

Forage, Cotton & Rice

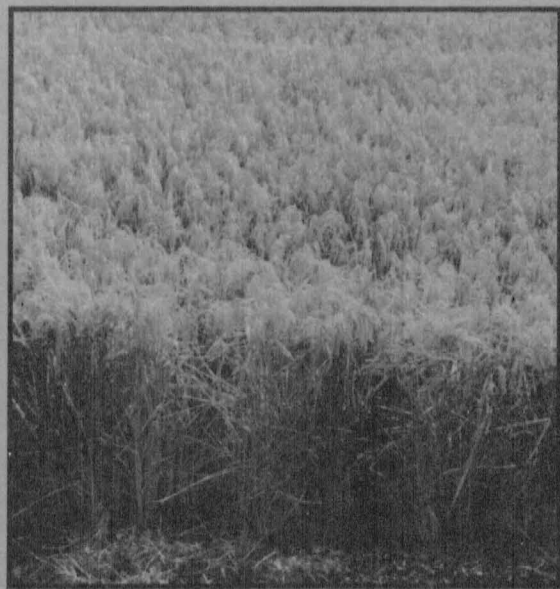
1989 Missouri Crop Performance

Minor, Morris, Mason, Mattis, Knerr, Lawman

Agricultural Experiment Station, College of Agriculture, University of Missouri-Columbia

Special Report 408

January, 1990



Publication costs paid by Missouri Seed Improvement Association

TABLE OF CONTENTS

INTRODUCTION	3
COMPARING VARIETIES AND HYBRIDS	3
TEST SITE LOCATIONS (Figure 1)	4
PART I: <u>ALFALFA VARIETIES</u>	
<u>EXPERIMENTAL PROCEDURES</u>	5
RESULTS	5
COLUMBIA - 23 Alfalfa Varieties (Table 1)	6
Summary of Years (Table 2)	7
MT. VERNON - 20 Alfalfa Varieties (Table 3)	8
Summary of Years (Table 4)	9
ALFALFA CHARACTERISTICS (Table 5)	10
ALFALFA SEED COMPANY ADDRESSES (Table 6)	11
PART II: <u>SORGHUM SUDAN AND FORAGE SORGHUM HYBRIDS</u>	
<u>EXPERIMENTAL PROCEDURES</u>	12
RESULTS	12
MT. VERNON:	
Sorghum Sudan (Table 7)	13
Forage Sorghum (Table 8)	14
FORAGE SORGHUM AND SUDAN SEED COMPANY ADDRESSES (Table 9)	15
PART III: <u>COTTON VARIETIES</u>	
<u>EXPERIMENTAL PROCEDURES</u>	16
RESULTS	16
SENATH (Table 10)	17
COTTON SEED COMPANY ADDRESSES (Table 11)	18
PART IV: <u>RICE VARIETIES</u>	
<u>EXPERIMENTAL PROCEDURES</u>	19
RESULTS	19
BERNIE:	
Very Short Season (Table 12)	20
Short Season (Table 13)	21
Mid-Season (Table 14)	22
RICE VARIETY IDENTIFICATION (Table 15)	23

THE AUTHORS

Harry C. Minor is an Associate Professor of Agronomy and State Extension Specialist; Carl G. Morris and Howard L. Mason are Senior Research Specialists, Richard E. Mattas is an Instructor of Agronomy, Acting Superintendent at the Southwest Center, Mt. Vernon; and Delbert R. Knerr and Eric E. Lawman are Research Specialists.

ACKNOWLEDGEMENTS

The authors wish to recognize and express their appreciation to the following individuals for their assistance in conducting the 1989 Variety Performance Trials.

Alfalfa trials: Richard Mattis, Acting Superintendent, Southwest Center, Mt. Vernon and John Poehlman, Superintendent, Agronomy Research Center, Columbia.

Cotton trials: Herb Schuereberg, Sikeston; David and Scott Andrews, Senath; the Southland H.S. FFA chapter; and Jimmie Nell Ward, Delta Research Center, Portageville.

Rice trials: M. O. (Sonny) Martin, Jr., Bernie; Dr. Karen Moldenhauer, Arkansas State University; Bruce Beck, Agronomy Specialist, Poplar Bluff; and John Cairns, Agronomy Specialist, Bloomfield.

MISSOURI CROP PERFORMANCE

1989

FORAGES, COTTON, RICE

INTRODUCTION

This report on Research Project 363 is a contribution of the Department of Agronomy, University of Missouri Agricultural Experiment Station. The work was supported by fees from organizations submitting varieties or hybrids for evaluation.

Alfalfa performance trials were conducted at the Agronomy Research Center near Columbia and the Southwest Center near Mt. Vernon. These locations are shown in Figure 1, Page 4. Two additional trials were planted but were lost due to dry conditions. Both will be replanted in the spring of 1990. Forage sorghum hybrids and sorghum sudan hybrids were evaluated at the Southwest Center near Mt. Vernon.

Cotton performance trials were conducted near Sikeston on the Herb Schuereberg farm and near Senath on the David Andrews farm. These locations are shown in Figure 1, page 4. In 1989, thirty cotton varieties were evaluated at each location. The test at Sikeston had to be abandoned because of plant and population disuniformity.

In 1989, 38 rice varieties were evaluated near Bernie on the M. O. (Sonny) Davis Jr. farm. Birds damaged some of the later varieties in the trial. Yields of these varieties were also reduced by early cold weather.

All producers of forage, cotton, and rice seed were eligible to enter varieties or hybrids in the 1989 evaluation trials. Participation was voluntary, and no control was exercised by the program over which, or how many entries were submitted. However, to help finance the evaluation program, a fee was charged for each entry.

The large number of varieties and hybrids available makes selecting a superior one difficult. To select intelligently, producers need a reliable, unbiased, and up-to-date source of information that will permit valid comparisons among available varieties/hybrids. 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. Small plots are used to reduce the chance of soil and climatic variations occurring between one plot and another. Results obtained should aid the individual grower to judge the relative merits of many of the commercial varieties or 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. This variability occurs at times because the soil isn't uniform, 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 these trials 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 not 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 and locations.

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

FIGURE 1. TEST SITE LOCATIONS.



PART I

ALFALFA VARIETIES

EXPERIMENTAL PROCEDURES

Field Plot Design. Harvest data were collected from two trials in 1989. These trials were located at the Agronomy Research Center near Columbia and the Southwest Center near Mt. Vernon (See Figure 1, page 4). The Columbia trial consisted of 23 alfalfa varieties and represented a fourth-year stand. The trial at Mt. Vernon consisted of 20 entries and represented a second-year stand. All trials were arranged in a randomized complete block design with four replications. Plots were 5.0 or 7.5 feet wide and 20 feet long. At harvest, all plots were trimmed to a uniform length and a single swath down the middle of each plot was taken to determine yield.

Cultural Practices. The tests were hand-planted and harvested with either a jari mower or modified flail chopper. Harvests were made when the majority of the varieties averaged 10 percent bloom. Insecticide was used when necessary to control alfalfa weevil and was applied before damage reached a significant level. Details of the management practices followed at each location are included with the data.

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

Significant differences in alfalfa yields during 1989 were found between individual varieties. Dry matter yields for 23 varieties ranged from 6.75 to 8.21 tons per acre at Columbia (Table 1). Dry matter yields for 20 varieties at Mt. Vernon ranged from 6.01 to 7.85 tons per acre (Table 3).

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

In 1989 plantings were made at West Plains and Linneus. These plantings were abandoned because of the dry conditions and stand loss. They will be replanted in the spring of 1990.

TABLE 1. DRY MATTER PRODUCTION OF 23 ALFALFA VARIETIES GROWN ON THE AGRONOMY RESEARCH CENTER NEAR COLUMBIA, MO. (BOONE CO.) DURING 1989.

SEEDED: SPRING 1986. FERTILIZER: N = 0; P2O5 = 200; K2O = 200.
 PLANTING RATE: 20 LBS/A. INSECTICIDE: AMBUSH.
 ROW SPACING: 6 INCHES. GROWING SEASON RAINFALL: 29.7 INCHES.

BRAND/VARIETY	HARVESTS - 1989					TOTAL	% CHECK
	5-17	6-15	7-12	8-14	9-20		
-----TONS/ACRE-----							
RESEARCH SEED PEAK	3.45**	1.14*	1.31	1.41	0.90	8.21**	117
RESEARCH SEED ACTION	3.26*	1.14*	1.16	1.55	0.90	8.01	114
MFA/W-L RESEARCH WL 316	2.92*	1.19*	1.30	1.50	0.96	7.87	112
LARRY PETERSON EPIC	2.88*	1.16*	1.46	1.44	0.85	7.79	111
DEKALB DK135	2.86*	1.00	1.29	1.63	0.94	7.72	110
RESEARCH SEED EDGE	2.95*	1.03	1.08	1.63	0.98	7.67	110
GARST 624	2.46	1.35**	1.12	1.62	1.02	7.57	108
STAUFFER SEEDS SUMMIT	2.94*	1.12	1.19	1.38	0.87	7.50	107
UNITED AGRISEEDS SALUTE	3.28*	0.98	0.91	1.36	0.93	7.46	107
GREAT PLAINS SHENANDOAH	2.80*	1.08	1.20	1.47	0.88	7.43	106
AGRIPRO ARMOR	3.13*	1.06	1.01	1.33	0.84	7.37	105
DAIRYLAND MAGNUM	2.67	1.18*	1.12	1.51	0.89	7.37	105
MFA/W-L RESEARCH WL 320	2.62	1.20*	1.11	1.45	0.94	7.32	105
RILEY##	2.98*	1.08	0.96	1.43	0.84	7.29	104
CARGILL ENDURE	2.44	1.18*	1.10	1.58	0.88	7.18	103
GREEN SEED CORONA	2.45	1.35**	0.84	1.46	0.98	7.08	101
ASGROW/O'S GOLD EAGLE	2.61	1.06	1.14	1.37	0.88	7.06	101
GARST 655	2.78*	0.93	1.15	1.30	0.82	6.98	100
VERNAL##	2.46	1.21*	0.81	1.66	0.79	6.93	99
GREAT PLAINS CIMARRON	2.85*	1.09	1.12	1.06	0.72	6.84	98
GARST 629	2.80*	0.92	0.94	1.32	0.85	6.83	98
BAKER##	2.40	1.06	0.89	1.45	0.97	6.77	97
AGRIPRO ARROW	2.58	0.91	1.03	1.31	0.92	6.75	96
MEAN	2.81	1.11	1.10	1.44	0.89	7.35	105
LSD .05	0.68	0.21	NS	NS	NS	0.18	
C.V. %	17.1	13.4	31.2	16.9	13.3	20.3	

** HIGHEST YIELDING VARIETY.

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

NS NOT SIGNIFICANT.

CHECK VARIETY, MEAN = 7.00 TONS/ACRE.

TABLE 2. DRY MATTER PRODUCTION OF 23 ALFALFA VARIETIES GROWN ON THE AGRONOMY RESEARCH CENTER NEAR COLUMBIA, MO. (BOONE CO.) DURING 1986-89.

SEEDED: SPRING 1986.

BRAND/VARIETY	YEAR				MEAN	% CHECK
	1986	1987	1988	1989		
-----TONS/ACRE-----						
LARRY PETERSON EPIC	3.71**	4.83**	7.12**	7.79	5.86**	124
STAUFFER SEEDS SUMMIT	3.53*	4.53	6.58	7.50	5.54	118
ASGROW/O'S GOLD EAGLE	3.36	4.63	6.90*	7.06	5.49	117
MFA/W-L RESEARCH WL 320	3.01	4.57	6.67	7.32	5.39	114
AGRIPRO ARMOR	2.64	4.55	6.90*	7.37	5.36	114
RESEARCH SEED PEAK	3.05	4.26	5.85	8.21**	5.34	113
MFA/W-L RESEARCH WL 316	3.03	4.50	5.96	7.87	5.34	113
RESEARCH SEED ACTION	2.65	4.30	6.37	8.01	5.33	113
GARST 624	3.21	4.43	6.09	7.57	5.32	113
DAIRYLAND MAGNUM	3.49*	4.44	5.66	7.37	5.24	111
UNITED AGRISEEDS SALUTE	2.65	4.10	6.66	7.46	5.22	111
GREAT PLAINS SHENANDOAH	2.69	4.25	6.41	7.43	5.20	110
RESEARCH SEED EDGE	2.80	3.95	6.10	7.67	5.13	109
GREAT PLAINS CIMARRON	2.66	4.46	6.49	6.84	5.11	108
RILEY##	2.89	4.31	5.80	7.29	5.07	108
DEKALB DK135	2.46	4.27	5.63	7.72	5.02	107
GREEN SEED CORONA	2.47	4.45	5.89	7.08	4.97	106
GARST 655	2.81	4.12	5.90	6.98	4.95	105
GARST 629	3.25	4.28	5.05	6.83	4.85	103
AGRIPRO ARROW	2.84	4.30	5.48	6.75	4.84	103
CARGILL ENDURE	2.76	3.52	4.89	7.18	4.59	97
VERNAL##	2.53	3.83	4.92	6.93	4.55	97
BAKER##	2.97	3.51	4.78	6.77	4.51	96
MEAN	2.93	4.28	6.00	7.35	5.14	109
LSD .05	0.26	0.15	0.34	0.18	0.23	
C.V. %	25.0	19.9	33.1	20.3	6.6	

** HIGHEST YIELDING VARIETY.

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

CHECK VARIETY, MEAN = 4.71 TONS/ACRE.

TABLE 3. DRY MATTER PRODUCTION OF 20 ALFALFA VARIETIES GROWN ON THE SOUTH-WEST CENTER NEAR MT. VERNON, MO. (LAWRENCE CO.) DURING 1989.

SEEDED: FALL 1987. FERTILIZER: N = 0; P2O5 = 80; K2O = 400;
 PLANTING RATE: 20 LBS/A. B = 2.5.
 ROW SPACING: 6 INCHES. GROWING SEASON RAINFALL: 25.1 INCHES.
 INSECTICIDE: FURADAN.

BRAND/VARIETY	HARVESTS - 1989					TOTAL	% CHECK
	5-11	6- 8	7-10	8-15	9-19		
-----TONS/ACRE-----							
AGRIPRO ARROW	2.41*	1.51**	1.41*	1.56**	0.96**	7.85**	110
AGRIPRO DART	2.45*	1.47*	1.45*	1.55*	0.92*	7.84*	110
NORTHRUP KING FORTRESS	2.48*	1.48*	1.44*	1.50*	0.89*	7.79*	109
UNITED AGRISEEDS ALLEGIANCE	2.36*	1.45*	1.51*	1.52*	0.94*	7.78*	109
FFR ANSTAR	2.49**	1.43*	1.35	1.51*	0.95*	7.73	109
PIONEER BRAND 5432	2.36*	1.51**	1.53**	1.38	0.94*	7.72	108
AGRIPRO IMPACT	2.43*	1.50*	1.39*	1.49*	0.89*	7.70	108
GARST 630	2.46*	1.46*	1.45*	1.41	0.91*	7.69	108
W-L RESEARCH ACCLAIM	2.20	1.51**	1.51*	1.55*	0.89*	7.66	108
MFA/W-L RESEARCH WL 316	2.44*	1.44*	1.42*	1.42	0.90*	7.62	107
AGRIPRO AP 8640	2.24*	1.40	1.46*	1.47*	0.96**	7.53	106
GARST 629	2.47*	1.38	1.40*	1.38	0.89*	7.52	106
MFA/W-L RESEARCH WL 320	2.33*	1.47*	1.45*	1.30	0.94*	7.49	105
UNITED AGRISEEDS SALUTE	2.33*	1.46*	1.40*	1.40	0.89*	7.48	105
NORTHRUP KING COMMANDER	2.41*	1.41*	1.40*	1.40	0.85*	7.47	105
DEKALB DK135	2.14	1.51**	1.40*	1.36	0.86*	7.27	102
VISTA SURE	2.41*	1.39	1.27	1.36	0.83*	7.26	102
CODY##	2.18	1.46*	1.34	1.21	0.93*	7.12	100
GREAT LAKES WEBFOOT	2.23*	1.36	1.20	1.20	0.76	6.75	95
NORTHRUP KING SPREDOR II	2.11	1.18	0.92	1.09	0.71	6.01	84
MEAN	2.35	1.44	1.38	1.40	0.89	7.46	105
LSD .05	0.28	0.10	0.15	0.11	0.13	0.07	
C.V. %	8.5	5.1	7.4	5.7	10.6	8.0	

** HIGHEST YIELDING VARIETY.

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

CHECK VARIETY = 7.12 TONS/ACRE.

TABLE 4. DRY MATTER PRODUCTION OF 20 ALFALFA VARIETIES GROWN ON THE SOUTH-WEST CENTER NEAR MT. VERNON, MO. (LAWRENCE CO.) DURING 1988-89.

SEEDED: FALL 1987.

BRAND/VARIETY	YEAR		MEAN	% CHECK
	1988	1989		
-----TONS/ACRE-----				
AGRIPRO DART	5.92	7.84*	6.88**	109
PIONEER BRAND 5432	5.96	7.72	6.84*	108
FFR ANSTAR	5.94	7.73	6.84*	108
UNITED AGRISEEDS ALLEGIANCE	5.87	7.78*	6.82*	108
NORTHROP KING FORTRESS	5.81	7.79*	6.80	108
AGRIPRO ARROW	5.60	7.85**	6.72	106
MFA/W-L RESEARCH WL 320	5.95	7.49	6.72	106
GARST 629	5.86	7.52	6.69	106
DEKALB DK135	6.07**	7.27	6.67	106
W-L RESEARCH ACCLAIM	5.66	7.66	6.66	105
GARST 630	5.54	7.69	6.62	105
MFA/W-L RESEARCH WL 316	5.58	7.62	6.60	104
VISTA SURE	5.91	7.26	6.58	104
NORTHROP KING COMMANDER	5.68	7.47	6.58	104
UNITED AGRISEEDS SALUTE	5.58	7.48	6.53	103
AGRIPRO AP 8640	5.16	7.53	6.34	100
CODY##	5.51	7.12	6.32	100
GREAT LAKES WEBFOOT	5.60	6.75	6.18	98
NORTHROP KING SPREDOR II	4.96	6.01	5.48	87
AGRIPRO IMPACT#	3.08	7.70	5.39	85
MEAN	5.56	7.46	6.51	103
LSD .05	0.07	0.07	0.07	
C.V. %	9.9	8.0	1.8	

** HIGHEST YIELDING VARIETY.

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

CHECK VARIETY, MEAN = 6.32 TONS/ACRE.

LATE ENTRY PLANTED IN SPRING OF 1988.

TABLE 5. CHARACTERISTICS* OF ALFALFA VARIETIES IN THE 1989 MISSOURI VARIETY TRIALS.

BRAND-VARIETY	REACTION TO PESTS										
	FALL DORM-ANCY (1-8)	WILT			AN-THRAC-NOSE	PHYTO-PHTHORA ROOT ROT	APHID			NEMATODE	
		BACT-ERIAL	VERTI-CILLIUM	FUS-ARIUM			SPOTTED ALFALFA	PEA	BLUE ALFALFA	STEM	ROOT KNOT
<u>PRIVATE</u>											
AGRIPRO ARMOR	4	R	--	R	MR	R	--	--	--	--	--
AGRIPRO ARROW	3	HR	R	HR	R	R	MR	MR	--	MR	--
AGRIPRO DART	3	HR	R	HR	R	R	MR	MR	--	--	--
AGRIPRO IMPACT	3	HR	R	HR	MR	R	--	--	--	--	--
AGRIPRO AP 8640	--	MR	--	--	R	R	R	R	--	--	--
ASGROW/O`S GOLD EAGLE	4	HR	MR	R	R	MR	R	R	LR	R	--
CARGILL ENDURE	3	R	R	R	MR	R	LR	--	--	--	--
DAIRYLAND MAGNUM	4	R	--	R	MR	LR	R	R	--	MR	--
DEKALB-PFIZER DK135	4	HR	MR	R	R	R	MR	MR	LR	R	--
FFR ANSTAR	4	R	--	MR	R	S	--	--	--	--	--
GARST 624	4	R	LR	R	MR	MR	MR	--	--	--	--
GARST 629	3	R	MR	R	R	R	R	R	--	R	--
GARST 630	4	HR	MR	R	MR	R	R	--	--	--	--
GARST 655	5	R	LR	R	MR	LR	R	--	--	--	--
GREAT LAKES WEBFOOT	--	--	--	--	--	--	--	--	--	--	--
GREAT PLAINS CIMARRON	4	HR	LR	HR	R	MR	HR	R	--	--	--
GREAT PLAINS SHENANDOAH	5	HR	--	HR	HR	HR	--	--	--	MR	--
GREEN SEED CORONA	2	R	--	--	R	R	R	--	--	--	--
L.PETERSON LTD. EPIC	4	R	--	MR	--	R	--	HR	--	HR	--
MFA/W-L RESEARCH WL-316	4	R	R	R	HR	MR	R	R	LR	MR	--
MFA/W-L RESEARCH WL-320	5	R	MR	HR	MR	HR	R	MR	MR	MR	--
NORTHROP KING COMMANDER	4	R	MR	R	HR	R	LR	--	--	MR	--
NORTHROP KING SPREDOR II	1	HR	--	MR	--	--	--	--	--	--	--
NORTHROP KING FORTRESS	--	--	--	--	--	--	--	--	--	--	--
PIONEER BRAND 5432	4	HR	R	HR	S	MR	HR	R	--	--	--
RESEARCH SEEDS PEAK	4	R	LR	R	--	MR	--	HR	--	HR	--
RESEARCH SEEDS ACTION	4	R	MR	R	HR	R	MR	R	--	--	--
RESEARCH SEEDS EDGE	4	R	R	R	HR	R	R	R	R	--	--
STAUFFER SUMMIT	4	R	R	R	HR	R	MR	R	--	--	--
UNITED AGRISEED SALUTE	4	HR	MR	MR	R	MR	LR	--	--	--	--
UNITED AGRISEED ALLEGIANCE	--	R	--	--	R	R	MR	R	--	--	--
VISTA SURE	3	HR	R	HR	HR	R	LR	R	--	--	--
W-L RESEARCH ACCLAIM	--	R	--	--	MR	MR	R	R	--	--	--
<u>PUBLIC</u>											
BAKER	2	HR	--	R	LR	--	HR	HR	--	--	--
CODY	--	--	--	--	--	--	--	--	--	--	--
RILEY	4	HR	LR	--	MR	--	HR	HR	--	--	--
VERNAL	2	R	--	MR	--	--	--	--	--	--	MR

* INFORMATION WAS OBTAINED FROM THE CERTIFIED ALFALFA SEED COUNCIL, "1987 ALFALFA VARIETIES", OR THE COMPANY MAKING THE ENTRY.
 -- DATA NOT AVAILABLE OR NOT PROVIDED BY THE COMPANY.

DORMANCY RATING	CHECK VARIETY	DESIGNATION	SURVIVAL %	RESISTANCE CLASS
1	NORSEMAN	S	0- 5	SUSCEPTIBLE
2	VERNAL	LR	6-14	LOW RESISTANCE
3	RANGER	MR	15-30	MODERATE RESISTANCE
4	SARANAC	R	31-50	RESISTANCE
5	DUPUIITS	HR	>-50	HIGH RESISTANCE
6	MESILLA			
7	MOAPA 69			
8	CUF 101			

TABLE 6. SOURCE OF ALFALFA ENTRIES EVALUATED IN 1989 MISSOURI YIELD TRIALS.

BRAND	VARIETY	FIRM AND ADDRESS
AGRIPRO	ARMOR, DART, IMPACT, ARROW, AP 8640	AGRIPRO, RT. 3, AMES, IA 50010
ASGROW/O'S GOLD	EAGLE	ASGROW SEED COMPANY, P.O. BOX 7570 DES MOINES, IA 50322
CARGILL	ENDURE	CARGILL SEEDS, BOX 9480, MINNEAPOLIS, MN 55440
DAIRYLAND	MAGNUM	DAIRYLAND RESEARCH INTERNATIONAL, RT. 1, BOX 51, CLINTON, WI 53525
DEKALB-PFIZER	DK135	DEKALB-PFIZER GENETICS, 3100 SYCAMORE RD., DEKALB, IL 60115
FFR	ANSTAR	FFR COOPERATIVE, 4112 EAST STATE RD. 225, WEST LAFAYETTE, IN 47906
GARST	629, 624, 630, 655	GARST SEED COMPANY, BOX 300, COON RAPIDS, IA 50058
GREAT LAKES	WEBFOOT	GREAT LAKES HYBRIDS, INC., 9915 W. M-21, OVID, MI 48866
GREAT PLAINS	CIMARRON, SHENANDOAH	GREAT PLAINS RESEARCH CO., INC., 1221 PIONEER CT., CARY, NC 27511
GREEN SEED	CORONA	GREEN SEED CO., BOX 1678, GALLATIN, TN 37066
LARRY PETERSON LTD.	EPIC	LARRY PETERSON, LTD., BOX 339 CEDAR FALLS IA 50613
MFA/W-L RESEARCH	316, 320	MFA, INC., 615 LOCUST, COLUMBIA, MO 65201
NORTHROP KING	COMMANDER, FORTRESS, SPREDOR II	NORTHROP KING CO., 3403 HOOVER, AMES, IA 50010
PIONEER BRAND	5432	PIONEER HI-BRED INT., INC., 7305 62ND, BOX 85, JOHNSTON, IA 50131
RESEARCH SEEDS	PEAK, ACTION, EDGE	RESEARCH SEEDS, INC., BOX 1393, ST. JOSEPH, MO 64502
STAUFFER SEEDS	SUMMIT	STAUFFER SEEDS, INC., 975 S. DURKIN, SPRINGFIELD, IL 62704
UNITED AGRISEED	SALUTE, ALLEGIANCE	UNITED AGRISEEDS, INC., BOX 4011, CHAMPAIGN, IL 61802
VISTA	SURE	VISTA, RT.1, BOX 70, WEST SALEM, WI 54669
W-L RESEARCH	ACCLAIM	WATERMAN-LOOMIS RESEARCH, INC., 7625 BROWN BRIDGE RD., HIGHLAND, MD 20777
KANSAS AES	CODY, RILEY	KANSAS AG. EXP. STATION & USDA, MANHATTAN, KS 66506
NEBRASKA AES	BAKER	NEBRASKA AG. EXP. STATION & USDA, LINCOLN, NE 68503
WISCONSIN AES	VERNAL	WISCONSIN AG. EXP. STATION & USDA, MADISON, WI 53706

PART II
SORGHUM SUDAN
AND
FORAGE SORGHUM HYBRIDS

EXPERIMENTAL PROCEDURES

Field Plot Design. Eleven sorghum sudan and ten forage sorghum hybrids were evaluated at the Southwest Center near Mt. Vernon in 1989. The tests were both arranged in a randomized complete block design with four replications. Individual plots consisted of four rows, 30 inches wide and 20 feet long.

Cultural Practices. Both tests were planted with a conventional planter modified for small plot work. At harvest, a representative portion of the center two rows was hand cut to determine yield. The sorghum sudans were harvested at approximate monthly intervals, or when appropriate regrowth was attained, while the forage sorghums were harvested near the "normal" first frost date. Details of the management practices followed for each trial accompany the data on each yield table.

Data Recorded. The sorghum sudan trial was harvested two times, while the forage sorghum trial was harvested only once. Total plot weights were taken from the two center rows at harvest. A sample was then oven-dried to determine the percentage dry weight. In addition to yield, plant height was measured at each harvest in all forage trials. The percentage of heads and percentage of stalks were measured in the forage sorghum trials. All yield data are presented on a dry matter basis.

RESULTS

Sorghum Sudans. Dry matter yields ranged from 1.47 to 2.75 tons per acre (Table 7). By comparing across years, one can obtain a good indication of the yield stability of a hybrid across a series of environments.

Forage Sorghums. Significant differences in grain and total silage yields were found between individual hybrids (Table 8). Head yields ranged from 0.64 to 3.11 tons per acre. Total dry matter yields ranged from 6.85 to 9.19 tons per acre. Hybrids varied significantly with respect to lodging in 1989. Reports from previous years should be consulted in order to correctly evaluate lodging characteristics of individual forage sorghum hybrids.

TABLE 7. DRY MATTER PERFORMANCE OF SORGHUM X SUDAN CROSSES GROWN ON THE SOUTHWEST CENTER NEAR MT. VERNON (LAWRENCE CO.) DURING 1987-89.

REPLANTED: 16 JUNE 1989. FERTILIZER: N = 175, P205 = 50, K2O = 100.
 PLANTED POPULATION: 105,000 PL/A. HERBICIDES: PRE: RAMROD + ATRAZINE.
 ROW SPACING: 30 INCHES. POST: NONE.
 GROWING SEASON RAINFALL: 25.1". INSECTICIDE: NONE.

BRAND/HYBRID	-----HARVESTS-1989-----						YEAR		
	7-27			8-29			1989	1988	1987
	MOIS- TURE (%)	HT. (IN)	YIELD (T/A)	MOIS- TURE (%)	HT. (IN)	YIELD (T/A)			
VISTA GREENTREAT II	89.6	55	0.89*	86.8	71	1.86*	2.75**	--	--
WARNER SOOPER-SU	89.6	52	0.95**	86.3	69	1.78	2.73*	--	--
NORTHRUP KING TRUDAN 8	89.5	46	0.69	86.3	67	2.01**	2.70*	4.67	4.48
NORTHRUP KING SORDAN 79	90.2	48	0.89*	88.2	70	1.81	2.70*	--	--
WARNER WXF88015	89.7	56	0.91*	86.7	70	1.71	2.62	--	--
GOLDEN ACRES T-E HAYGRAZER II	90.0	54	0.83	87.3	70	1.74	2.57	5.08*	4.8
ASGROW XPS629	89.5	52	0.93*	87.1	66	1.64	2.57	--	--
GROAGRI GSA 1757	90.1	52	0.81	87.1	67	1.67	2.48	5.06*	4.67
CARGILL SWEET SIOUX V	90.3	50	0.80	88.3	66	1.50	2.30	4.96	--
CARGILL MORCANE	90.8	38	0.58	87.9	48	1.01	1.59	--	--
CARGILL X15645	90.8	37	0.61	88.4	50	0.86	1.47	--	--
TRIAL AVERAGE	90.0	49	0.81	87.3	65	1.60	2.41	4.73	4.60
TRIAL LSD .05	0.6	3	0.10	1.3	3	0.18	0.10	0.18	0.13
TRIAL C.V. %	0.6	6.1	10.3	1.3	3.8	9.4	10.1	14.3	16.3

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING HYBRID IN THE TEST.

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

TABLE 8. DRY MATTER PERFORMANCE OF FORAGE SORGHUM HYBRIDS EVALUATED ON THE SOUTHWEST CENTER NEAR MT. VERNON, MO. (LAWRENCE CO.) DURING 1987-89.

REPLANTED: 16 JUNE 1989. FERTILIZER: N = 125, P2O5 = 50, K2O = 100.
 HARVESTED: 3,4 OCTOBER 1989. HERBICIDES: PRE: RAMROD + ATRAZINE.
 PLANTED POPULATION: 105,000 PL/A. POST: NONE.
 ROW SPACING: 30 INCHES. INSECTICIDE: NONE.
 GROWING SEASON RAINFALL: 25.1". IRRIGATION: NONE.

BRAND/HYBRID	HEIGHT (IN)	% LOD- GING	MOIS- TURE (%)	HEAD		STALK		TOTAL-YEAR		
				(%)	(T/A)	(%)	(T/A)	1989 (T/A)	1988 (T/A)	1987 (T/A)
NORTHUP KING SUCROSORGO 405	138	0.0	66	7	0.64	93	8.55**	9.19**	9.74**	12.27*
NORTHRUP KING 300	84	0.0	69	41	3.11**	59	4.46	7.57	7.82	--
CARGILL FS 466	96	0.0	74	24	1.76	76	5.62	7.38	7.71	--
CARGILL FS 455	95	0.0	71	25	1.86	75	5.44	7.30	9.29	--
ASGROW XPF619	98	10.0	69	28	2.03	72	5.22	7.25	--	--
GOLDEN ACRES T-E SILOMAKER	99	25.0	71	23	1.70	77	5.54	7.24	7.90	7.25
GROAGRI GSC 1515	82	0.0	70	41	2.98*	59	4.23	7.21	--	--
ASGROW TITAN T	112	68.3**	72	30	2.13	70	4.94	7.07	--	--
GROAGRI GSA 1586F	113	31.7	76	18	1.29	81	5.59	6.88	--	--
GOLDEN ACRES T-E MILK-A-LOT	83	0.0	71	35	2.43*	65	4.42	6.85	8.34	7.31
PIONEER HYBRID 3377#	97	52.5*	65	51	2.81*	49	2.53	5.34	--	--
TRIAL AVERAGE	100	17.0	70	29	2.07	71	5.14	7.21	8.47	9.25
TRIAL LSD .05	7	27.0	4	9	0.73	9	1.18	1.33	NS	1.79
TRIAL C.V. %	6.3	136.6	12.4	25.9	30.6	10.9	19.8	15.8	15.8	13.3

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING HYBRID IN THE TEST.

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

CHECK CORN HYBRID: GRAIN YIELD = 80.3 BU/A.

NS NOT SIGNIFICANT AT .05 LEVEL.

TABLE 9. SOURCE OF FORAGE SORGHUM AND SORGHUM SUDAN ENTRIES EVALUATED IN 1989.

BRAND	VARIETY	FIRM AND ADDRESS
ASGROW	TITAN T, XPF619, XPS629	ASGROW SEED CO., BOX 1945, PLAINVIEW, TX 79072
CARGILL	FS 466, FS 455, MORCANE, SWEET SIOUX V, X15645	CARGILL HYBRID SEED, BOX 5645, MINNEAPOLIS, MN 55440
GROAGRI	GSC 1515, GSA 1757, GSA 1586F	GROAGRI SEED COMPANY, BOX 1656, LUBBOCK, TX 79408
NORTHRUP KING	NK 300, SUCROSORGO 405, TRUDAN 8, SORDAN 79	THE NEW NORTHRUP KING CO., RT.2, BOX 200, HIGHLAND, IL 62249
T-E	SILOMAKER, MILK-A-LOT, HAYGRAZER II	TAYLOR-EVANS SEED COMPANY, BOX 68, TULIA, TX 79088
VISTA-RESEARCH	GREENTREAT II	LAND O' LAKES RESEARCH FARM, RR2, WEBSTER CITY, IA 50595
WARNER	SOOPER-SU, WXF88015	GEORGE WARNER SEED CO., 120 S LAWTON HEREFORD, TX 79045

PART III

COTTON VARIETIES

Cotton variety trials became part of the University of Missouri's crop performance testing program in 1978. These tests are conducted to provide a reliable, unbiased, up-to-date source of information for comparing varieties.

EXPERIMENTAL PROCEDURES

Two locations were selected to represent the range of conditions found in the cotton growing area of southeastern Missouri. These locations were the Herb Schuerenberg farm near Sikeston (loam soil) in the northern bootheel, and the David Andrews farm near Senath (loam soil) in the southern bootheel. Sikeston stands were too variable to produce reliable information, so the test was abandoned in mid-season.

Entries. All producers of cotton seed were eligible to enter varieties in the 1989 evaluation trials. Participation was voluntary and no control was exercised by the program over which or how many varieties were entered. However, to help finance the evaluation program, a fee of \$150 per location was charged for each variety entered by the seed producer. A total of 30 cotton varieties were compared in 1989.

Field Plot Design. The trials were arranged in a randomized complete block design with six replications. At Sikeston, the plots consisted of three rows. At Senath, the plots were four rows wide with the center two rows being used for yield and other notes. Both locations used rows 38 inches apart and 25 feet long.

Plot Management. The trials were planted with commercial equipment modified for small plot work. At harvest, the plots were hand-picked in order to reduce losses which might result from maturity differences among varieties.

Data Recorded. The total number of plants in the center row(s) of each plot were counted and converted to number of plants per acre. At maturity, height, lodging, and yield were measured. Height was taken as the average distance in inches from the soil surface to the top of the plant. Lodging, which indicates the degree of erectness, was scored on a scale of 1 to 5 with 1 indicating that all plants were erect (no lodging) and 5 indicating that 80 percent, or more, of the plants were lodged. Yield was measured both in total pounds of seed cotton and lint per acre. Pounds of lint were calculated by multiplying the ginning percentage (lint percentage) by the total seed cotton yield.

RESULTS

Thirty cotton varieties were planted at Sikeston and at Senath on a sandy loam soil in 1989. Senath lint yields averaged 980 pounds per acre, and ranged from 841 to 1194 pounds per acre (Table 10). The trial was irrigated and had no lodging.

The initial planting at Sikeston did not emerge uniformly so the test was replanted. Due to dry conditions, this planting also did not emerge uniformly. The test was abandoned and not reported because of disuniformity.

TABLE 10. YIELD PERFORMANCE OF COTTON VARIETIES GROWN NEAR SENATH, MISSOURI ON THE DAVID AND SCOTT ANDREWS FARM DURING 1985-89.

PLANTED: 3 MAY 1989. FERTILIZER: N = 70, P2O5 = 0, K2O = 100.
 HARVESTED: 12 OCTOBER 1989. HERBICIDES: PRE: ZORIAL + COTORAN.
 PLANTED POPULATION: 82,500 PL/A. POST: MSMA + COTORAN, BLADEX,
 ROW SPACING: 38 INCHES. PROBE, DROPP, AND PREP.
 GROWING SEASON RAINFALL: 26.02". INSECTICIDE: PRE: TEMIK AND RIDOMIL.
 IRRIGATION: 6.00". POST: BAYTHROID, METHOPARTHION,
 AND ORTHENE.

BRAND/VARIETY	1989				TOTAL LINT (LBS/A)				
	STAND (PL/A)	HEIGHT (IN.)	LINT (%)	SEED COTTON (LBS/A)	1989	1988	1987	1986	1985
STONEVILLE ST-453	58324	37	42.0	2835*	1194**	873*	1154*	--	--
CHEMBRED CB-1135	56187	40	41.7	2721*	1130*	--	--	--	--
DELTAPINE 51	62599	41	37.8	2988*	1130*	933*	--	--	--
DELTAPINE 50	57408	38	34.4	3234**	1110*	948*	1052	871	1303*
STONEVILLE ST-1324	45346	40	40.3	2685	1088*	--	--	--	--
SUN VALLEY HS-46	60309	44	39.7	2707*	1067*	672	--	--	--
COKER 139	49163	42	38.7	2724*	1050*	784	1249*	884	1240*
DELTAPINE 20	60004	40	37.3	2789*	1038*	954**	1196*	845	1236*
DELCOT 344	60614	42	38.2	2709*	1035*	879*	1008	953*	1275*
HARTZ HX 1416	49927	42	37.3	2696*	1006*	--	--	--	--
CHEMBRED CB-407	66569	43	37.4	2658	993*	--	--	--	--
TERRA C-40	53286	39	38.1	2612	989*	849*	1159*	912	--
STONEVILLE ST-506	56645	41	37.8	2609	988*	945*	1097	822	1141
ELLIS S-89	55118	39	39.4	2467	985*	--	--	--	--
COKER 130	48095	41	39.2	2486	975*	839*	1107	902	--
SURE-GROW 55	65348	40	40.9	2379	970	--	--	--	--
COKER 304	62294	42	37.0	2608	967	790	1183*	887	1242*
STONEVILLE ST-907	55729	43	37.4	2562	958	--	--	--	--
NORTHRUP KING X84-828	46720	40	39.9	2338	942	922*	1324**	--	--
STONEVILLE ST-112	51759	38	38.9	2324	918	820*	1012	902	1215*
HARTZ HX 1161	53744	43	43.6	2102	912	--	--	--	--
ELLIS S-1001	45804	41	40.4	2267	910	--	--	--	--
HYPER. BR TROPICAL 225	59546	41	37.8	2420	908	813*	--	--	--
HARTZ HX 1134	52980	40	40.2	2242	902	--	--	--	--
TIFCOT 56	68554	41	37.2	2415	901	--	--	--	--
TERRA C-30	54355	39	35.9	2473	885	868*	1147*	807	--
DES 119	52828	38	39.4	2203	868	875*	1138*	1039**	--
HYPER. BRAND EXP.S-171	56492	41	37.3	2324	867	--	--	--	--
HYPER. BR TROPICAL 205	51606	40	36.6	2342	862	--	--	--	--
COKER 320	45652	41	38.1	2198	841	778	--	841	--
TRIAL MEAN	55433	41	38.7	2537	980	809	1091	870	1197
TRIAL LSD .05	12538	NS	2.8	546	221	148	189	104	127
TRIAL C.V. %	20.0	8.6	6.4	19.0	19.9	16.2	15.3	11.4	10.7

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING VARIETY IN THE TEST.

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

NS NOT SIGNIFICANT AT THE .05 LEVEL.

TABLE 11. SOURCE OF COTTON ENTRIES EVALUATED IN 1989.

BRAND	VARIETY	FIRM AND ADDRESS
CHEMBRED	CB 1135, CB 407	CHEMBRED INC., RT.3, BOX 750, MARICOPA, AZ 85239
COKER	130, 139, 304, 320	THE NEW NORTHRUP KING CO., 220 GLEN ECHO, COLLIERVILLE, TN 38017
DELCOT	344	UMC DELTA CENTER, BOX 160, PORTAGEVILLE, MO 63801
DELTAPINE	20, 50, 51	DELTA AND PINE LAND CO., BOX 157, SCOTT, MS 38772
DES	119	DELTA BRANCH, MISS. AG. EXP. STATION, BOX 197, STONEVILLE, MS 38776
ELLIS BROTHERS	SURE-GROW 55, S-1001, S-89	ELLIS BROTHERS SEED, INC., RT.1, BOX 55, CENTRE, AL 35960
HARTZ	HX 1134, HX 1161, HX 1416	JACOB HARTZ SEED CO., INC., BOX 946, STUTTGART, AR 72160
HYPERFORMER BRAND	TROPICAL 225, EXP S-171, TROPICAL 205	HYPERFORMER SEED CO., 5100 POPLAR, SUITE 3200, MEMPHIS, TN 38137
NORTHRUP KING	X84-828	THE NEW NORTHRUP KING CO., 220 GLEN ECHO, COLLIERVILLE, TN 38017
STONEVILLE	ST-112, ST-453, ST-506, ST-907, ST-1324	STONEVILLE PEDIGREED SEED CO., BOX 167, STONEVILLE, MS 38776
SUN VALLEY	HS-46	SUN VALLEY SEED CO., 610 W. BROADWAY, SUITE 118, TEMPE, AZ 85282
TERRA	C-30, C-40	TERRA INTERNATIONAL, INC., BOX 171376, MEMPHIS, TN 38187
TIFCOT	56	UNIVERSITY OF GEORGIA AG. EXP. STATION, ATHENS, GA 30602

PART IV

RICE VARIETIES

Rice variety trials became part of the University of Missouri's crop performance testing program in 1983. These tests are conducted to provide a reliable, unbiased, up-to-date source of information for comparing varieties. This work was supported in part by fees from organizations submitting varieties for evaluation. In addition to fees, a research gift was provided by the Missouri Rice Research & Merchandising Council.

EXPERIMENTAL PROCEDURES

Entries. Rice plots were established on May 12, 1989 on the M. O. (Sonny) Martin, Jr. farm near Bernie, Missouri. Three maturity groups of rice varieties were represented. All public seed was provided by Dr. Karen Moldenhauer of the Rice Research Experiment Station at Stuttgart, Arkansas. A fee of \$100 per entry was charged for each non-public entry. A total of 38 rice varieties were compared in 1989.

Field Plot Design. The trials were arranged in a randomized complete block design with four replications. Each plot consisted of 12 rows, 15 feet long, with a between-row spacing of 7.5 inches. The four center rows of each plot were hand-harvested at maturity and threshed by machine.

Plot Management. Plots were planted with a conventional drill modified for experimental research. On June 9, 100 pounds/acre of urea nitrogen was applied, and the plots were flooded. This flood was maintained throughout the growing season. An additional 35 pounds/acre of nitrogen was topdressed over the entire trial on July 25 and August 1. Thus, the total amount of nitrogen applied was 170 pounds/acre.

For primary weed control, Stam and Bolero herbicides were applied on June 2. An additional application of Stam was applied on June 7, and Landax herbicide was applied on June 22. Plots were then hand weeded as necessary. Weed control was excellent.

At harvest, the plots were hand-cut in order to reduce losses which might result from maturity differences among varieties. To assure accuracy, the grain from all plots was oven-dried to a uniform moisture content, and then weighed to determine yield.

Data Recorded. At maturity, height, lodging, and yield were measured. Height was taken as the average distance in inches from the soil surface to the top of the plant. Lodging, which indicates the degree of erectness, was scored on a scale of 1 to 5 with 1 indicating that all plants were erect (no lodging) and 5 indicating that 80 percent, or more, of the plants were lodged. Yields calculated from the harvested area were adjusted to 12 percent moisture and reported on a pounds/acre basis.

RESULTS

Average yields for 1989 were the lowest since the University of Missouri began testing rice in 1983. Several factors contributed to the reduction in yield level, particularly of the later maturing varieties. Adverse factors were early cold temperatures, excessive lodging, and bird damage. The 'Mid-Season' rice maturity class achieved the highest average yield (3275 pounds/acre) of the three maturity classes.

TABLE 12. PERFORMANCE OF VERY SHORT SEASON RICE VARIETIES EVALUATED ON THE M.O. (SONNY) MARTIN, JR. FARM NEAR BERNIE (STODDARD CO.) DURING 1989.

PLANTED: 12 MAY 1989. FERTILIZER: N = 170; P2O5 = 0; K2O = 0.
 HARVESTED: 5 OCT. 1989. HERBICIDES: POST: STAM + BOLERO.
 ROW SPACING: 7.5 INCHES. POST: LANDAX.
 INSECTICIDE: NONE. GROWING SEASON RAINFALL: 21.21 INCHES.
 PLANTED POP.: 40 SD./SQ. FT.

VARIETY	1989			YIELD (LB/ACRE)				
	FLOW- ERING DATE	HEIGHT (IN.)	LODGING SCORE (1-5)	1989	1988	1987	1986	1985
	L202	8-14	31	1.0	5520**	4346*	7411*	6695**
REXMONT	8-19	30	1.2	4910*	3112	6339	5649	6215*
RU8801111	8-18	36	1.0	4095	--	--	--	--
RU8701105	8-15	35	1.0	3715	4078*	--	--	--
RU8801108	8-17	41	1.0	3612	--	--	--	--
V-7035	8-24	33	1.9	3593	--	--	--	--
RU8901001	8-16	40	2.2	3043	--	--	--	--
RU8801081	8-13	37	1.0	2991	--	--	--	--
RU8601136	8-21	34	1.9	2809	--	--	--	--
MAYBELLE	8-10	35	2.5	2433	--	--	--	--
RU8701084	8- 8	37	5.0	2265	4651*	--	--	--
LEBONNET#	8-27	46	1.9	1041	4828**	6686	4937	5567
TEBONNET#	8-20	47	1.0	990	4148*	6803	4589	5137
TRIAL AVERAGE	8-17	37	1.7	3155	4197	6598	5387	6374
TRIAL LSD .05				1013	1135	661	911	1824
TRIAL C.V. %				32.2	19.5	15.9		

** HIGHEST YIELDING VARIETY IN THE TEST.

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

CHECK VARIETY.

TABLE 13. PERFORMANCE OF SHORT SEASON RICE VARIETIES EVALUATED ON THE M.O. (SONNY) MARTIN, JR. FARM NEAR BERNIE (STODDARD CO.) DURING 1989.

PLANTED: 12 MAY 1989.
 HARVESTED: 5 OCT. 1989.
 ROW SPACING: 7.5 INCHES.
 INSECTICIDE: NONE.
 PLANTED POP.: 40 SD./SQ. FT.

FERTILIZER: N = 170; P2O5 = 0; K2O = 0.
 HERBICIDES: POST: STAM + BOLERO.
 POST: LANDAX.
 GROWING SEASON RAINFALL: 21.21 INCHES.

VARIETY	1989			YIELD (LB/ACRE)				
	FLOW- ERING DATE	HEIGHT (IN.)	LODGING SCORE (1-5)	1989	1988	1987	1986	1985
GULFMONT	8-23	31	1.0	5574**	5130**	7570	5686*	7524*
MERCURY	8-20	33	1.0	4307	4164	7028	--	--
NEWBONNET#	8-26	41	1.0	3929	4385	8699*	5569*	6227
V-4916	8-19	37	1.0	3865	--	--	--	--
V-4716	8-22	34	1.0	3571	--	--	--	--
RU8801121	8-22	38	1.0	3394	--	--	--	--
MARS#	8-25	44	1.2	2596	4331	8939*	5603*	6263
RU8801188	8-26	44	1.0	2497	4024	--	--	--
RICO-I	8-28	42	2.5	2442	--	--	--	--
RU8501124	8-24	38	1.2	2429	4678	8480	6050*	7656*
RU8801124	8-26	47	3.8	1283	--	--	--	--
RU8801173	8-29	45	2.5	903	--	--	--	--
RU8801164	8-29	48	1.2	784	--	--	--	--
TRIAL AVERAGE	8-25	40	1.5	2890	4562	8150	5514	6767
TRIAL LSD .05				881	NS	917	1146	1545
TRIAL C.V. %				29.8	16.6	16.0		

** HIGHEST YIELDING VARIETY IN THE TEST.

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

CHECK VARIETY.

NS NOT SIGNIFICANT AT .05 LEVEL.

TABLE 14. PERFORMANCE OF MID SEASON RICE VARIETIES EVALUATED ON THE M. O. (SONNY) MARTIN, JR. FARM NEAR BERNIE, MO. (STODDARD CO.) DURING 1989.

PLANTED: 12 MAY 1989. FERTILIZER: N = 170; P2O5 = 0; K2O = 0.
 HARVESTED: 16 OCT. 1989. HERBICIDES: POST: STAM + BOLERO.
 ROW SPACING: 7.5 INCHES. POST: LANDAX.
 INSECTICIDE: NONE. GROWING SEASON RAINFALL: 21.21 INCHES.
 PLANTED POP.: 40 SD./SQ. FT.

VARIETY	1989			YIELD (LB/ACRE)				
	FLOW- ERING DATE	HEIGHT (IN.)	LODGING SCORE (1-5)	1989	1988	1987	1986	1985
RU8801185	8-24	39	1.0	4789**	--	--	--	--
LEMONT#	8-29	32	1.0	4780*	5521*	7036	5408*	7508**
RU8701191	8-24	40	2.5	4219*	5207*	--	--	--
RU8801167	8-28	43	1.0	4113	--	--	--	--
RU8701194	8-29	41	1.2	3417	4811*	--	--	--
RU8801179	8-29	45	2.7	3320	--	--	--	--
KATY	8-29	42	1.0	3308	4439*	7507	--	--
RU8601170	8-30	40	3.1	3179	4736*	8433*	--	--
V-7817	9- 4	30	1.0	2681	--	--	--	--
RU8801161	9- 3	36	3.7	2428	--	--	--	--
NORTAI	9- 4	43	2.8	2202	3787	7657	5495*	4393
JASMINE	9-10	36	1.2	865	--	--	--	--
TRIAL AVERAGE	8-31	39	1.8	3275	4748	7774	5385	5525
TRIAL LSD .05				615	1493	789	940	1313
TRIAL C.V. %				18.8	21.9	10.1		

** HIGHEST YIELDING VARIETY IN THE TEST.

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

CHECK VARIETY.

TABLE 15. RICE VARIETY IDENTIFICATION.

VARIETY	CI, PI, OR RU NO.
<u>VERY SHORT SEASON</u>	
L202	PI483097
MAYBELLE	RU8403113
TEBONNET	PI487195
LEBONNET	CI9882
REXMONT	PI502968
LABELLE/L201	RU8701084
LEBONNET/L201	RU8701105
L201/7402003	RU8901001
LABELLE/L201	RU8801081
MARS/TEBONNET	RU8801111
BP87/9902	RU8601136
V6DW/STARBONNET//L201	RU8801108
V-7035	RICE TECH
<u>SHORT SEASON</u>	
MERCURY	PI506428
MARS	CI9945
GULFMONT	PI502967
NEWBONNET	PI47580
RICO-I	PI502969
LEBONNET/9902	RU8501124
ZADT/STARBONNET	RU8801188
BRAZ/MARS	RU8801121
TEBONNET/NORTAI	RU8801173
331581/CA56	RU8801124
MARS/LABELLE	RU8801164
V-4716	RICE TECH
V-4916	RICE TECH
<u>MID SEASON</u>	
KATY	PI527707
LEMONT	PI475833
NORTAI	CI9836
V-7817	RICE TECH
RA73/LEBONNET	RU8701194
LEBONNET/9902	RU8601170
7801067/SKYBONNET	RU8801185
NORTAI/L110	RU8801161
LEBONNET/9902//LABELLE	RU8701191
STARBONNET/LEBONNET	RU8801179
VISTA/RU7901017	RU8801167
JASMINE	RU8803197

The University of Missouri is an Equal Employment and
Educational Opportunity Institution.