4	10-6-4	10-6-8	10-6-0
	R. I. Colonial Bent (seed)			
A	5-6-4	10-12-4	10-0-4	10-0-0

Test for control of brownpatch

Detail of above plats

SECTION E

A study to determine the effect of ammonia, nitrate, and organic nitrogen on popular kinds of bent grass.

The same grasses planted in Section D have been planted here. Grasses are separated by paths of fezcue turf. Plats are 10 x 10 feet. Topsoil (sterilized) mixed with a volume of 1/3 sand is applied on colonial and velvet bents bi-monthly and on creeping benst every month, from April to October. The fertilizers are applied according to the plan below. The same amount of nitrogen, phosphorus, and potash that is applied on the 10-6-4 plats in Section D is used here. Approximately 10 pounds per 1000 square feet was applied in September, 1933, as a pre-seeding fertilizer. The fertilizer on all plats is of the same 10-6-4 ratio. The nitrogen applied on Section D from sulfate of ammonia, 5/10; milorganite, 3/10; and nitrate of soda, 2/10. Plan of plats and treatments is as follows:

	15	14	13	12
F	Mixture as on Section D	Mixture Sul. ammo. $\frac{1}{2}$ Milorgan. $\frac{1}{2}$	Sul. Amm.	
	WASHINGTON CREEPING (stolons)			
E	Organic (c.s.meal)	Mixture as on Section D	Organic (Milorg.)	
D	Mixture as on Section D	Mixture Sul. amm. $\frac{1}{2}$ Milorgan. $\frac{1}{2}$	Sul. amm.	
	PIPER VELVET (stolons)			
C	Organic (c.s.meal)	Mixture as on Section D	Organic (Milorg.)	
B	Mixture as on Section D	Mixture Sul. amm. $\frac{1}{2}$ Milorgan. $\frac{1}{2}$	Sul. amm.	
	RHODE ISLAND COLONIAL (seed)			
A	Organic (c.s.meal)	Mixture as on Section D	Organic (Milorg.)	
	15	14	13	12