

Alfalfa, Sunflower, Cotton, & Rice

1990 Missouri Crop Performance

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MISSOURI CROP PERFORMANCE

1990

ALFALFA, SUNFLOWER, 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 Forrage Research Center near Linneus, the Agronomy Research Center near Columbia, the Southwest Center near Mt. Vernon and the Rural Electric Coop land near West Plains. Two additional trials were planted but were not reported because of unsatisfactory stand establishment.

Sunflower performance trials were conducted on the Agronomy Research Center and the Harry Minor farm, both near Columbia. Twenty-five sunflower hybrids were evaluated under both full season and double crop management practices. The sites represent two distinctive soil types.

Cotton performance trials were conducted near Sikeston on the Herb Schuereberg farm and near Senath on the David Andrews farm. Twenty-six cotton varieties were evaluated at each location.

A rice performance trial was evaluated near Dudley on the David and Steve Jackson farm. In spite of cool spring temperatures and late planting, yields in this test were among the best recorded by the program.

All producers of alfalfa, sunflowers, cotton, and rice seed were eligible to enter varieties or hybrids in the 1990 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 the process of 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 individual plots. Results obtained should aid the individual grower to judge the relative merits of the 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.

PART I

ALFALFA VARIETIES

EXPERIMENTAL PROCEDURES

Locations. On the basis of geographical characteristics, the state is divided into regions. Alfalfa variety evaluation trials were located in the northern, central, southwestern, and southcentral regions of the state. Trial locations are shown on the below map.

Entries. All producers of alfalfa seed were eligible to submit entries for evaluation in 1990. 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 \$100 per location per year was charged for each entry.

Field Plot Design. The trials were arranged in a randomized complete block design with four or six 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.



Alfalfa Locations.

Plot Management. Harvest data were collected from four trials in 1990. These trials were located at the Forage Research Center near Linneus, the Agronomy Research Center near Columbia, the Southwest Center near Mt. Vernon, and the Rural Electric Coop land near West Plains. The Linneus trial consisted of 24 alfalfa varieties and represented a second-year stand. The Columbia trial consisted of 23 alfalfa varieties and represented a fifth-year stand. The trial at Mt. Vernon consisted of 20 entries and represented a third-year stand. The West Plains trial consisted of 24 alfalfa varieties and represented a first-year stand.

Cultural Practices. The tests were planted with a modified small seed planter 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 were found between individual varieties during 1990. Dry matter yields for 24 varieties ranged from 4.83 to 5.66 tons per acre at Linneus (Table 1). Dry matter yields for 23 varieties ranged from 3.54 to 4.77 at Columbia (Table 2). Dry matter yields for 20 varieties at Mt. Vernon ranged from 5.25 to 6.69 tons per acre (Table 4). Dry matter yields for 24 varieties ranged from 1.06 to 1.52 tons per acre at West Plains (Table 6).

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 1990 plantings were made at Maysville, West Plains and Linneus. Wet and cool weather after planting adversely affected stands at these locations. The test at West Plains was the only one reported.

TABLE 1. DRY MATTER PRODUCTION OF 24 ALFALFA VARIETIES GROWN ON THE FOR-
AGE RESEARCH CENTER NEAR LINNEUS, MO. (LINN CO.) DURING 1990.

SEEDED: SPRING 1989. FERTILIZER: N= 0; P2O5= 100; K2O=280
PLANTING RATE: 20 LBS/A. B= 2.
ROW SPACING: 6 INCHES. GROWING SEASON RAINFALL: 28.88 INCHES.

BRAND/VARIETY	HARVESTS - 1990			TOTAL	% CHECK
	5-11	6- 8	8-15		
-----TONS/ACRE-----					
ABI APOLLO SUPREME	2.08	1.66	1.92*	5.66**	117
WATERMAN-LOOMIS WL 320	2.18**	1.63	1.84*	5.65	117
FFR WAMPR	2.06	1.74	1.83*	5.63	117
AGRIPRO AP8743	1.99	1.62	1.92*	5.53	114
RESEARCH SEED LEGEND	1.90	1.60	1.91*	5.41	112
FFR HAYMARK	2.07	1.62	1.72*	5.41	112
UNITED AGRISEED ALLEGIANCE	1.76	1.83**	1.82*	5.41	112
PLANT GENETICS VECTOR	1.95	1.73	1.72*	5.40	112
INTERNATIONAL SEED ISI-567	1.85	1.62	1.91*	5.38	111
PIONEER 5373	1.94	1.49	1.93**	5.36	111
GARST 630	1.82	1.66	1.83*	5.31	110
PIONEER 5432	1.92	1.58	1.81*	5.31	110
DAIRYLAND MAGNUM III	1.89	1.63	1.78*	5.30	110
AGRIPRO AP8735	1.85	1.81	1.64	5.30	110
WATERMAN-LOOMIS WL .317	1.82	1.64	1.77*	5.23	108
JACQUES VS-622	1.83	1.63	1.76*	5.22	108
AGRIPRO DART	1.84	1.61	1.76*	5.21	108
GARST 636	1.79	1.69	1.72*	5.20	108
DEKALB 125	1.68	1.61	1.80*	5.09	105
ABI ARROW	1.69	1.63	1.76*	5.08	105
RESEARCH SEED VIP	1.85	1.60	1.61	5.06	105
JACQUES CHIEF	1.75	1.61	1.70*	5.06	105
PIONEER 5472	1.73	1.46	1.78*	4.97	103
CODY##	1.64	1.41	1.78*	4.83	100
MEAN	1.87	1.63	1.79	5.29	110
LSD .05	NS	NS	0.25	NS	
C.V. %	17.1	13.4	12.1	8.6	

** HIGHEST YIELDING VARIETY.

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

NS NOT SIGNIFICANT AT THE .05 LEVEL.

CHECK VARIETY = 4.83 TONS/ACRE.

TABLE 2. DRY MATTER PRODUCTION OF 23 ALFALFA VARIETIES GROWN ON THE AGRONOMY RESEARCH CENTER NEAR COLUMBIA, MO. (BOONE CO.) DURING 1990.

SEEDED: SPRING 1986. FERTILIZER: N= 0; P2O5=200; K2O=200.
 PLANTING RATE: 20 LBS/A. INSECTICIDE: AMBUSH.
 ROW SPACING: 6 INCHES. GROWING SEASON RAINFALL: 38.70 INCHES.

BRAND/VARIETY	HARVESTS - 1990				TOTAL	%
	5-30	7-12	8-20	9-25		
-----TONS/ACRE-----						
DAIRYLAND MAGNUM	1.18	1.33*	1.58**	0.68	4.77**	115
MFA/W-L RESEARCH WL 320	1.33	0.95	1.35	1.02**	4.65	112
CARGILL ENDURE	1.06	1.44**	1.40	0.74	4.64	112
RESEARCH SEED PEAK	1.44	1.19*	1.29	0.70	4.62	111
GREAT PLAINS SHENANDOAH	1.50**	1.18*	1.25	0.60	4.53	109
GREEN SEED CORONA	1.50**	0.95	1.44	0.57	4.46	108
LARRY PETERSON EPIC	1.44	0.98	1.19	0.77	4.38	106
MFA/W-L RESEARCH WL 316	1.28	1.13*	1.28	0.63	4.32	104
ABI ARMOR	1.38	0.96	1.33	0.62	4.29	104
GARST 655	1.14	1.27*	1.20	0.60	4.21	102
ASGROW/0'S GOLD EAGLE	1.38	1.03*	1.13	0.64	4.18	101
RILEY##	1.29	0.96	1.12	0.80	4.17	101
DEKALB DK135	1.19	1.07*	1.25	0.65	4.16	100
VERNAL##	1.18	1.26*	1.09	0.61	4.14	100
BAKER##	1.12	1.37*	1.00	0.63	4.12	100
GARST 629	1.28	1.19*	0.94	0.70	4.11	99
GARST 624	1.05	1.09*	1.29	0.66	4.09	99
STAUFFER SEEDS SUMMIT	1.22	0.98	1.17	0.68	4.05	98
RESEARCH SEED ACTION	1.15	0.81	1.14	0.81	3.91	94
UNITED AGRISEEDS SALUTE	1.18	0.93	1.16	0.64	3.91	94
RESEARCH SEED EDGE	1.18	0.90	0.99	0.73	3.80	92
ABI ARROW	1.18	0.79	1.22	0.58	3.77	91
GREAT PLAINS CIMARRON	1.32	0.81	0.86	0.55	3.54	86
MEAN	1.26	1.07	1.20	0.68	4.21	102
LSD .05	NS	0.41	NS	0.16	NS	
C.V. %	19.3	27.4	22.4	16.6	13.6	

** HIGHEST YIELDING VARIETY.

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

NS NOT SIGNIFICANT AT .05 LEVEL.

CHECK VARIETY, MEAN = 4.14 TONS/ACRE.

TABLE 3. DRY MATTER PRODUCTION OF 23 ALFALFA VARIETIES GROWN ON THE AGRONOMY RESEARCH CENTER NEAR COLUMBIA, MO. (BOONE CO.) DURING 1986-90.

SEEDED: SPRING 1986.

BRAND/VARIETY	YEAR					MEAN	% CHECK
	1986	1987	1988	1989	1990		
-----TONS/ACRE-----							
LARRY PETERSON EPIC	3.71**	4.83**	7.12**	7.79	4.38	5.57**	121
MFA/W-L RESEARCH WL 320	3.01	4.57	6.67	7.32	4.65	5.24	114
STAUFFER SEEDS SUMMIT	3.53*	4.53	6.58	7.50	4.05	5.24	114
ASGROW/O'S GOLD EAGLE	3.36	4.63	6.90*	7.06	4.18	5.23	114
RESEARCH SEED PEAK	3.05	4.26	5.85	8.21**	4.62	5.20	113
ABI ARMOR	2.64	4.55	6.90*	7.37	4.29	5.15	112
DAIRYLAND MAGNUM	3.49*	4.44	5.66	7.37	4.77**	5.15	112
MFA/W-L RESEARCH WL 316	3.03	4.50	5.96	7.87	4.32	5.14	112
GARST 624	3.21	4.43	6.09	7.57	4.09	5.08	110
GREAT PLAINS SHENANDOAH	2.69	4.25	6.41	7.43	4.53	5.06	110
RESEARCH SEED ACTION	2.65	4.30	6.37	8.01	3.91	5.05	110
UNITED AGRISEEDS SALUTE	2.65	4.10	6.66	7.46	3.91	4.96	108
RILEY##	2.89	4.31	5.80	7.29	4.17	4.89	106
GREEN SEED CORONA	2.47	4.45	5.89	7.08	4.46	4.87	106
RESEARCH SEED EDGE	2.80	3.95	6.10	7.67	3.80	4.86	106
DEKALB DK135	2.46	4.27	5.63	7.72	4.16	4.85	105
GREAT PLAINS CIMARRON	2.66	4.46	6.49	6.84	3.54	4.80	104
GARST 655	2.81	4.12	5.90	6.98	4.21	4.80	104
GARST 629	3.25	4.28	5.05	6.83	4.11	4.70	102
ABI ARROW	2.84	4.30	5.48	6.75	3.77	4.63	101
CARGILL ENDURE	2.76	3.52	4.89	7.18	4.64	4.60	100
VERNAL##	2.53	3.83	4.92	6.93	4.14	4.47	97
BAKER##	2.97	3.51	4.78	6.77	4.12	4.43	96
MEAN	2.93	4.28	6.00	7.35	4.21	4.96	108
LSD .05	0.26	0.15	0.34	0.18	NS	0.25	
C.V. %	25.0	19.9	33.1	20.3	13.6	8.0	

** HIGHEST YIELDING VARIETY.

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

NS NOT SIGNIFICANT AT .05 LEVEL.

CHECK VARIETY, MEAN = 4.60 TONS/ACRE.

TABLE 4. DRY MATTER PRODUCTION OF 20 ALFALFA VARIETIES GROWN ON THE SOUTH-WEST CENTER NEAR MT. VERNON, MO. (LAWRENCE CO.) DURING 1990.

SEEDED: FALL 1987. FERTILIZER: N = 0; P2O5 = 80; K2O = 400;
 PLANTING RATE: 20 LBS/A. B = 2.5.
 ROW SPACING: 6 INCHES. INSECTICIDE: FURADAN.
 GROWING SEASON RAINFALL: 34.74 INCHES.

BRAND/VARIETY	HARVESTS - 1990					TOTAL	% CHECK
	5-11	6- 8	7-10	8-15	9-19		
	-----TONS/ACRE-----						
GREEN SEED IMPACT	1.79**	1.61*	1.36*	1.21*	0.72	6.69**	109
ABI ARROW	1.68	1.71*	1.33*	1.19*	0.75	6.66*	109
PIONEER BRAND 5432	1.66	1.62*	1.30*	1.23*	0.77*	6.58*	107
W-L RESEARCH ACCLAIM	1.48	1.65**	1.32*	1.27**	0.79*	6.51*	106
AGRIPRO AP 8640	1.52	1.64*	1.39**	1.24*	0.70	6.49*	106
GARST 630	1.66	1.46	1.30*	1.27**	0.74	6.43*	105
GARST 629	1.67	1.59*	1.27	1.16	0.72	6.41*	105
NORTHRUP KING FORTRESS	1.65	1.54*	1.26	1.23*	0.69	6.37*	104
AGRIPRO DART	1.56	1.54*	1.28	1.18*	0.77*	6.33*	103
UNITED AGRISEEDS ALLEGIANCE	1.60	1.54*	1.28	1.20*	0.71	6.33*	103
UNITED AGRISEEDS SALUTE	1.50	1.51*	1.30*	1.23*	0.78*	6.32*	103
MFA/W-L RESEARCH WL 316	1.52	1.59*	1.24	1.21*	0.69	6.25	102
FFR ANSTAR	1.59	1.58*	1.20	1.16	0.70	6.23	102
MFA/W-L RESEARCH WL 320	1.40	1.44	1.25	1.26*	0.82**	6.17	101
CODY##	1.48	1.49*	1.20	1.20*	0.76*	6.13	100
DEKALB DK135	1.44	1.56*	1.16	1.25*	0.72	6.13	100
NORTHRUP KING COMMANDER	1.45	1.54*	1.23	1.15	0.71	6.08	99
VISTA SURE	1.54	1.48	1.13	1.14	0.65	5.94	97
GREAT LAKES WEBFOOT	1.55	1.41	1.09	1.08	0.64	5.77	94
NORTHRUP KING SPREDOR II	1.40	1.39	0.93	0.96	0.57	5.25	86
MEAN	1.56	1.54	1.24	1.19	0.72	6.25	102
LSD .05	NS	0.16	0.10	0.10	0.06	0.41	
C.V. %	10.8	7.5	5.8	5.8	6.6	4.7	

** HIGHEST YIELDING VARIETY.

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

NS NOT SIGNIFICANT AT THE .05 LEVEL.

CHECK VARIETY = 6.13 TONS/ACRE.

TABLE 5. DRY MATTER PRODUCTION OF 20 ALFALFA VARIETIES GROWN ON THE SOUTH-WEST CENTER NEAR MT. VERNON, MO. (LAWRENCE CO.) DURING 1988-90.

SEEDED: FALL 1987.

BRAND/VARIETY	YEAR			MEAN	% CHECK
	1988	1989	1990		
-----TONS/ACRE-----					
PIONEER BRAND 5432	5.96	7.72	6.58*	6.75**	108
AGRIPRO DART	5.92	7.84*	6.33*	6.70*	107
ABI ARROW	5.60	7.85**	6.66*	6.70*	107
UNITED AGRISEEDS ALLEGIANCE	5.87	7.78*	6.33*	6.66*	107
NORTHROP KING FORTRESS	5.81	7.79*	6.37*	6.66*	107
FFR ANSTAR	5.94	7.73	6.23	6.63*	106
WATERMAN-LOOMIS ACCLAIM	5.66	7.66	6.51*	6.61*	106
GARST 629	5.86	7.52	6.41*	6.60*	106
GARST 630	5.54	7.69	6.43*	6.55	105
MFA/W-L RESEARCH WL 320	5.95	7.49	6.17	6.54	105
DEKALB DK135	6.07**	7.27	6.13	6.49	104
MFA/W-L RESEARCH WL 316	5.58	7.62	6.25	6.48	104
UNITED AGRISEEDS SALUTE	5.58	7.48	6.32*	6.46	103
NORTHROP KING COMMANDER	5.68	7.47	6.08	6.41	102
AGRIPRO AP 8640	5.16	7.53	6.49*	6.39	102
VISTA SURE	5.91	7.26	5.94	6.37	102
CODY##	5.51	7.12	6.13	6.25	100
GREAT LAKES WEBFOOT	5.60	6.75	5.77	6.04	97
GREEN SEED IMPACT#	3.08	7.70	6.69**	5.82	93
NORTHROP KING SPREDOR II	4.96	6.01	5.25	5.41	87
MEAN	5.56	7.46	6.25	6.42	103
LSD .05	0.07	0.07	0.41	0.15	
C.V. %	9.9	8.0	4.7	3.0	

** HIGHEST YIELDING VARIETY.

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

LATE ENTRY PLANTED IN SPRING OF 1988.

CHECK VARIETY, MEAN = 6.25 TONS/ACRE.

TABLE 6. DRY MATTER PRODUCTION OF 20 ALFALFA VARIETIES GROWN ON THE RURAL ELECTRIC COOP NEAR WEST PLAINS, MO. (HOWELL CO.) DURING 1990.

SEEDED: SPRING 1990. FERTILIZER: N= 0; P2O5=100; K2O= 300;
 PLANTING RATE: 20 LBS/A. B = 1.0
 ROW SPACING: 6 INCHES. HERBICIDE: PRE: BALAN
 INSECTICIDE: FURADAN. GROWING SEASON RAINFALL: 22.98 INCHES.

BRAND/VARIETY	HARVESTS - 1990			% CHECK
	6-20	11-15	TOTAL	
-----TONS/ACRE-----				
GREAT PLAINS CIMMARRON	0.94**	0.58	1.52**	138
RESEACH SEED BLAZER XL	0.89*	0.60**	1.49*	135
RESEACH SEED PRECEDENT	0.92*	0.50	1.42*	129
DEKALB DK125	0.85*	0.54	1.39*	126
NORTHRUP KING FORTRESS	0.86*	0.49	1.35*	123
DEKALB DK135	0.81*	0.50	1.31*	119
AGRIPRO DART	0.76	0.52	1.28*	116
WATERMAN-LOOMIS WL 320	0.70	0.57	1.27	115
RESEACH SEED BRONCO	0.78*	0.48	1.26	115
NORTHRUP KING CROCKETT	0.71	0.53	1.24	113
ABI APOLLO SUPREME	0.71	0.50	1.21	110
AGRIPRO DAWN	0.72	0.48	1.20	109
GARST 630	0.77*	0.43	1.20	109
PIONEER 5373	0.74	0.45	1.19	108
PIONEER 5364	0.69	0.47	1.16	105
ABI ARROW	0.67	0.47	1.14	104
PIONEER 5472	0.63	0.47	1.10	100
CODY##	0.63	0.47	1.10	100
ABI AGGRESSOR	0.64	0.43	1.07	98
WATERMAN-LOOMIS WL 317	0.63	0.43	1.06	96
MEAN	0.75	0.50	1.25	114
LSD .05	0.17	NS	0.24	
C.V. %	15.8	18.0	14.0	

** HIGHEST YIELDING VARIETY.

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

NS NOT SIGNIFICANT AT THE .05 LEVEL.

CHECK VARIETY = 1.10 TONS/ACRE.

TABLE 7. CHARACTERISTICS* OF ALFALFA VARIETIES IN THE 1990 MISSOURI VARIETY TRIALS.

BRAND-VARIETY	FALL DORMANCY (1-8)	REACTION TO PESTS									
		WILT			PHYTO-PHTHORA ROOT ROT	APHID			NEMATODE		
		BACT-ERIAL	VERTI-CILLIUM	FUS-ARIUM		AN-THRAC-NOSE	SPOTTED ALFALFA	PEA	BLUE ALFALFA	STEM	ROOT KNOT
PRIVATE											
ABI AGGRESSOR	4	HR	R	HR	R	HR	MR	--	--	--	
ABI ARMOR	4	R	--	R	MR	R	--	--	--	--	
ABI ARROW	3	HR	R	HR	R	R	MR	MR	--	MR	
ABI APOLLO SUPREME	4	MR	R	HR	HR	HR	R	--	--	--	
AGRIPRO DART	3	HR	R	HR	R	R	MR	MR	--	--	
AGRIPRO DAWN	3	HR	R	HR	R	HR	--	--	--	--	
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	
DAIRYLAND MAGNUM III	4	HR	MR	R	MR	R	MR	--	--	--	
DEKALB-PFIZER DK125	3	HR	R	R	HR	R	MR	R	--	--	
DEKALB-PFIZER DK135	4	R	MR	R	MR	MR	MR	R	LR	R	
FFR ANSTAR	4	R	--	MR	R	S	--	--	--	--	
FFR WAMPR	4	R	R	R	R	R	MR	--	--	MR	
FFR HAYMAKER	3	R	--	HR	HR	R	--	--	--	--	
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 636	2	HR	R	R	MR	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 CIMARRON VR	4	HR	MR	HR	MR	MR	HR	HR	--	--	
GREAT PLAINS SHENANDOAH	5	HR	--	HR	HR	HR	--	--	--	MR	
GREEN SEED CORONA	2	R	--	--	R	R	R	--	--	--	
GREEN SEED IMPACT	3	HR	R	HR	MR	R	--	--	--	--	
INTERNATIONAL SEED ISI-567	4	R	MR	R	LR	R	MR	--	--	--	
JACQUES CHIEF	4	HR	R	R	R	HR	R	R	LR	MR	
JACQUES MULTI-PLIER	3	HR	R	HR	HR	HR	MR	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	4	R	R	R	R	HR	HR	R	--	HR	
NORTHROP KING CROCKETT	5	HR	--	MR	HR	R	HR	--	--	--	
PIONEER BRAND 5364	4	R	MR	R	MR	MR	HR	HR	S	R	
PIONEER BRAND 5373	4	HR	R	HR	HR	MR	R	HR	S	LR	
PIONEER BRAND 5432	4	HR	R	HR	S	MR	HR	R	S	MR	
PIONEER BRAND 5472	4	HR	MR	HR	MR	MR	R	HR	S	R	
PLANT GENETICS VECTOR	4	R	MR	HR	R	R	R	R	LR	R	
RESEARCH SEEDS ACTION	4	R	MR	R	HR	R	MR	R	--	--	
RESEARCH SEEDS BLAZER XL	4	HR	R	HR	HR	HR	HR	R	--	--	
RESEARCH SEEDS BRONCO	3	HR	R	R	HR	HR	R	R	--	--	
RESEARCH SEEDS EDGE	4	R	R	R	HR	R	R	R	R	--	
RESEARCH SEEDS LEGEND	4	HR	R	HR	HR	R	LR	R	--	--	
RESEARCH SEEDS PEAK	4	R	LR	R	--	MR	--	HR	--	HR	
RESEARCH SEEDS PRECEDENT	3	HR	R	HR	R	HR	R	R	--	--	
RESEARCH SEEDS VIP	3	HR	R	R	R	R	MR	HR	--	MR	
STAUFFER SUMMIT	4	R	R	R	HR	R	MR	R	--	--	
UNITED AGRISEED SALUTE	4	HR	MR	MR	R	MR	LR	--	--	--	
UNITED AGRISEED ALLEGIANCE	4	R	R	R	HR	R	LR	R	--	R	
VISTA SURE	3	HR	R	HR	HR	R	LR	R	--	--	
W-L RESEARCH ACCLAIM	--	R	--	--	MR	MR	R	R	--	--	
W-L RESEARCH WL-317	3	HR	R	HR	R	HR	R	HR	LR	R	
W-L RESEARCH WL-320	4	R	MR	HR	MR	R	R	MR	MR	MR	
PUBLIC											
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	DUPUIS	HR	> 50	HIGH RESISTANCE
6	MESILLA			
7	MOAPA 69			
8	CUF 101			

TABLE 8. SOURCE OF ALFALFA ENTRIES EVALUATED IN 1990 MISSOURI YIELD TRIALS.

BRAND	VARIETY	FIRM AND ADDRESS
ABI	ARMOR, ARROW, AGGRESSOR, APOLLO SUPREME	AGRIPRO, RT. 3, AMES, IA 50010
AGRIPRO	DART, DAWN, 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, MAGNUM III	DAIRYLAND RESEARCH INTERNATIONAL, RT. 1, BOX 51, CLINTON, WI 53525
DEKALB-PFIZER	DK125, DK135	DEKALB-PFIZER GENETICS, 3100 SYCAMORE RD., DEKALB, IL 60115
FFR	ANSTAR, HAYMAKER, WAMPR	FFR COOPERATIVE, 4112 EAST STATE RD. 225, WEST LAFAYETTE, IN 47906
GARST	629, 624, 636, 630, 636, 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, CIMARRON VR SHENANDOAH	GREAT PLAINS RESEARCH CO., INC., 1221 PIONEER CT., CARY, NC 27511
GREEN SEED	CORONA, IMPACT	GREEN SEED CO., BOX 1678, GALLATIN, TN 37066
INTERNATIONAL SEEDS	ISI-567	INTERNATIONAL SEED INC., PO BOX 168, HALSEY, OR 97321
JACQUES	CHIEF, MULTI-PLIER	JACQUES SEED CO., 720 ST.CROIX ST., PRESCOTT, WI 54021
LARRY PETERSON LTD.	EPIC	LARRY PETERSON, LTD., BOX 339 CEDAR FALLS IA 50613
MFA/W-L RESEARCH	WL-316, WL-320	MFA, INC., 615 LOCUST, COLUMBIA, MO 65201
NORTHROP KING	COMMANDER, CROCKETT, FORTRESS, SPREDOR II	NORTHROP KING CO., 3403 HOOVER, AMES, IA 50010
PLANT GENETICS	VECTOR	PLANT GENETICS, 1930 5TH ST., DAVIS, CA 95616
PIONEER BRAND	5364, 5373, 5432, 5472	PIONEER HI-BRED INT., INC., 7305 62ND, BOX 85, JOHNSTON, IA 50131
RESEARCH SEEDS	ACTION, BLAZER XL, BRONCO, VIP, EDGE, PEAK, PRECEDENT, LEGEND	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, WL-317, WL-320	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
SUNFLOWERS

EXPERIMENTAL PROCEDURES

Locations. Twenty five sunflower hybrids were evaluated in trials located in the central region of the state. Tests were conducted at the Agronomy Research Center near Columbia and on the Harry Minor farm in eastern Boone County during 1990. Trial locations are shown on the map below. Most varieties tested were selected for confectionary use.

Field Plot Design. All tests were arranged in a randomized complete block design with four replications. Individual plots consisted of four rows, 30 inches wide and 20 feet long. At harvest, all plots were trimmed to a uniform length and the center two rows of each plot were hand harvested to determine yield.

Entries. All producers of Sunflower seed were eligible to submit entries for evaluation in 1990. Participation was voluntary, and no control was exercised by the program over which, or how many varieties were entered.

Plot Management. All tests were planted with a conventional planter modified for small plot work. At harvest, a representative portion of the center two rows were hand cut and threshed to determine yield.



Sunflower Locations.

TABLE 9. SOURCE OF SUNFLOWER ENTRIES EVALUATED IN 1990.

BRAND	VARIETY	FIRM AND ADDRESS
AGRIPRO	101, 102, 2057A, ST-301	AGRIPRO BIOSCIENCES, 6700 ANIOCH BOX 2955, SHAWNEE MISSION, KS 66201
AGWAY	381, 2141, 4381	AGWAY, BOX 169, GRANDIN, IN 58105
DAHLGREN	131, 151, 759-12, 759-2E	DAHLGREN AND CO., 1220 SUNFLOWER ST. CROOKSTON, MN 56716
INTERSTATE	920, 921, 7100, 8004, 8115	INTERSTATE SEEDS CO., 1214 PRAIRIE PARKWAY, W. FARGO, ND 58078
RED RIVER	995	RED RIVER COMMODITIES, 501 42nd NW, FARGO, ND 58108
SIGCO	101, 104, 114, 115	SIGCO RESEARCH, BOX 331 BRECKENRIDGE MN 56520
TRIUMPH	505-3, 548A, 557-DW	TEXAS TRIUMPH SEED CO., BOX 1050, RALLS, TX. 79357
USDA	924	NORTHERN CROPS SCIENCE LAB, BOX 5677, FARGO, ND 58105

Data Recorded. Total seed weights were taken from the two center rows of each plot at harvest. In addition to yield, lodging, population, grain moisture, and plant height were measured at harvest in all trials. All yield data are presented on basis of a pounds per acre of air dried seed at 13 percent moisture.

RESULTS

Full Season Sunflowers. Dry matter yields ranged from 1242 to 3149 pounds per acre (Table 10). Above normal rainfall is believed to have contributed significantly to the above average yields.

Double Crop Sunflowers. Significant differences in yield were found between individual hybrids (Table 11). Yields ranged from 551 to 2625 per acre at the Agronomy Research Center and from 486 to 1985 pounds per acre on the Harry Minor farm near Columbia. Irregular stands contributed to some of the difference in performance observed between hybrids and locations.

TABLE 10. PERFORMANCE OF FULL-SEASON SUNFLOWER HYBRIDS EVALUATED NEAR COLUMBIA ON THE AGRONOMY RESEARCH CENTER DURING 1990.

PLANTED: 13 JUNE 1990. FERTILIZER: N=150, P2O5=100, K2O=100.
 HARVESTED: 23 OCTOBER 1990. HERBICIDES: PRE: TREFLAN.
 PLANTED POPULATION: 23,200 PL/A. POST: NONE
 ROW SPACING: 30 INCHES. INSECTICIDE: NONE.
 GROWING SEASON RAINFALL: 24.90". IRRIGATION: 0.00".

BRAND/HYBRID	50% BLOOM (DATE)	POPULATION (PL/A)	LOD- GING (%)	PLANT HEIGHT (IN.)	MOISTURE (%)	1990 YIELD (LB/A)
SIGCO 104	8-12	16516	54.3	68	8.9	3149**
INTERSTATE IS 71001	8-14	18332	49.2	77	8.6	3106*
INTERSTATE IS 81150	8-13	21417	55.1	71	7.9	3065*
USDA 924	8-10	15609	34.0	60	8.7	2821*
DAHLGREN D-960-2E	8- 9	15972	32.2	65	9.2	2758*
INTERSTATE IS 921	8-11	19057	36.6	69	8.5	2731*
DAHLGREN D-759-12E	8- 7	17061	25.6	60	9.6	2727*
SIGCO 115	8- 9	14157	35.3	71	8.6	2682
RED RIVER 995	8-11	17242	27.4	61	8.7	2675
TRIUMPH 505-3	8-10	15609	27.6	66	9.2	2651
INTERSTATE IS 920	8-10	17061	59.3	74	8.4	2522
INTERSTATE IS 8004	8-12	17968	49.6	68	8.9	2502
SIGCO 114	8-12	16154	27.8	72	9.0	2455
AGWAY RH 381	8-12	13975	56.8	58	8.4	2424
DAHLGREN D-151	8- 8	13249	28.7	55	8.9	2420
AGRIPRO ST 310	8- 8	21417	18.8	63	8.4	2331
AGWAY RH 2141	8-11	18694	38.9	68	8.8	2295
AGWAY RH 4381	8-12	13975	44.5	71	9.2	2267
DAHLGREN D-131	8- 8	15246	26.4	49	8.9	2249
AGRIPRO 2057A	8- 6	17061	20.8	62	8.5	2101
TRIUMPH 557-DW	8-14	16335	22.7	47	8.8	2068
SIGCO 101	8- 8	14701	24.4	63	9.0	2053
TRIUMPH 548-A	8-11	17606	25.7	59	8.9	1933
AGRIPRO 101	8- 2	21780	18.3	45	9.1	1826
AGRIPRO 102	7-29	22506	10.1	42	8.4	1242
TRIAL MEAN	8-10	17148	34.0	63	8.8	2442
TRIAL LSD .05	2.6	3650	NS	18	1.3	424
TRIAL C.V. %	0.7	13.0	31.7	17.6	9.2	10.7

-- DATA NOT AVAILABLE.

** HIGHEST YIELDING HYBRID IN THE TEST.

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

NS NOT SIGNIFICANT AT THE .05 LEVEL.

TABLE 11. PERFORMANCE OF SUNFLOWER HYBRIDS PLANTED AFTER WHEAT EVALUATED NEAR COLUMBIA ON THE AGRONOMY RESEARCH CENTER AND THE HARRY MIMOR FARM DURING 1990.

AGRONOMY RESEARCH CENTER

PLANTED: 3 JULY 1990.
 HARVESTED: 23 OCTOBER 1990.
 PLANTED POPULATION: 23,200 PL/A.
 ROW SPACING: 30 INCHES.
 GROWING SEASON RAINFALL: 24.90".

FERTILIZER: N=150, P2O5=100, K2O=100.
 HERBICIDES: PRE: TREFLAN.
 POST: NONE
 INSECTICIDE: NONE.
 IRRIGATION: 0.00".

THE HARRY MINOR FARM

PLANTED: 10 JULY 1990.
 HARVESTED: 30,31 OCTOBER 1990.
 PLANTED POPULATION: 23,200 PL/A.
 ROW SPACING: 30 INCHES.
 GROWING SEASON RAINFALL: 24.90".

FERTILIZER: N=150, P2O5=100, K2O=100.
 HERBICIDES: PRE: TREFLAN.
 POST: NONE
 INSECTICIDE: NONE.
 IRRIGATION: 0.00".

BRAND/HYBRID	AGRONOMY FARM				HARRY MINOR				1990 YIELD (LB/A)		
	50% BLOOM (DATE)	POPU- LATION (PL/A)	LOD- GING (%)	HEI- GHT IN.	50% BLOOM (DATE)	POPU- LATION (PL/A)	LOD- GING (%)	HEI- GHT IN.	ARC	MINOR	MEAN
INTERSTATE IS 8004	8-30	16880	12.7	67	9- 5	16516	26.7	84	2087*	1985**	2036**
INTERSTATE IS 81150	8-29	20328	8.8	65	9- 4	14702	13.0	74	2625**	1364	1994*
INTERSTATE IS 920	8-31	18150	14.4	61	9- 5	18695	31.9	79	2297*	1650*	1974*
AGWAY RH 381	8-31	15972	4.8	63	9- 5	11616	19.5	64	2288*	1633*	1960*
INTERSTATE IS 71001	8-31	17968	7.0	76	9- 7	17606	14.0	83	2360*	1519*	1940*
RED RIVER 995	8-29	16154	12.3	64	9- 4	13250	34.8	66	2312*	1553*	1932*
AGWAY RH 2141	8-29	19602	12.4	67	9- 5	18332	45.8	82	2357*	1485*	1921*
AGWAY RH 4381	8-30	18694	17.6	66	9- 5	18513	13.8	81	2198*	1641*	1920*
DAHLGREN D-131	8-29	13794	12.3	49	9- 3	16698	16.9	67	1949	1839*	1894*
SIGCO 114	8-30	17061	40.9	69	9- 4	16516	67.8	79	1875	1892*	1884*
TRIUMPH 505-3	8-30	16516	25.0	60	9- 3	12886	39.4	79	2132*	1610*	1871*
SIGCO 115	8-30	16335	17.4	63	9- 5	12886	29.7	80	1915	1685*	1800*
SIGCO 104	8-31	15972	19.5	68	9- 5	16516	56.9	71	2369*	1223	1796*
USDA 924	8-29	10164	8.4	61	9- 4	17606	31.5	75	1737	1834*	1786*
INTERSTATE IS 921	8-30	15064	28.9	68	9- 4	11979	42.5	77	2074*	1477*	1776*
DAHLGREN D-960-2E	8-30	13794	16.5	54	9- 2	13431	41.8	66	1842	1707*	1774*
DAHLGREN D-759-12E	8-28	21598	13.5	56	9- 3	22688	19.4	59	2001	1527*	1764*
DAHLGREN D-151	8-29	9075	16.9	54	9- 4	13612	20.0	63	1553	1926*	1740*
SIGCO 101	8-29	15972	13.1	58	9- 5	12342	16.8	70	1725	1465*	1595
TRIUMPH 557-DW	9- 3	14702	22.3	36	9- 8	8530	4.5	36	1848	514	1181
AGRIPRO 2057A	8-27	12705	4.6	55	9- 3	14338	23.3	66	1220	889	1054
TRIUMPH 548-A	9- 1	14520	3.8	53	9- 5	17061	20.2	70	1509	508	1008
AGRIPRO ST 310	8-29	13794	5.6	43	9- 2	20691	0.8	56	1384	421	902
AGRIPRO 101	8-26	13996	5.5	32	9- 3	15064	3.7	47	838	845	842
AGRIPRO 102	8-24	20146	7.4	27	8-30	17787	7.8	42	551	486	518
TRIAL MEAN	8-29	15957	14.1	57	9- 4	15594	25.7	69	1882	1387	1634
TRIAL LSD .05	2	NS	16.5	11	2	6001	27.7	13	554	571	389
TRIAL C.V. %	0.5	26.7		11.5	0.6	23.6	11.9	17.6	17.9	25.2	21.0

** HIGHEST YIELDING HYBRID IN THE TEST.

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

NS NOT SIGNIFICANT AT THE .05 LEVEL.

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. Trial locations are shown on the map below.

Field Plot Design. The trials were arranged in a randomized complete block design with six replications. 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.

Entries. All producers of cotton seed were eligible to enter varieties in the 1990 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 26 cotton varieties were compared in 1990.



Cotton Locations.

TABLE 12. SOURCE OF COTTON ENTRIES EVALUATED IN 1990.

BRAND	VARIETY	FIRM AND ADDRESS
CHEMBRED	232, 407, 1207, 1232, 1135	CHEMBRED INC., RT.3, BOX 750, MARICOPA, AZ 85239
DELCOT	344	UMC DELTA CENTER, BOX 160, PORTAGEVILLE, MO 63801
DELTAPINE	20, 50, 51, 5415, 5690	DELTA AND PINE LAND CO., BOX 157, SCOTT, MS 38772
DES	119	DELTA BRANCH, MISS. AG. EXP. STAT. BOX 197, STONEVILLE, MS 38776
HARTZ	1014, 1416, 1432	JACOB HARTZ SEED CO., INC., BOX 946, STUTTGART, AR 72160
HYPERFORMER	90-SL, SALCOT 10 23, 46	HYPERFORMER SEED CO., 5100 POPLAR SUITE 3200, MEMPHIS, TN 38137
NORTHRUP KING COKER	130, 139, 320	THE NEW NORTHRUP KING CO., 220 GLEN ECHO, COLLIERVILLE, TN 38017
STONEVILLE	ST-453, ST-907	STONEVILLE PEDIGREED SEED CO., BOX 167, STONEVILLE, MS 38776
TERRA	C-40, C-207	TERRA INTERNATIONAL, INC., BOX 171376, MEMPHIS, TN 38187

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 rows 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. Quality characteristics of the cotton fibers were analyzed at the USDA Cotton Laboratory in Hayti, Missouri and the results are presented in tables 13-15 with other agronomic information.

Fiber Quality Fiber quality characteristics were determined for each variety utilizing lint samples from three replications at each test location. These characteristics and their importance are described below.

- A. Micronaire: The micronaire test provides a combined measure of maturity and fineness of cotton fibers. Fiber maturity is a relative measure of cell-wall fiber. Immature fibers result in decreased rates of processing, dyeing problems, and the production of yarns and fabrics with low grade. Fineness is a relative measure of either the diameter of individual cotton fibers or the weight per unit length. Fine cotton produces stronger yarns and requires a reduced rate of processing.

In the test, air is passed through a compressed sample of cotton fiber. The rate of flow through the sample follows a relationship between diameter or thickness of the textile fibers and the air resistance they provide. Finer fibers result in greater resistance and therefore, a lesser air flow. Value recorded can be interpreted as follows:

Below 36.0 = fine and often immature
37.0 - 42.9 = premium range
Above 43.0 = coarse fibers

- B. Uniformity: Fiber uniformity is a measure of the degree of uniformity of fiber length in a sample. Uniformity is calculated as a ratio of the average length of all fibers to the average length of the longest 50 percent of the fibers in the sample. The ratio is then multiplied by 100. High uniformity values are desirable and indicate uniform fiber lengths.

Below 77.0 = Very Low
77.1 - 79.0 = Low
79.1 - 82.0 = Average
82.1 - 85.0 = High
Above 85.1 = Very High

- C. Strength: Yarn strength and ease of manufacturing are correlated positively with strong-fibered cottons. Fiber strength is reported in grams per tex. A tex unit is equal to the weight in grams of 1000 m of fiber. The strength values are reported in grams of force required to break one tex unit of fibers with the holding jaws separated by 1/8 in. The following chart categorizes strength readings and aids in the interpretation of strength values for an 1/8 in. gauge:

Below 20.0 = Very Low
20.9 - 23.9 = Low
24.0 - 26.9 = Average
27.0 - 29.9 = High
Above 30.0 = Very High

RESULTS

Twenty six cotton varieties were planted at Sikeston and at Senath on sandy loam soils in 1990. Sikeston lint yields averaged 668 pounds per acre, and ranged from 485 to 783 pounds per acre (Table 12). This trial was not irrigated and there was no lodging. Senath lint yields averaged 1013 pounds per acre, and ranged from 836 to 1111 pounds per acre (Table 13). This trial was irrigated and had no lodging.

TABLE 13. YIELD PERFORMANCE OF COTTON VARIETIES GROWN NEAR SIKESTON, MISSOURI ON THE HERB SCHUERENBERG FARM DURING 1985,87,90.

PLANTED: 8 MAY 1990.
 HARVESTED: 19 OCTOBER 1990.
 PLANTED POPULATION: 82,500 PL/A.
 ROW SPACING: 38 INCHES.
 GROWING SEASON RAINFALL: 19.29 INCHES.
 IRRIGATION: 0.00 INCHES.

FERTILIZER: N = 85, P2O5 = 0, K2O = 125.
 HERBICIDES: PRE: TRILAND + ZORIAL + COTORAN.
 POST: MSMA + PROBE, BLADEX,
 INSECTICIDE: PRE: TEMIK AND RIDOMIL.
 POST: CAPTURE AND ORTHENE.
 OTHER PRODUCTS: DROPP, PIX, AND PREP.

BRAND/VARIETY	1990												
	GRADE	FIBER					STAND (PL/A)	HEI- GHT (IN.)	LINT (%)	SEED COTTON (LBS/A)	TOTAL LINT (LBS/A)		
		STAPLE	MICR- ONAIRES	UNIF- ORMITY	STRE- NGTH						1990	1987	1985
NORTHRUP KING COKER 139	51.0	36.3	37.7	79.7	28.3	32555	30	37.1	2100**	783**	1067*	460	
TERRA C-40	51.0	34.7	37.7	79.7	26.0	41726	26	36.7	1998*	728*	1168*	--	
DELTAPINE 50	51.0	36.3	35.3	81.3	27.7	45853	21	34.6	2075*	724*	--	--	
DELTAPINE 20	47.7	34.7	33.7	79.7	27.3	50667	27	36.3	1970*	720*	1030*	423	
NORTHRUP KING COKER 130	51.0	35.3	37.7	81.3	28.3	38516	30	37.7	1873*	711*	1061*	--	
CHEMBRED CBX-1207	51.0	35.3	35.3	80.7	27.7	40121	23	38.0	1853*	705*	--	--	
HYPERFORMER HS-23	51.0	36.0	33.0	79.3	27.3	47457	29	35.9	1951*	701*	--	--	
TERRA C-207	47.7	35.7	38.0	83.0	29.0	36453	29	37.9	1824*	694*	--	--	
STONEVILLE ST-907	44.3	34.0	40.3	82.0	29.3	41038	30	37.2	1847*	692*	--	--	
DELCOT 344	51.0	36.0	34.7	78.0	29.3	44477	23	36.5	1884*	690*	1000	418	
DES 119	54.3	36.3	38.0	81.7	29.3	43789	22	38.3	1784	683*	920	421	
CHEMBRED CBX-1232	51.0	35.7	34.3	81.3	28.0	45394	27	36.4	1864*	683*	--	--	
HARTZ H1014	41.0	34.7	34.7	78.3	30.0	40809	29	39.8	1703	681*	--	--	
NORTHRUP KING COKER 320	51.0	36.7	38.7	81.0	28.7	41267	28	36.8	1838*	679*	--	--	
DELTAPINE 51	51.0	35.7	36.0	79.0	27.3	41955	28	35.8	1912*	677*	--	--	
HYPERFORMER HB 90-SL	37.7	35.6	33.0	80.3	28.3	13527	34	35.6	1872*	670*	--	--	
DELTAPINE X5690	44.3	35.3	39.3	80.7	29.7	36224	33	37.4	1782	666*	--	--	
DELTAPINE X5415	44.3	36.0	35.3	79.7	30.0	39892	25	36.4	1812*	661*	--	--	
CHEMBRED CB-1135	51.0	35.3	35.0	78.3	28.7	48145	26	36.3	1788*	651*	--	--	
HYPERFORMER HS-46	41.0	35.7	34.0	78.3	32.0	52501	28	38.2	1643	628*	--	--	
HYPERFORMER HS-SALCOT 10	51.0	35.0	35.7	80.3	28.7	46082	24	36.2	1704	625	--	--	
CHEMBRED CB-407	47.7	35.7	37.7	80.3	29.3	41038	32	37.1	1670	620	--	--	
CHEMBRED CB-232	51.0	35.7	34.3	78.7	26.7	52730	26	34.4	1767	609	--	--	
STONEVILLE ST-453	51.0	35.0	35.3	78.3	27.0	39433	24	38.3	1584	609	1167*	--	
HARTZ H1416	44.3	34.7	35.0	82.3	30.0	37141	32	35.9	1645	595	--	--	
HARTZ HX1432	47.7	34.0	38.3	83.0	29.0	41497	28	34.5	1399	485	--	--	
TRIAL MEAN	48.3	35.4	36.1	80.2	28.6	41550	27	36.7	1813	668	997	435	
TRIAL LSD .05	6.5	1.3	3.8	3.1	2.7	12522	NS	1.7	315	133	168	NS	
TRIAL C.V. %	8.9	2.3	6.4	2.4	5.8	18.4	18.5	4.2	15.3	17.6	14.9	28.5	

-- 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 14. YIELD PERFORMANCE OF COTTON VARIETIES GROWN NEAR SENATH, MISSOURI ON THE DAVID AND SCOTT ANDREWS FARM DURING 1986-90.

PLANTED: 8 MAY 1990.
 HARVESTED: 19 OCTOBER 1990.
 PLANTED POPULATION: 82,500 PL/A.
 ROW SPACING: 38 INCHES.
 GROWING SEASON RAINFALL: 22.95 INCHES.
 IRRIGATION: 6.00 INCHES.

FERTILIZER: N = 85, P2O5 = 0, K2O = 125.
 HERBICIDES: PRE: TRILAND + ZORIAL + COTORAN.
 POST: MSMA + PROBE, BLADEX,
 INSECTICIDE: PRE: TEMIK AND RIDOMIL.
 POST: CAPTURE AND ORTHENE.
 OTHER PRODUCTS: DROPP, PTX, AND PREP.

BRAND/VARIETY	1990											
	GRADE	FIBER					STAND (PL/A)	HEI-GHT (IN.)	SEED COTTON (LBS/A)	TOTAL LINT (LBS/A)		
		STAPLE	MICR-ONAIRES	UNIF-ORMITY	STRE-NGTH	(%) LINT				1990	1989	1988
NORTHROP KING COKER 130	51.0	36.7	36.3	81.3	29.0	36911	32	38.6	2880*	1111**	975*	839*
CHEMBRED CBX-1232	51.0	36.0	38.7	84.0	28.7	62360	32	38.7	2792*	1084*	--	--
DELTAPINE X5415	47.7	36.0	39.3	81.7	30.0	48145	31	37.9	2852*	1082*	--	--
DELTAPINE 50	44.3	36.0	41.0	81.0	26.3	47687	31	35.7	3002**	1071*	1110*	948*
HARTZ H1014	47.7	36.7	37.0	82.3	31.7	58233	33	39.4	2703*	1069*	--	--
CHEMBRED CB-1135	47.7	36.3	38.3	81.3	29.7	55482	31	38.1	2804*	1068*	1130*	--
DELCOT 344	51.0	37.0	40.3	84.0	30.0	58921	32	38.6	2745*	1064*	1035*	879*
NORTHROP KING COKER 139	47.7	36.0	41.0	80.3	29.0	49750	31	37.3	2839*	1061*	1050*	784
STONEVILLE ST-453	47.7	34.0	38.0	80.7	27.7	60984	29	41.2	2509	1060*	1194**	873*
DES 119	47.7	36.3	40.3	83.0	30.0	64194	29	38.9	2696*	1049*	868	875*
TERRA C-207	47.7	36.0	40.0	81.3	29.7	49521	28	40.2	2578	1034*	--	--
NORTHROP KING COKER 320	54.3	36.7	40.3	82.7	30.3	44936	30	37.8	2723*	1030*	841	778
CHEMBRED CBX-1207	44.3	36.3	38.3	82.3	31.3	58462	33	39.7	2588	1028*	--	--
DELTAPINE 51	51.0	35.3	39.3	78.7	24.7	44936	31	37.5	2731*	1024*	1130*	933**
DELTAPINE X5690	44.3	35.3	38.3	80.7	31.0	52043	32	37.9	2693*	1022*	--	--
HARTZ H1416	44.3	35.0	39.0	80.7	28.7	48145	33	37.7	2689*	1014*	1006*	--
TERRA C-40	44.3	34.7	39.3	81.7	27.0	62589	29	37.9	2670*	1010*	989*	849*
HYPERFORMER HS-23	51.0	35.3	38.3	80.3	28.0	55023	28	37.4	2651*	991*	--	--
DELTAPINE 20	44.3	34.7	42.0	83.0	26.3	72906	30	38.3	2539	972*	1038*	954*
STONEVILLE ST-907	44.3	35.3	40.0	79.7	30.7	48375	33	38.5	2527	971*	958	--
CHEMBRED CB-232	47.7	36.0	36.7	81.7	28.7	48375	28	36.7	2636*	967*	--	--
CHEMBRED CB-407	44.3	35.7	37.3	78.7	31.0	56169	34	37.9	2502	947*	993*	--
HYPERFORMER HS-SALCOT 10	44.3	35.7	39.0	81.3	31.7	52272	29	37.0	2555	946*	--	--
HYPERFORMER HS-46	41.0	36.7	33.0	78.3	31.0	63277	35	38.7	2441	945*	1067*	672
HYPERFORMER HB 90-SL	41.3	37.3	35.3	81.7	30.0	21551	31	34.2	2569	882	--	--
HARTZ HX1432	41.0	35.0	37.3	84.0	28.3	56628	29	35.0	2385	836	--	--
TRIAL MEAN	46.7	35.8	38.6	81.4	29.2	52995	31	37.9	2665	1013	980	809
TRIAL LSD .05	NS	1.4	NS	3.1	1.9	7359	NS	1.4	412	166	221	148
TRIAL C.V. %	10.0	2.3	7.6	2.3	4.7	12.3	9.8	3.2	13.7	14.4	19.9	16.2

-- 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 15. PERFORMANCE RECORD OF COTTON VARIETIES EVALUATED AT TWO SOUTHEAST MISSOURI LOCATIONS (SIKESTON AND SENATH) DURING 1990.

PLANTED POPULATION: 82,500 PL/A.
ROW SPACING: 38 INCHES.

BRAND/VARIETY	TWO LOCATION AVERAGE FOR 1990											
	FIBER								TOTAL LINT (LBS/A)			
	GRADE	STAPLE	MICR- ONAIRES	UNIF- ORMITY	STRE- NGTH	STAND (PL/A)	HEI- GHT (IN.)	(%) LINT	SEED COTTON (LBS/A)	SIKETN	SENTH	MEAN
NORTHRUP KING COKER 139	49.4	36.2	39.4	80.0	28.6	41152	30	37.2	2470	783**	1061*	922**
NORTHRUP KING COKER 130	51.0	36.0	37.0	81.3	28.6	37714	31	38.2	2376	711*	1111**	911*
DELTAPINE 50	47.6	36.2	38.2	81.2	27.0	46770	26	35.2	2538	724*	1071*	898*
CHEMBRED CBX-1232	51.0	35.8	36.5	82.6	28.4	53877	30	37.6	2328	683*	1084*	884*
DELCOT 344	51.0	36.5	37.5	81.0	29.6	51699	28	37.6	2314	690*	1064*	877*
HARTZ H1014	44.4	35.7	35.7	80.3	30.8	49521	31	39.6	2203	681*	1069*	875*
DELTAPINE X5415	46.0	36.0	37.3	80.7	30.0	44018	28	37.2	2332	661*	1082*	872*
TERRA C-40	47.6	34.7	38.5	80.7	26.5	52158	28	37.3	2334	728*	1010*	869*
CHEMBRED CBX-1207	47.6	35.8	36.8	81.5	29.5	49292	28	38.8	2220	705*	1028*	866*
DES 119	51.0	36.3	39.2	82.4	29.7	53992	26	38.6	2240	683*	1049*	866*
TERRA C-207	47.7	35.8	39.0	82.2	29.4	42987	28	39.0	2201	694*	1034*	864*
CHEMBRED CB-1135	49.4	35.8	36.6	79.8	29.2	51814	28	37.2	2296	651*	1068*	860*
NORTHRUP KING COKER 320	52.6	36.7	39.5	81.8	29.5	43102	29	37.3	2280	679*	1030*	854*
DELTAPINE 51	51.0	35.5	37.6	78.8	26.0	43446	30	36.6	2322	677*	1024*	850*
HYPERFORMER HS-23	51.0	35.6	35.6	79.3	27.6	51240	28	36.6	2301	701*	991*	846*
DELTAPINE 20	46.0	34.7	37.8	81.4	26.8	61786	28	37.3	2254	720*	972*	846*
DELTAPINE X5690	44.3	35.3	38.8	80.7	30.4	44134	32	37.6	2238	666*	1022*	844*
STONEVILLE ST-453	49.4	34.5	36.6	79.5	27.4	50208	26	39.8	2046	609	1060*	834*
STONEVILLE ST-907	44.3	34.6	40.2	80.8	30.0	44706	32	37.8	2187	692*	971*	832*
HARTZ H1416	44.3	34.8	37.0	81.5	29.4	42643	32	36.8	2167	595	1014*	804*
CHEMBRED CB-232	49.4	35.8	35.5	80.2	27.7	50552	27	35.6	2202	609	967*	788*
HYPERFORMER HS-46	41.0	36.2	33.5	78.3	31.5	57889	32	38.4	2042	628*	945*	786*
HYPERFORMER HS-SALCOT 10	51.0	35.4	37.4	80.8	30.2	49177	26	36.6	2130	625	946*	786*
CHEMBRED CB-407	44.3	35.7	37.5	79.5	30.2	48604	33	37.5	2086	620	947*	784*
HYPERFORMER HB 90-SL	39.5	36.4	34.2	81.0	29.2	17539	32	34.9	2220	670*	822	746
HARTZ HX1432	44.4	34.5	37.8	83.5	28.6	49062	28	34.8	1892	485	836	660
TRIAL MEAN	47.5	35.6	37.3	80.8	27.8	47272	29	37.3	2239	668	1013	840
TRIAL LSD .05	5.0	1.6	3.0	2.2	1.8	11535	2	1.7	367	133	166	150
TRIAL C.V. %	9.1	2.3	7.1	2.3	5.3	15.0	14.9	4.2	14.5	17.6	14.4	13.5

** HIGHEST YIELDING VARIETY IN THE TEST.

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

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

Location. Rice plots were established on June 5, 1990 on the David and Steve Jackson Farm near Dudley, Missouri. Three maturity groups of rice varieties were represented in southeast Missouri. The trial location is shown on the map below.

Field Plot Design. The trials were arranged in a randomized complete block design with four replications. Each plot consisted of six 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.

Entries. All public seed was provided by Drs. Karen Moldenhauer and Kenneth Gravois 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 36 rice varieties were compared in 1990.

Plot Management. Plots were planted with a conventional drill modified for experimental research. Fertilizer was applied at the rate of 65-18-36 preplant, and the plots were flooded. This flood was maintained throughout the growing season. An additional 46 pounds/acre of nitrogen was topdressed over the entire trial on July 21 and August 11. Thus, the total amount of nitrogen applied was 157 pounds/acre.



Rice Location.

For primary weed control, Stam herbicide was 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, % head rice, % total rice, 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.

Rice Milling Quality The dollar value of rice is determined by the milling yield, quality, and price. The price of whole kernel (fancy or head) milled rice is worth more than twice as much as broken; therefore it is important to have a high milling percentage of whole kernels. A sample was collected from each plot of harvested grain and used to determine both milling and quality. The sample was weighed and the trash or foreign matter was removed by a Carter-Day Dockage Machine. The cleaned sample was then milled to remove hulls and bran. The amount of milled rice which remains is considered the total milling yield (contains both broken and whole kernels), and is expressed as a percentage (Total Rice %). The whole kernels are then separated from the broken kernels by a sieve and weighed for the calculation of whole kernel or head rice milling percentage (Head Rice %).

RESULTS

Average yields for 1990 were among the highest since the University of Missouri began testing rice in 1983. Cool temperatures and delayed planting date which are normally detrimental yields were apparently compensated for by other favorable conditions. The 'Very Short Season' rice maturity class achieved the highest average yield (7461 pounds/acre) of the three maturity classes.

TABLE 16. PERFORMANCE OF RICE VARIETIES EVALUATED ON THE DAVID AND STEVE JACKSON FARM NEAR DUDLEY (STODDARD CO.) DURING 1990.

PLANTED: 5 JUNE 1990. FERTILIZER: N = 157; P2O5 = 18; K2O = 36.
 HARVESTED: 5,19 OCT. 1990. HERBICIDES: POST: STAM.
 ROW SPACING: 7.5 INCHES. POST: LANDAX.
 INSECTICIDE: NONE. FUNGICIDES: ROVRAL, TILT.
 PLANTED POP.: 40 SD./SQ. FT. GROWING SEASON RAINFALL: 14.32 INCHES.

VARIETY	FLOW- ERING DATE	HEIGHT (IN.)	1990			YIELD (LB/ACRE)				
			LOD- GING SCORE (1-5)	HEAD RICE (%)	TOTAL RICE (%)	1990	1989	1988	1987	1986
VERY SHORT SEASON RICE										
L202	8-27	34.0	1.0	58.5	71.4	8118**	5520**	4346*	7411*	6695**
RICE-TEC 7015	8-28	34.3	1.0	64.2	72.4	8001*	--	--	--	--
TEXMONT	8-27	30.1	1.0	61.0	73.2	7914*	--	--	--	--
TEBONNET#	8-27	46.2	1.0	63.9	72.9	7817*	990	4148*	6803	4589
ALAN	8-28	40.8	1.0	64.6	72.6	7619*	2265	4651*	--	--
RU9001007	8-29	41.9	1.0	59.1	71.9	7481*	--	--	--	--
MAYBELLE	8-27	39.0	1.0	66.2	73.1	7388	2433	--	--	--
RU8901001	8-29	42.9	1.0	56.0	71.2	7344	3043	--	--	--
REXMONT	8-30	34.0	1.0	56.2	68.8	7131	4910*	3112	6339	5649
MILLIE	8-27	38.2	1.0	67.6	76.4	7109	3715	4078*	--	--
RU8901133	9- 3	46.9	1.0	67.5	73.8	6808	--	--	--	--
RU9001004	8-31	41.2	1.0	57.6	72.2	6801	--	--	--	--
VSS RICE AVERAGE	8-29	39.2	1.0	61.9	72.5	7461	3155	4197	6598	5387
VSS RICE LSD .05	2	1.9	NS	5.5	2.7	712	1013	1135	661	911
VSS RICE C.V. %	1.5	3.4		4.0	1.7	6.6	32.2	19.5	15.9	
SHORT SEASON RICE										
RU8901087	8-27	40.4	1.0	71.4	75.0	8210**	--	--	--	--
RU8801127	9- 6	44.1	1.0	68.6	72.8	7266	--	--	--	--
RU8901148	9- 3	42.1	1.0	60.2	71.6	7254	--	--	--	--
RICO-I	9- 6	41.4	1.0	68.8	75.3	7060	2442	--	--	--
RU8901194	8-30	37.0	1.0	55.4	71.7	7027	--	--	--	--
GULFMONT	9- 1	39.7	1.0	63.0	72.4	6910	5574**	5130**	7570	5686*
RU8901081	8-28	40.6	1.0	60.4	70.5	6885	--	--	--	--
MARS#	9- 7	45.3	1.0	68.2	73.4	6745	2596	4331	8939*	5603*
LEBONNET#	9- 2	46.9	1.0	64.1	71.6	6656	1041	4828**	6686	4937
RU8801121	9- 6	43.3	1.0	68.2	73.2	6650	3394	--	--	--
RU8901151	9- 8	45.1	1.0	67.9	73.1	6399	--	--	--	--
RU9001087	8-31	33.0	1.0	58.7	71.7	6188	--	--	--	--
SS RICE AVERAGE	9- 2	41.1	1.0	64.6	72.7	6937	2890	4562	8150	5514
SS RICE LSD .05	2	3.0	NS	2.7	1.1	816	881	NS	917	1146
SS RICE C.V. %	1.5	5.1		1.9	0.7	8.2	29.8	16.6	16.0	
MEDIUM SEASON RICE										
RU8901191	9- 1	46.7	1.0	67.4	75.5	7783**	--	--	--	--
LEMONT#	9- 7	36.5	1.0	67.0	66.7	7500*	4780*	5521*	7036	5408*
RU8901176	9- 1	36.2	1.0	66.8	74.5	7290*	--	--	--	--
RU8801185	9- 1	42.8	1.0	64.8	71.4	7118*	4789**	--	--	--
RU8801179	9- 5	47.6	1.0	68.0	73.2	6645	3320	--	--	--
NEWBONNET#	9-11	44.7	1.0	67.3	74.8	6274	3929	4385	8699*	5569*
RU8801167	9-11	46.3	1.0	66.8	75.3	6237	4113	--	--	--
KATY	9- 5	46.9	1.0	67.5	73.4	6216	3308	4439*	7507	--
RU8901167	9- 5	43.5	1.0	66.2	74.8	6169	--	--	--	--
RU8701194	9- 2	47.8	1.0	63.8	72.0	5693	3417	4811*	--	--
NORTAI	9-11	42.7	1.0	62.5	74.8	5576	2202	3787	7657	5495*
JASMINE	9-14	38.9	1.0	30.2	66.8	3094	865	--	--	--
MS RICE AVERAGE	9- 6	43.4	1.0	63.2	72.7	6300	3275	4748	7774	5385
MS RICE LSD .05	1	2.4	NS	3.1	NS	982	615	1493	789	940
MS RICE C.V. %	1.1	3.9		2.2	4.5	10.8	18.8	21.9	10.1	
TRIAL AVERAGE		41.2	1.0	63.2	72.6	6899	3107	4502	7507	5429

** HIGHEST YIELDING VARIETY IN THE TEST.
 * VARIETY WHICH DID NOT YIELD SIGNIFICANTLY LESS THAN THE HIGHEST YIELDING VARIETY IN THE TEST.
 NS NOT SIGNIFICANT AT THE .05 LEVEL.
 # CHECK VARIETY.

TABLE 17. RICE VARIETY IDENTIFICATION.

VARIETY	CI, PI, OR RU NO.	GRAIN TYPE
<u>VERY SHORT SEASON</u>		
L202	PI483097	LONG
MAYBELLE	RU8403113	LONG
TEBONNET	PI487195	LONG
ALAN	RU8701084	LONG
MILLIE	RU8701105	LONG
M101/MARS	RU8901133	MEDIUM
REXMONT	PI502968	LONG
MARS/TEBONNET	RU9001004	LONG
RT7015	RICE-TEC	LONG
L201/7402003	RU9001007	LONG
L201/7402003	RU8901001	LONG
TEXMOUNT	RU8703083	LONG
<u>SHORT SEASON</u>		
LEBONNET	CI9882	LONG
MARS	CI9945	MEDIUM
RICO-I	PI502969	MEDIUM
GULFMONT	PI502967	LONG
BRAZOS/MARS	RU8801121	MEDIUM
CSL1/ZADT	RU8901151	MEDIUM
ZENITH/3/164986-4/NV66//NORTAI	RU8901087	MEDIUM
TEBONNET/LA110//LEMONT	RU9001087	LONG
ZADT/STARBONNET	RU8801127	LONG
L201/3/164986-4/NV66//NORTAI	RU8901148	LONG
TEBONNET/BLMT//VISTA/7901017	RU8901194	LONG
LEMONT//V6DW/STTD	RU8901081	LONG
<u>MID SEASON</u>		
KATY	PI527707	LONG
NEWBONNET	PI47580	LONG
LEMONT	PI475833	LONG
NORTAI	CI9836	SHORT
VISTA/RU7901017	RU8801167	LONG
RA73/LEBONNET	RU8701194	LONG
LABONNET/STARBONNET//NEWBONNET	RU8901191	LONG
7801067/SKYBONNET	RU8801185	LONG
VISTA/NORTAI//LEMONT	RU8901176	LONG
BP87/9902	RU8901167	LONG
STARBONNET/LEBONNET	RU8801179	LONG
JASMINE	RU8803197	LONG



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