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NON-CIRCULATING Forages

Alfalfa

Red Clover

Sorghum Sudan

Forage Sorghum

1981 Missouri Crop Performance



UNIVERSITY OF
MISSOURI
APR 17 '82

Minor • Morris • Mattis • Burdick • Mason

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ACKNOWLEDGEMENTS

The authors recognize and express their appreciation to Norman Justus, Superintendent, Southwest Center for his part in making the 1981 forage trials possible. Appreciation is also extended to Pat Cook for her typing of this special report.

MISSOURI CROP PERFORMANCE

1981

FORAGES

INTRODUCTION

This report is a contribution of the Department of Agronomy, University of Missouri Agricultural Experiment Station, which reports on Research Project 363. The work was supported in part by funds from the Missouri Seed Improvement Association and fees from the companies submitting varieties/hybrids for evaluation.

Forage performance trials were conducted at the Southwest Center near Mt. Vernon (see figure 1 for location). Fifty-six alfalfa varieties, three red clover varieties, seventeen sorghum sudan hybrids, and fifteen forage sorghum hybrids were evaluated at the Southwest Center.

All producers of forage seed were eligible to enter varieties or hybrids in the 1981 evaluation trials. Participation was voluntary, and no control was exercised by the program over which, or how many entries were submitted. However, to finance the evaluation program, a fee was charged for each entry by the seed producer.

The large number of varieties/hybrids available makes selection of a superior one difficult. To select intelligently, a reliable unbiased up-to-date source of information which will permit valid comparisons among available sources is needed. The objective of the University of Missouri's performance testing program is to provide this information. The tests are conducted under as uniform conditions as possible, and small plots are used to reduce the chance of soil and climatic conditions occurring between one variety plot and another. Results obtained should aid the individual grower to judge the relative merits of many of the commercial forage varieties/hybrids available in Missouri today.

COMPARING VARIETIES AND HYBRIDS

The performance of a variety or hybrid cannot be measured with absolute precision. Uncontrollable variability is involved in the determination of each yield average. The variability is often the result of soil disuniformity, but many other conditions may contribute to it. Because variability exists in all field experimentation, statistics are used as a tool to assist with making decisions. The statistical tool used in the analysis of trials reported here is the test of least significant difference (L.S.D.). The L.S.D. is quite simple to apply; when two entries are compared and the difference between them is greater than the L.S.D., the entries are judged to be significantly different. Differences smaller than the L.S.D. may have occurred by chance and are judged to be non-significant.

Performance may seem inconsistent from location to location and from year to year because of differences in rainfall, temperature, soil fertility, diseases, insects, and other factors. To obtain an improved estimate of relative performance, results from more than one location or year should be considered. In this publication, an effort has been made to facilitate comparisons across years or locations.

In each trial, the "top yielding" varieties or hybrids have been identified. These varieties/hybrids are those which did not yield significantly less than the highest yielding variety/hybrid in the test. They are denoted in the tables by an asterisk (*) next to their yield. Thus by going down a column, the highest yielding varieties/hybrids can be readily identified. By going across, the relative performance of a variety/hybrid during several years or at several locations can be evaluated. From the standpoint of yield, the most desirable varieties/hybrids will be those which are among the "top yielding" varieties/hybrids (that is, have an asterisk) the greatest number of times.

TABLE 1. CULTURAL PRACTICES OF THE 1981 FORAGE TRIALS.

LOCATION (COUNTY)	COOP- ERATOR	N-P205-K20	HERBICIDE	PEST- ICIDE	DATE OF PLANT.	DATE OF HARVEST
ALFALFA (20 VARIETIES) & RED CLOVER						
MT. VERNON (LAWRENCE)	NORMAN JUSTUS	0-120-441 + 2# BORON	NONE	SUPRACIDE	FALL 1980	4-29 6-09 7-13 8-13 9-17
ALFALFA (36 VARIETIES)						
MT. VERNON (LAWRENCE)	NORMAN JUSTUS	0-120-441 + 2# BORON	NONE	SUPRACIDE	FALL 1978	4-28 6-03 7-07 8-05 9-16
SORGUM SUDAN						
MT. VERNON (LAWRENCE)	NORMAN JUSTUS	300-100-100	RAMROD + ATRAZINE	MESUROL	4-28	7-09 7-30 9-03
FORAGE SORGUM						
MT. VERNON (LAWRENCE)	NORMAN JUSTUS	200-100-100	RAMROD + ATRAZINE	MESUROL	4-28	10-21 10-22

TABLE 2. RAINFALL AND TEMPERATURE DURING 1981.

LOCATION	MONTH	RAINFALL			TEMPERATURE		
		INCHES	DEPART. FROM NORMAL	RAINY DAYS	F	DEPART. FROM NORMAL	90° OR ABOVE
MT. VERNON	MARCH	2.2	--	4	44.5	--	0
	APRIL	3.2	-1.3	5	62.4	+5.4	0
	MAY	4.0	-1.6	8	61.4	-3.8	0
	JUNE	11.4	+6.2	10	74.2	+0.5	0
	JULY	3.1	-0.4	6	78.6	+0.7	17
	AUGUST	6.9	+3.8	6	73.7	-3.5	3
	SEPT.	1.4	-2.7	2	68.4	-1.2	0
	OCT.	7.9	+4.0	10	56.7	-2.8	0

-- DATA NOT AVAILABLE.

FIGURE 1. MISSOURI FORAGE TRIAL LOCATION



Outline map of Missouri with test location indicated by a ●.

PART I

ALFALFA AND RED CLOVER

EXPERIMENTAL PROCEDURES

Field Plot Design. The trial of 36 alfalfa variety was arranged in a lattice design with three replications. Plots were 5 feet wide and 20 feet long. The trial with 20 alfalfa and three red clover varieties was arranged in a complete randomized block with four replications. Plots were 5 feet wide and 12 feet long. At harvest, the ends of each plot were trimmed and a single swath was taken in the center of each plot for yield determination.

Cultural Practices. The tests were hand-planted and harvested with a modified flail chopper. Details of the management practices followed at each location are given in Table 1, page 4. Monthly rainfall and temperature data are given in Table 2, page 4.

Data Recorded. Total weights were taken on each plot at harvest. A sub-sample was oven-dried to determine the percentage dry weight. In the following tables, yield is presented as tons of dry matter per acre.

RESULTS

Five harvests were made on each trial. Climatic conditions encountered during the growing season were favorable for high yields. The combination of above average rainfall and below average temperatures produced yields above those of 1980. Yields of individual varieties ranged from 6.96 to 5.95 tons per acre on the trial of 36 alfalfa variety (Table 3) and 5.87 to 4.12 tons per acre on the trial of 20 alfalfa variety (Table 5). Red clover variety yields ranged from 2.62 to 2.54 tons per acre (Table 7).

In each trial, varieties which did not differ statistically from the highest yielder at that location are denoted by an asterisk (*) for easy identification. Increased confidence can be placed in results from more than one year since they represent results from a larger sample of climatic conditions (Table 4).

TABLE 3. DRY MATTER PRODUCTION OF 36 ALFALFA VARIETIES GROWN ON THE SOUTHWEST CENTER NEAR MT. VERNON, MO (LAWRENCE CO.) IN 1981. SEEDED: FALL 1978.

BRAND/VARIETY	HARVESTS-1981					TOTAL
	4-28	6-3	7-7	8-5	9-16	
	-----TONS/ACRE-----					
FFR HIPHY	1.71	1.37	1.56	1.24	1.08	6.96**
N.A.P.B. APOLLO	1.70	1.35	1.48	1.27	1.09	6.92*
WATERMAN-LOOMIS 311	1.67	1.35	1.50	1.21	1.06	6.86*
PIONEER 531	1.62	1.30	1.55	1.20	1.13	6.85*
SEED KEM FAME	1.62	1.29	1.55	1.20	1.17	6.84*
CODY	1.46	1.26	1.67	1.27	1.07	6.78*
NORTHRUP KING K7-30	1.60	1.25	1.57	1.07	1.24	6.71*
LAND O'LAKES EPIC	1.62	1.32	1.46	1.30	1.00	6.69*
WATERMAN-LOOMIS 312	1.55	1.29	1.50	1.23	1.10	6.67*
P-A-G TRIDENT	1.58	1.32	1.53	1.20	1.00	6.63*
PIONEER 545	1.61	1.26	1.49	1.22	1.08	6.61*
FFR CLASSIC	1.63	1.20	1.53	1.10	1.04	6.56
FUNK G-7730	1.64	1.22	1.49	1.16	0.98	6.55
NORTHRUP KING K7-28	1.64	1.21	1.47	1.19	1.03	6.51
NS 82-P2	1.70	1.23	1.42	1.14	0.99	6.47
N.A.P.B. VANGARD	1.53	1.22	1.53	1.13	1.03	6.47
COOP OLYMPIC	1.62	1.20	1.57	1.12	0.95	6.46
MID STATE WL 318	1.48	1.28	1.46	1.18	1.04	6.46
DEKALB BRAND 130	1.61	1.17	1.49	1.13	1.02	6.46
CAL/WEST C/W-68	1.57	1.23	1.49	1.10	1.06	6.45
CAL/WEST C/W-3	1.52	1.25	1.45	1.11	1.08	6.44
MFA TROPHY BRAND	1.38	1.28	1.48	1.21	1.03	6.43
KANZA (KCC-72)#	1.49	1.18	1.52	1.18	1.04	6.39
WATERMAN-LOOMIS 220	1.61	1.26	1.40	1.16	0.97	6.37
MFA TEMPO	1.56	1.21	1.42	1.14	0.98	6.37
PIONEER 524	1.69	1.18	1.38	1.03	1.08	6.37
NORTHRUP KING K7-26	1.58	1.16	1.48	1.13	0.97	6.35
NORTHRUP KING K7-29	1.71	1.14	1.51	1.07	0.90	6.34
CAL/WEST C/W-5	1.50	1.25	1.50	1.07	1.00	6.34
DEKALB BRAND 120	1.63	1.29	1.34	1.03	0.92	6.31
VERNAL (VCC-72)#	1.62	1.14	1.40	1.13	0.92	6.28
LAND O'LAKES PACER	1.69	1.17	1.48	1.05	0.86	6.27
NS 79-P2	1.62	1.16	1.37	1.10	0.97	6.26
FFR WEEVLCHER	1.62	1.18	1.36	1.01	1.00	6.13
PIONEER 521	1.45	1.17	1.27	1.15	0.92	6.00
SARANAC (SCC-72)#	1.66	1.17	1.22	0.97	0.90	5.95
MEAN	1.60	1.24	1.47	1.15	1.02	6.49
LSD .05	0.09	0.08	0.06	0.11	0.12	0.35
C.V. %	3.30	4.03	2.49	5.72	6.98	3.34

** HIGHEST YIELDING VARIETY.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST VARIETY IN THE TEST.

TABLE 4. SUMMARY PERFORMANCE OF 36 ALFALFA VARIETIES GROWN ON THE SOUTHWEST CENTER NEAR MT.VERNON, MO (LAWRENCE CO.) DURING 1978-81.

BRAND/VARIETY	YEAR			TOTAL	MEAN
	1979	1980	1981		
	-----TONS/ACRE-----				
FFR HIPHY	7.39	4.75	6.96	19.10	6.37**
WATERMAN-LOOMIS 311	7.18	4.80	6.86	18.84	6.28*
SEED KEM FAME	7.28	4.61	6.84	18.73	6.24*
N.A.P.B. APOLLO	7.36	4.40	6.92	18.68	6.23*
DEKALB BRAND 130	7.59	4.62	6.46	18.67	6.22*
NORTHRUP KING K7-28	7.29	4.83	6.51	18.63	6.21*
LAND O'LAKES EPIC	7.18	4.73	6.69	18.60	6.20*
WATERMAN-LOOMIS 312	7.15	4.78	6.67	18.60	6.20*
PIONEER 531	7.04	4.69	6.85	18.58	6.19*
CODY	7.21	4.55	6.78	18.54	6.18*
P-A-G TRIDENT	7.16	4.61	6.63	18.40	6.13
PIONEER 524	7.45	4.50	6.37	18.32	6.11
DEKALB BRAND 120	7.21	4.78	6.31	18.30	6.10
FFR CLASSIC	7.33	4.36	6.56	18.25	6.08
MFA TROPHY BRAND	7.30	4.49	6.43	18.22	6.07
NORTHRUP KING K7-30	7.00	4.41	6.71	18.12	6.04
LAND O'LAKES PACER	6.85	4.98	6.27	18.10	6.03
CAL/WEST C/W-5	7.21	4.49	6.34	18.04	6.01
N.A.P.B. VANGARD	7.19	4.38	6.47	18.04	6.01
MID STATE WL 318	7.21	4.32	6.46	17.99	6.00
NS 82-P2	7.09	4.40	6.47	17.96	5.99
CAL/WEST C/W-68	7.19	4.27	6.45	17.91	5.97
FFR WEEVLCHK	7.34	4.37	6.13	17.84	5.95
FUNK G-7730	6.89	4.32	6.55	17.76	5.92
WATERMAN-LOOMIS 220	6.93	4.46	6.37	17.76	5.92
COOP OLYMPIC	6.89	4.39	6.46	17.74	5.91
NORTHRUP KING K7-29	7.19	4.20	6.34	17.73	5.91
PIONEER 545	6.74	4.33	6.61	17.68	5.89
MFA TEMPO	7.29	3.95	6.37	17.61	5.87
NORTHRUP KING K7-26	6.85	4.39	6.35	17.59	5.86
CAL/WEST C/W-3	6.69	4.38	6.44	17.51	5.84
PIONEER 521	7.07	4.41	6.00	17.48	5.83
KANZA (KCC-72)#	6.75	4.32	6.39	17.46	5.82
SARANAC (SCC-72)#	7.09	4.36	5.95	17.40	5.80
VERNAL (VCC-72)#	6.84	4.18	6.28	17.30	5.77
NS 79-P2	5.97	3.97	6.26	16.20	5.40
MEAN	7.10	4.47	6.49	18.05	6.02
LSD.05	0.30	0.41	0.35		0.22
C.V. %	2.58	5.65	3.34		4.97

** HIGHEST YIELDING VARIETY.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST VARIETY IN THE TEST.

TABLE 5. DRY MATTER PRODUCTION OF 20 ALFALFA VARIETIES GROWN ON THE SUTHWEST CENTER NEAR MT. VERNON, MO (LAWRENCE CO.) IN 1981. SEEDED: FALL 1980.

BRAND/VARIETY	HARVESTS-1981					TOTAL
	4-29	6-9	7-13	8-13	9-17	
-----TONS/ACRE-----						
GPRC CIMARRON	1.61	1.22	1.41	0.89	0.75	5.87**
WATERMAN-LOOMIS WL 79T30	1.52	1.13	1.48	0.90	0.70	5.73*
FARMLAND IND. ADVANTAGE	1.42	1.15	1.34	0.89	0.69	5.50*
NABP DUKE	1.29	1.05	1.40	0.92	0.67	5.33*
NORTHRUP KING RAIDOR	1.67	1.03	1.25	0.76	0.56	5.26*
DEKALB BRAND 130	1.47	1.14	1.19	0.80	0.63	5.23*
MFA FFR TEMPO	1.32	1.06	1.34	0.84	0.66	5.21*
SARANAC##	1.47	1.01	1.33	0.83	0.47	5.11
MFA FFR WEEVLCEK	1.24	1.11	1.16	0.86	0.71	5.09
FFR HI-PHY	1.29	0.96	1.18	0.80	0.71	4.95
P-A-G TRIDENT	1.46	1.00	1.21	0.77	0.52	4.95
RESEARCH SEED EPIC	1.12	0.94	1.47	0.84	0.56	4.93
DEKALB BRAND 120	1.51	1.07	1.09	0.71	0.54	4.93
CARGILL MARATHON	1.34	0.99	1.31	0.75	0.49	4.88
NORTHRUP KING VANCOR	1.45	0.94	1.12	0.75	0.56	4.82
CODY	1.28	0.96	1.10	0.80	0.68	4.82
FFR CLASSIC	1.12	1.05	1.12	0.82	0.69	4.80
RILEY##	1.53	0.87	1.14	0.64	0.56	4.74
VERNAL##	1.37	1.00	1.08	0.73	0.47	4.65
BAKER##	1.18	0.79	0.99	0.65	0.52	4.12
MEAN	1.38	1.02	1.24	0.80	0.61	5.05
LSD .05	NS	0.25	0.33	NS	0.16	0.76
C.V. %	23.95	14.74	16.53	19.30	16.30	9.24

** HIGHEST YIELDING VARIETY.

* VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST VARIETY IN THE TEST.

NS NOT SIGNIFICANT

TABLE 6. NAME OF ALFALFA ENTRIES AND SEED SOURCE EVALUATED IN 1981.

BRAND	VARIETY	SEED SOURCE
CAL/WEST	C/W-3, C/W-5, C/W-68	CAL/WEST SEEDS, BOX 1428, WOODLAND, CA 95695
CARGILL	MARATHON	CARGILL SEEDS, BOX 9300, DEPT. 16, MINNEAPOLIS, MN 55440
COOP	OLYMPIC, ADVANTAGE	FARMLAND INDUSTRIES, BOX 7305, KANSAS CITY, MO 64116
DEKALB	130, 120	DEKALB AG RESEARCH INC., SYCAMORE RD., DEKALB, IL 60115
FFR	CLASSIC, HI-PHY, WEEVLCHCK	FFR COOPERATIVE, 4112 EAST STATE RD., WEST LAFAYETTE, IN 47906
FUNK	G-7730	FUNK SEEDS, BLOOMINGTON, IL 50010
GREAT PLAINS	CIMARRON	GREAT PLAINS RESEARCH CO., INC., 1221 PIONEER CT., CARY, NC 27511
LAND O' LAKES	EPIC, PACER	LAND O' LAKES RESEARCH FARM, RT 2, WEBSTER CITY, IA 50595
MFA	TEMPO, WEEVLCHCK, TROPHY	MFA SEED OPERATIONS, 201 SOUTH 7TH ST., COLUMBIA, MO 65201
MID-STATE	WL 318	MID-STATE WAREHOUSE & STORAGE, BOX 126, MARSHALL, MO 65340
NAPB	DUKE, APOLLO, VANGARD	NORTH AMERICAN PLANT BREEDERS, RT. #3, AMES, IA 50010
NORTHRUP KING CO.	VANCOR, RAIDOR, K7-26, K7-28, K7-29, K7-30	NORTHRUP KING CO., 1500 JACKSON ST. N.E., MINNEAPOLIS, MN 55413
PAG	TRIDENT	PAG SEEDS, BOX 9480, DEPT. 16, MINNEAPOLIS, MN 55440
PIONEER	521, 524, 531, 545	PIONEER HI-BRED INT., BOX 85, JOHNSTON, IA 50131
RESEARCH SEEDS	EPIC	RESEARCH SEEDS, INC., 310 SOUTH 3RD ST., ST. JOSEPH, MO 64501
SEEDKEM	FAME	SEEDKEM, BOX 3128, EVANSVILLE, IN 47701
W-L	WL 220, WL 311, WL 312, WL 313, 79T33	WATERMAN-LOOMIS RESEARCH, 7625 BROWN BRIDGE RD., HIGHLAND, MD 20777
KANSAS AES	CODY, KANZA	KANSAS AG. EXP. STATION & USDA, MANHATTAN, KS 66506
NEBRASKA AES	NS 82-P2, NS 79-P2	NEBRASKA AG EXP. STATION & USDA, LINCOLN, NE 68503
NEW YORK AES	SARANAC	N.Y. AG. EXP. STATION & USDA, ITHICA, NY 14850
WISCONSIN AES	VERNAL	WISCONSIN AG. EXP. STATION & USDA, MADISON, WI 53706

TABLE 7. YIELD PERFORMANCE OF RED CLOVER VARIETIES GROWN ON THE SOUTHWEST CENTER NEAR MT.VERNON, MISSOURI IN 1981. SEEDED: FALL 1980.

BRAND/VARIETY	HARVEST DATE					TOTAL
	4-28	6-03	7-07	8-05	9-16	
	-----TONS/ACRE-----					
MFA FFR REDMAN	0.97	0.45	0.65	0.26	0.28	2.62**
KENSTAR#	0.90	0.51	0.66	0.27	0.28	2.61
NAPB REDLAND II	0.99	0.46	0.56	0.22	0.31	2.54
MEAN	0.95	0.47	0.62	0.25	0.29	2.59
LSD.05	NS	NS	NS	0.04	0.02	NS
C.V. %	9.20	11.22	11.10	8.20	4.84	5.46

** HIGHEST YIELDING VARIETY IN TEST.
 NS NOT SIGNIFICANT
 # CHECK VARIETY.

TABLE 8. NAME OF RED CLOVER ENTRIES AND SEED SOURCE EVALUATED IN 1981.

BRAND	VARIETY	SEED SOURCE
MFA	REDMAN	MFA SEED OPERATIONS, 201 SOUTH 7TH ST., COLUMBIA, MO 65201
NAPB	REDLAND II	NORTH AMERICAN PLANT BREEDERS, RT. #3, AMES, IA 50010
KENTUCKY AES	KENSTAR	KENTUCKY AG. EXP. STATION, LEXINGTON, KY 40506

PART II
SORGHUM SUDANS
FORAGE SORGHUMS

EXPERIMENTAL PROCEDURES

Field Plot Design. Seventeen sorghum sudans and fifteen forage sorghum hybrids were evaluated in row trials using a randomized complete block design with four replications. Individual plots were four (30-inch) rows wide and 25 feet long. At harvest, the ends of each plot were trimmed and the center two rows were hand harvested for yield.

Cultural Practices. Both tests were planted with a conventional planter modified for small plot work. Details of the management practices followed on each trial are given in Table 1, page 4. Monthly rainfall and temperature are given in Table 2, page 4.

Data Recorded. Three harvests were made in the sorghum sudan trial while a single harvest was made in the forage sorghum trial. Total weights were taken on the two center rows at harvest. A sample was then taken and oven-dried to determine the percentage dry weight. Plant height was measured at harvest in each trial. In addition, percent of heads was measured in the forage sorghum trial. Yield is presented on a wet and dry weight basis for sorghum sudans and on a dry weight basis for forage sorghums.

RESULTS

Sorghum Sudan. Silage yields of individual hybrids ranged from 38.6 to 33.1 tons per acre (Table 9). Dry matter yields ranged from 3.9 to 3.3 tons per acre (Table 10). Climatological conditions decreased sorghum sudan yields as compared to other forages. Seasonal yields in 1981 (Table 9 and 10) were lower than those of 1980. By comparing across years, one can obtain a good indication of the yield stability of a hybrid across a series of environments.

Forage Sorghum. Cool temperatures and above normal rainfall stimulated growth, but slowed dry matter accumulation. Plant height, lodging, moisture and percent heads were increased when compared to 1980, although yield was reduced. Significant differences in yield were found between individual hybrids. Yields ranged from 8.9 to 5.9 tons of dry matter per acre (Table 11). Average yield in the test was 7.77 tons per acre as compared to 8.23 tons per acre in 1980.

TABLE 9. SILAGE PERFORMANCE OF SORGHUM X SUDAN CROSSES AT MT. VERNON, MISSOURI DURING 1979-81.
PLANTED: 28 APRIL, 1981.

BRAND/HYBRID	-----SILAGE-----									
	JULY 9		JULY 30		SEPT. 3		1981		1980	1979
	MOIST (%)	YIELD (T/A)	MOIST (%)	YIELD (T/A)	MOIST (%)	YIELD (T/A)	MOIST (%)	YIELD (T/A)	YIELD (T/A)	YIELD (T/A)
DEKALB ST-6+	92	13.88	90	13.49	88	11.19	90	38.56**	41.73*	36.19**
TAYLOR-EVANS HAYGRAZER	92	13.94	90	12.77	88	11.85	90	38.56*	34.39	--
MIGRO SUNRISE	92	13.07	90	12.59	89	12.01	90	37.66*	--	--
DEKALB SX-17+	92	13.80	90	10.95	89	12.73	90	37.48*	44.67**	35.57*
GROWERS SS 75	92	11.96	90	12.29	88	12.64	90	36.90*	--	--
PAG SU-CHOW 33	92	13.06	90	12.93	88	10.37	90	36.37*	39.98	--
HARPOOL GOT-CHA	92	11.09	91	13.52	88	11.70	90	36.31*	39.58	--
HARPOOL HS 301A	91	11.58	90	12.71	87	11.80	89	36.10*	--	--
TAYLOR-EVANS HAYGRAZER-T	90	11.75	90	12.49	87	11.55	89	35.79	39.48	--
WARNER GRO-N-GRAZE DR	92	12.45	90	12.33	88	11.01	90	35.79	--	--
STAUFFER SEEDS 1440G	91	12.66	91	12.06	87	10.27	90	35.00	43.07*	--
HARPOOL HS 301	92	10.59	90	12.20	88	12.05	90	34.84	--	--
HARPOOL HS 101	89	12.02	91	12.40	88	10.40	89	34.82	37.51	--
STAUFFER SEEDS HIDAN 35	91	12.12	91	12.18	88	9.52	90	33.82	38.87	--
RING AROUND RA 235F	92	9.07	90	10.25	89	13.92	90	33.24	--	--
TAYLOR-EVANS HAYGRAZER-II	92	10.05	91	12.94	88	10.23	90	33.23	--	--
CARGILL SS 100	92	9.85	90	12.77	87	10.50	90	33.12	--	--
TRIAL MEAN	91	11.94	90	12.41	88	11.40	90	35.74	39.59	32.14
LSD.05		1.41		1.06		2.04		2.60	4.68	2.81

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING HYBRID.

* HYBRID WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING HYBRID IN THE TEST.

TABLE 10. DRY MATTER PERFORMANCE OF SORHUM X SUDAN CROSSES AT MT. VERNON, MISSOURI IN 1981.

PLANTED: 28 APRIL, 1981.

BRAND/HYBRID	-----DRY MATTER-----									
	JULY 9		JULY 30		SEPT. 3		1981		1980	1979
	HGT. (IN)	YIELD (T/A)	HGT. (IN)	YIELD (T/A)	HGT. (IN)	YIELD (T/A)	HGT. (IN)	YIELD (T/A)	YIELD (T/A)	YIELD (T/A)
TAYLOR-EVANS HAYGRAZER-T	63	1.20	52	1.20	54	1.45	169	3.90**	7.09*	--
TAYLOR-EVANS HAYGRAZER	65	1.17	52	1.20	53	1.45	170	3.89*	6.60	--
HARPOOL HS 101	63	1.37	53	1.10	53	1.29	169	3.83*	6.81	--
HARPOOL HS 301A	62	1.04	55	1.20	55	1.48	172	3.81*	--	--
GROWERS SS 75	61	0.97	53	1.10	55	1.57	169	3.72*	--	--
MIGRO SUNRISE	62	1.05	51	1.20	53	1.37	166	3.62*	--	--
STAUFFER SEEDS 1440G	62	1.15	51	1.10	50	1.33	162	3.61*	7.59**	--
DEKALB ST-6+	64	1.04	52	1.20	51	1.28	167	3.60*	7.26*	3.86*
WARNER GRO-N-GRAZE DR	64	1.02	52	1.20	53	1.34	169	3.56*	--	--
DEKALB SX-17+	56	1.12	42	1.00	55	1.38	153	3.55*	7.43*	3.87**
HARPOOL GOT-CHA	55	0.87	55	1.20	52	1.41	163	3.54	7.20*	--
HARPOOL HS 301	58	0.85	52	1.20	53	1.45	163	3.50	--	--
PAG SU-CHOW 33	65	1.00	53	1.20	51	1.25	169	3.47	7.20*	--
CARGILL SS 100	61	0.78	57	1.30	53	1.34	170	3.43	--	--
STAUFFER SEEDS HIDAN 35	59	1.05	50	1.10	47	1.16	156	3.36	7.02*	--
RING AROUND RA 235F	49	0.75	47	0.90	53	1.59	149	3.32	--	--
TAYLOR-EVANS HAYGRAZER-II	58	0.83	52	1.20	51	1.25	162	3.29	--	--
TRIAL MEAN	60	1.01	52	1.20	52	1.38	164	3.59	7.70	3.82
LSD.05		0.08		0.11		0.23		0.35	0.74	0.44

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING HYBRID.

* HYBRID WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING HYBRID IN THE TEST.

TABLE 11. PERFORMANCE OF FORAGE SORGHUMS AT MT. VERNON, MISSOURI DURING 1979-81.
 PLANTED: 28 APRIL 1981. HARVESTED: 21,22 OCTOBER 1981.

BRAND-HYBRID	----- DRY MATTER -----							
	HEIGHT (IN.)	LODGING (%)	1981			1981	1980	1979
			MOIST. (%)	HEADS (%)	HEADS (T/A)	SILAGE (T/A)	SILAGE (T/A)	SILAGE (T/A)
YOUNG ORO RED TOP KANDY	132	--	76	7	0.66	8.94**	--	--
MIGRO TEK 805F	129	--	74	6	0.55	8.91*	--	--
STAUFFER SEEDS 330F	146	--	76	8	0.67	8.61*	8.63	9.90*
WARNER 2-WAY	128	--	75	5	0.46	8.51*	--	--
DEKALB FS-25A+	137	--	75	7	0.62	8.34*	10.49	10.20*
TAYLOR-EVANS GOLDMAKER-T	105	--	74	6	0.50	8.24*	7.86	--
GOLDEN HARVEST SIGRO 400	134	--	74	7	0.53	7.91*	--	--
PAG S1-CHOW 1	138	--	77	8	0.63	7.87*	--	--
GREEN SEED G-909	131	--	75	8	0.60	7.83*	--	--
TAYLOR-EVANS SILOMAKER	134	--	77	7	0.52	7.58*	7.30	11.80*
STAUFFER SEEDS 345F	135	--	77	7	0.55	7.50*	7.09	9.10
MFA FS-38A	131	--	76	7	0.53	7.26*	7.76	--
PAG 55F	144	--	79	11	0.72	6.74	13.05**	--
CARGILL 250S	107	--	77	6	0.40	6.47	--	--
MIGRO SUMAX	114	--	75	6	0.34	5.87	--	--
TRIAL MEAN	129	--	76	7	0.55	7.77	8.23	9.74
LSD.05					0.20	1.76	2.42	2.30

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING HYBRID.

* HYBRID WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING HYBRID IN THE TEST.

TABLE 12. NAME OF FORAGE SORGHUM AND SORGHUM SUDAN ENTRIES AND SEED SOURCE EVALUATED IN 1981.

BRAND	VARIETY	SEED SOURCE
CARGILL	SS 100, 250S	CARGILL SEEDS, BOX 5645, MINNEAPOLIS, MN 55440
DEKALB	FS-25A+, ST-6+, SX-17+	DEKALB AG RESEARCH, INC., RT. 2, LUBBOCK, TX 79415
GOLDEN HARVEST	SIGRO 400	COLUMBIANA SEED CO., ELDRED, IL 62027
GREEN	G 909	GREEN SEED CO., BOX 943, GALLATIN, TN 37066
GROWERS	SS 75	GROWERS SEED ASSOC., BOX 1656, LUBBOCK, TX 79408
HARPOOL	GOT-CHA, HS 101, HS 301, HS 301A	HARPOOL SEED INC., DRAWER B, DENTON, TX 76201
MFA	FS-38A	MFA SEED DIV., 201 SOUTH 7TH, COLUMBIA, MO 65201
MIGRO	TEK 805F, SUNRISE, SUNMAX	MIGRO DIV. OF NAPB, BOX 2955, MISSION, KS 66201
ORO	RED TOP KANDY	R.C. YOUNG SEED & GRAIN CO., 624 27TH, LUBBOCK, TX 79415
PAG	SI-CHOW 1, SU-CHOW 33, 55F	PAG SEEDS, BOX 9480, DEPT. 16, MINNEAPOLIS, MN 55440
PRAIRIE VALLEY	330F, 345F, DUO, HIKANE, HIDAN 35, HIDAN 37	PRAIRIE VALLEY, INC., BOX 125, PHILLIPS, NE 68865
RING AROUND	RA 235F, RA MILLHY 99	RING AROUND PRODUCTS, BOX 589, MONTGOMERY, AL 36195
STAUFFER SEEDS	1440G, HIDAN 35, 330F, 345F	STAUFFER SEEDS, BOX 125, PHILLIPS, NE 68865
T-E	SILONAKER, GOLDMAKER-T, HAYGRAZER, HAYGRAZER-T, HAYGRAZER-11	TAYLOR-EVANS SEED COMPANY, BOX TULIA, TX 79088
WARNER	GRO-N-GRAZE DR, 2-WAY	GEORGE WARNER SEED CO., BOX 1448, HEREFORD, TX 79045