



Forage Research in Texas

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PERFORMANCE OF TAM WINTERGREEN HARDINGGRASS

AND 16 TALL FESCUES AT DALLAS, TEXAS

OBJECTIVE:

To determine the performance of TAM Wintergreen hardinggrass and 16 tall fescue lines or varieties at Dallas, Texas.

PROCEDURE:

Plots were established at Dallas, Texas on Austin Silty Clay with the material listed in Table 1 in September, 1975. The experiment was a randomized block with three replications and plots consisted of 4 rows, 12 ft. long and space 1 ft. apart. The plots were fertilized with 0-40-0 per acre at planting and top-dressed with 50-0-0 per acre in February, 1976, in September, 1976 with 68-46-0 per acre and with 68-46-0 in September, 1977.

Ten feet of the two center rows were harvested using a flail-type harvester on 5-4-76, 6-2-76, 2-25-77, 3-15-77, 5-24-77 and 4-26-78. Percent protein was determined on all harvest except 2-25-77 date.

RESULTS AND DISCUSSION:

Several tall fescue lines produced more forage than hardinggrass the first two years of the study but only two lines 1002 and TFM had higher average yields than hardinggrass (Table 2). The large differences among tall fescue lines in 1977-78 were due to stand losses with only TFM tall fescue and hardinggrass having adequate stands at the conclusion of this test. The low yields and stand losses were contributed to both site selection and the extremely dry fall season in 1976 and 1977. The test site was upland and rather shallow soil depth when compared to those sites where tall fescue will persist in this area.

Protein content varied from 8.5 to 23.2 for the tall fescues and hardinggrass varied from 23.8 to 10.9 (Table 3). The lowest percent protein for all entries was on 5-24-77 harvest date when the average temperature the 30 days prior to harvest was 66° F which was higher than the other dates.

The variation among tall fescue lines indicates that in a breeding program the protein content should be monitored closely.

TABLE 1

SOURCE OF PLANT MATERIAL

Strain - Species	Source
Tall fescue TF0070	North American Plant Breeders - Ames, Iowa
Tall fescue MO 96	D. A. Sleper - University of
H1	Missouri - Columbia
H2	
Tall fescue Kentucky 31	R. C. Buckner - University of
Kenwell	Kentucky
Kenhy	
46G1-316	
56G1-318	
56G1-319	
Tall fescue Fawn	R. V. Frakes - Oregon State
TFK	University
TFM	
1000	
1001	
1002	
TAM Wintergreen Hardinggrass	

TABLE 2

HERBAGE YIELD OF HARDINGGRASS AND TALL FESCUE

	Year			Mean
	75-76	76-77	77-78	
	----- pounds dry matter per acre -----			
Hardinggrass	5144	4206	3053	4134
Tall fescues				
53G1-319	3656	4356	1486	3166
46G1-316	5814	4041	911	3589
56G1-318	5012	4165	1879	3685
TFK	5630	4917	733	3760
Kenhy	6088	3627	709	3475
1002	6190	5717	719	4209
Fawn	4511	5298	1047	3619
Ky 31	3630	4984	1465	3360
1000	3317	4648	1305	3090
Kenwell	2966	4648	919	2844
1001	6323	4175	1287	3928
H2	5514	4301	988	3601
TF0070	4623	4445	1133	3400
MO 96	3470	3675	1003	2716
H1	3193	4579	1315	3029
TFM	5606	4857	2137	4200
Mean of Tall fescues	4721	4527	1190	
L.S.D. (.05)	2158	1148	498	

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TABLE 3

PROTEIN CONTENT OF HARDINGGRASS AND TALL FESCUE HERBAGE AT 5 HARVEST DATES

Species	Harvest Date					Mean
	5-4-76	6-2-76	3-15-77	5-24-77	4-26-78	
	----- % -----					
Hardinggrass	16.9	15.6	18.9	10.9	23.8	17.2
Tall fescue						
53G1-319	17.1	15.0	16.5	10.4	21.4	16.1
46G1-316	17.4	16.3	18.4	10.0	22.4	16.9
56G1-318	18.8	16.6	17.1	9.9	21.4	16.8
TFK	15.6	15.4	16.7	8.5	21.1	15.5
Kenhy	17.3	16.2	15.6	10.1	23.6	16.6
1002	15.7	15.6	17.8	10.0	20.9	16.0
Fawn	15.6	15.4	17.7	9.1	20.7	15.7
Ky 31	16.2	15.4	16.0	9.3	19.4	15.3
1000	19.2	17.2	19.6	12.4	21.4	18.0
Kenwell	21.0	19.1	17.4	10.2	23.2	18.2
1001	16.8	15.0	17.6	9.2	21.4	16.0
H2	16.8	15.8	16.1	9.6	20.8	15.8
TF0070	16.1	15.2	15.7	9.4	21.5	15.6
MO 96	15.4	15.1	16.3	10.4	21.7	15.8
H1	17.1	15.6	14.9	9.5	21.5	15.7
TFM	14.9	16.5	18.3	8.5	19.8	15.6
Mean of Tall fescues	16.9	16.0	17.0	9.8	21.4	16.2
L.S.D. (.05)	2.9	1.8	2.5	1.8	2.3	