DISCUSSION

The bermudagrass variety test was clipped four times during the 2000 growing season: May 25, June 20, July 12, and August 11 (table 1). Forage yields were moderate through the early part of the season, since 86 percent of the average total (4,967 pounds) was harvested by July 12. Late-season forage production was curtailed by dry conditions in August, September, and early October. This year's production was down 34 percent compared with last year's, and the yields were the lowest recorded in this planting since 1997 (table 2). The coefficient of variation for total 2000 yields (12.2 percent) was higher than last year's but is still a good indicator that the data are a reliable comparison of the varieties.

The five-year forage yield summary for this test is shown in table 2. Again this season (table 1), 'Tifton 85' produced the most forage. It exhibited the highest yields and consistency over the five-year period. Mild winters have prevailed since the initiation of the test in 1996 and have not seriously cold-tested 'Tifton 85', 'Jiggs', and 'Russell'. Over the life of the test, neither 'Jiggs' nor 'Russell' was as productive under the mild conditions as 'Tifton 85', 'Coastal', 'Hardie', and 'Midland 99'. Data from research conducted in the more southern states indicate that 'Tifton 85' is less cold tolerant than 'Coastal', which is grown only as far north as southern Oklahoma. Therefore, we still lack sufficient cold-weather data to adequately determine the survival consistency of 'Tifton 85' stands in southern Oklahoma and northern Texas. We anticipate that the 2000–2001 winter will provide some indication of cold tolerance.

Forage composition during 2000 is shown in table 3 for each entry. The reported averages were weighted by the amount of forage harvested at each clipping. The average percentage of total forage produced at each clipping was 35 (May 25), 25 (June 20), 26 (July 12), and 14 (August 11). The average crude protein was 11.5 percent in 2000 compared with 13.1 percent in 1999. This year, crude protein was highest at the second clipping (June 20) and lowest at the fourth (August 11).

Recently there has been increasing interest in bermudagrass established from seed rather than sprigs. Seeded varieties are less expensive and can be used on smaller acreages and in areas where good seedbed preparation for sprigging is not feasible or economical. Several seeded varieties are available on the market. Some of them are selected lines and others are mixtures of varieties or lines. In May 2000 we initiated a study at Ardmore to compare growth and persistence of ten seeded varieties and mixtures with that of 'Tifton 44', 'Midland 99', and the experimental strain 74X12-6. We anticipate solid stands in the spring of 2001. The Noble Foundation will publish forage yields and other pertinent information from the study.

Table 3. Bermudagrass forage composition, 2000; Ardmore, Oklahoma

Variety or Strain	Crude Protein	Phosphorous	Potassium	Calcium	Magnesium
	Weighted average of four forage clippings (%)				
Tifton 85	11.1	0.232	1.61	0.52	0.222
74X12-6	11.7	0.204	1.31	0.50	0.249
STW 15-11	11.2	0.200	1.21	0.45	0.240
Midland 99	11.4	0.225	1.52	0.57	0.242
Tifton 44	11.6	0.226	1.45	0.48	0.235
Coastal	11.1	0.247	1.41	0.53	0.205
Russell	11.6	0.251	1.56	0.68	0.190
Hardie	10.5	0.200	1.28	0.44	0.255
Jiggs	10.8	0.247	1.56	0.78	0.287
Midland	12.2	0.228	1.41	0.51	0.222
Quickstand	13.7	0.248	1.59	0.58	0.234
	Average				
	11.5	0.228	1.45	0.55	0.235

SOME INFLUENCING FACTORS

Location: Headquarters Farm, Ardmore, Oklahoma.
Soil type: Weatherford fine sandy loam.
Sprigging date: May 14, 1996.
Sprigging method: Sprigged by hand in 2-foot rows; sprigs 2 feet apart in rows (twelve sprigs per plot).
Plot size: 7 feet x 12 feet.
Replications: Three.
Fertilizer: Starter was 100 pounds of N and 60 pounds of K_2O per acre on April 20, 2000. Top-dress was 100 pounds of N per acre on June 5 and June 27, 2000.
Weed control: Applied 2,4-D plus pendimethlin herbicide on April 10, 2000, for control of winter broad-leaved weeds and crabgrass. Excellent control of crabgrass throughout the growing season.
Clipping procedure: Grasses were clipped to a height of 3 inches to simulate rotational grazing. The test varieties were clipped when more productive entries reached a suitable grazing stage. Clipping dates during the season are shown in table 1.
Winter damage: Insignificant.
Temperatures: The low temperature was 17°F on January 30, 2000. Temperatures were 20°F or lower on three dates: January 24 and 29, 20°F; and January 30, 17°F.

Rainfall (Inches)

Month	98-year average	1999	2000
January	1.78	1.95	2.24
February	2.08	0.12	1.63
March	2.89	3.70	3.55
April	3.96	4.03	3.04
May	5.27	3.93	0.83
June	3.94	3.49	7.28
July	2.76	0.66	3.11
August	3.44	1.51	0.00
September	3.57	6.26	0.72
October	3.70	2.19	9.46
Total	33.39	27.84	31.86

Information in this report is inconclusive but should be of great assistance when used with similar information from other sources.

All available information pertaining to the subject should be used in making conclusions and decisions. This publication is intended to furnish supplemental information to aid decision-making and idea formation.

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2000

Forage Yields from **Bermudagrass** Varieties and Strains

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Table 1. Dry forage yields from bermudagrass, 2000; Ardmore, Oklahoma

Variety or Strain[1]	Clipping Dates 5/25	6/20	7/12	8/11	2000 Total
	Pounds/acre				
Tifton 85	2,605	1,637	1,584	892	6,718
74X12-6	2,002	1,935	1,685	864	6,486
STW 15-11	2,561	1,314	1,451	1,036	6,362
Midland 99[2]	1,903	1,762	1,673	827	6,165
Tifton 44	2,106	1,452	1,469	983	6,010
Coastal	1,529	1,717	1,832	772	5,850
Russell	2,070	1,252	1,712	806	5,840
Hardie	2,265	1,247	1,433	821	5,766
Jiggs	2,209	1,172	1,596	638	5,615
Midland	1,729	1,287	1,175	787	4,978
Quickstand	1,115	1,161	992	498	3,766
	Average				
	2,009	1,449	1,509	811	5,778
	L.S.D.[3] (0.05)				
	NS	273	269	160	1,199
	C.V.[4] (%)				
	25.7	11.1	10.5	11.6	12.2

[1]74X12-6 and STW 15-11 are experimental strains from Oklahoma State University.
[2]'Midland 99' was designated as experimental strain 74X21-6 in 1996, 1997, and 1998.
[3]Least significant difference.
[4]Coefficient of variation.

Table 2. Five-year dry forage yields from bermudagrass (1996–2000); established May 14, 1996, Ardmore, Oklahoma

Variety or Strain	1996	1997	1998	1999	2000	Five-Year Total (1996–2000)	Five-Year Average (1996–2000)	Average Crude Protein (%)
	Pounds/acre							
Tifton 85	6,796	7,020	12,975	9,620	6,718	43,129	8,626	12.8
74X12-6	6,424	5,189	11,153	9,756	6,486	39,008	7,802	12.6
Coastal	5,134	6,300	12,077	9,481	5,850	38,842	7,768	13.4
Hardie	6,696	5,530	9,747	9,606	5,766	37,345	7,469	11.9
Midland 99	5,407	5,352	10,604	8,751	6,165	36,279	7,256	12.7
STW 15-11	4,228	4,356	10,575	9,714	6,362	35,235	7,047	12.5
Russell	4,444	4,229	10,526	9,393	5,840	34,432	6,886	12.6
Jiggs	5,424	4,623	10,195	8,301	5,615	34,158	6,832	12.8
Tifton 44	5,188	4,788	8,773	7,725	6,010	32,484	6,497	12.6
Midland	5,495	3,785	8,195	7,749	4,978	30,202	6,040	13.2
Quickstand	3,943	1,750	5,930	5,646	3,766	21,035	4,207	13.9
	Average							
	5,380	4,811	10,067	8,703	5,778	34,739	6,948	12.8
	L.S.D. (0.05)							
	1,402	1,516	2,029	1,277	1,199	5,465		
	C.V. (%)							
	15.3	18.5	11.8	8.6	12.2	9.2		