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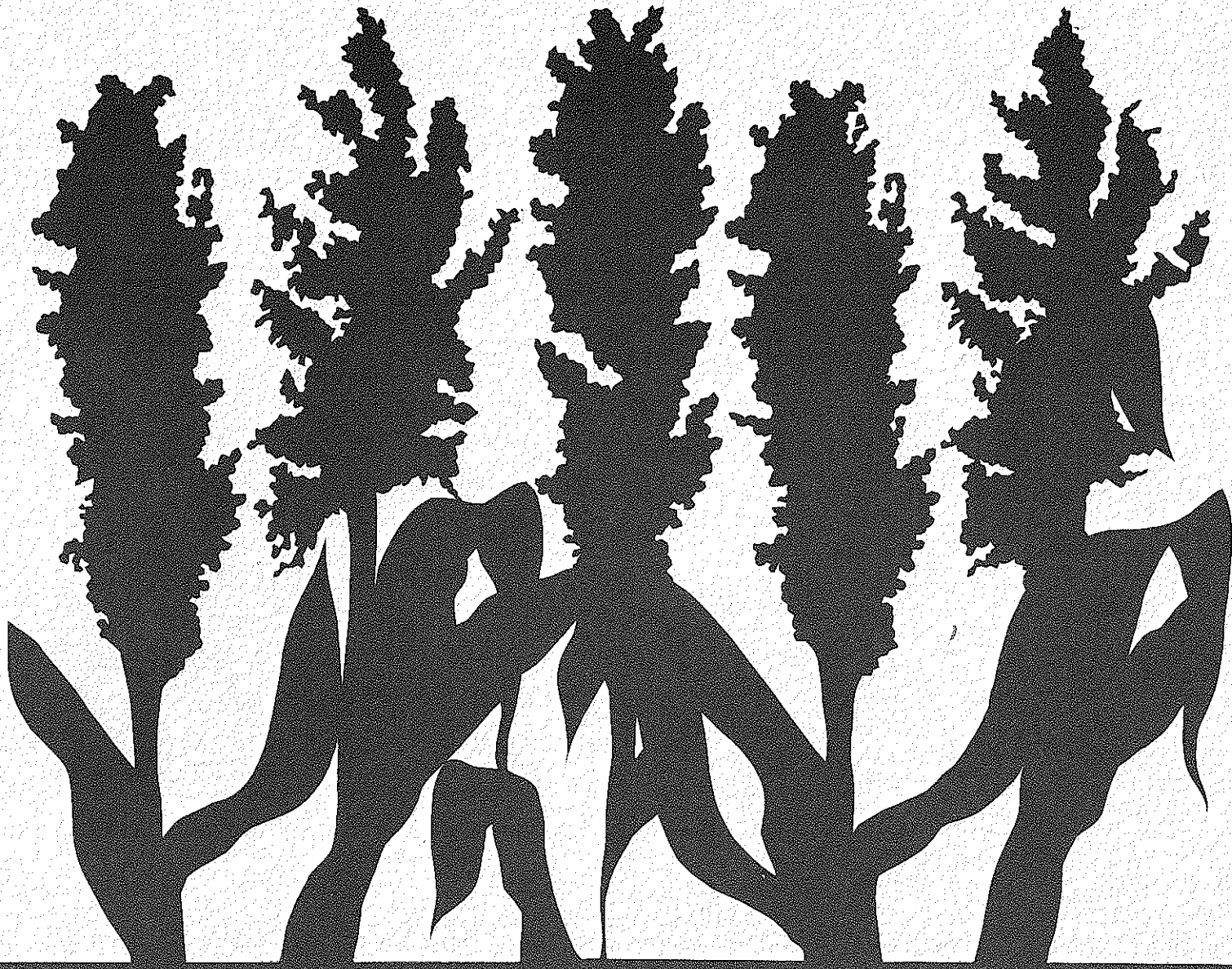

Grain Sorghum Performance Trials 1982

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Trials are conducted annually in Mississippi to provide farmers, seedsmen, extension personnel and other interested persons with information on performance of commercially available grain sorghum hybrids. Results are particularly helpful to grain sorghum producers in selecting hybrids suited to their area.

We tested 62 commercial and experimental hybrids at six locations in Mississippi in 1982. A good test of performance cannot be made if damaging populations of insects are present; therefore, insecticides were applied as needed. See MAFES Bulletins 817 and 836 for methods of control of insects on grain sorghum.

Resistance to disease is important in selecting a hybrid for areas where diseases are a problem. Also, planting at the recommended time helps reduce damage caused by diseases and insects.

Testing Procedures

A randomized complete block design with three replications was used at all locations.Each plot consisted of two 20 ft-long rows 38 or 40 inches wide. All trials were planted at the rate of 7 lbs of seed per acre. Heads from 13 ft of each plot were hand-harvested, dried and weighed, and yields were calculated using a threshing factor. Yield was adjusted to 14% moisture. Data reported have not been adjusted for bird damage, but trials severely damaged by birds were not harvested. Location of tests, planting dates, fertilizer rates and insecticides applied are presented in Table 1.

Table 1. Planting dates, fertilizer rates (lbs/A) and insecticides applied in Hybrid Grain Sorghum Performance Trials, by location of trials, Mississippi 1982.

Location	Planting Date	Fertilizer Rates[1]	Insecticides applied[2]
Mississippi State	May 14	25-25-85 PP 100-0-0 SD	2-diazinon
Verona	May 18	0-34-68 PP 100-0-0 SD	None
Newton	May 17	65-65-65 PP 66-0-0 SD	None
Holly Springs	May 19	65-65-65 PP	3-Sevin
Raymond	May 20	0-0-60 PP 100-0-0 SD	None
Brooksville	June 8	39-39-39 PP 85-0-0 SD	1-Sevin 1-lannate

[1] SD = sidedressed, PP = Preplant

[2] Insecticides applied as labeled.

Table 2. Performance of 62 grain sorghum hybrids in Mississippi Grain Sorghum Performance Trials, by hybrid and location, 1982.

Hybrid	Brand	50% 1 Bloom (days)	Plant 2 Height (in.)	Seed 3 Mold (rating)	Bird 4 Damage (%)
Savanna 5	N.K.	58	63	1	5
EXP. 8150	N.K.	59	47	2	11
BR 54	(check)	58	62	3	14
B 815	Pioneer	59	55	2	5
G-522 DR	Funk's	59	48	2	19
DK-64	DeKalb	57	52	2	31
G-1516 BR	Funk's	57	53	3	5
M 465	Pfizer	59	48	3	24
R 1090	Paymaster	58	49	3	22
7675	Coker	59	48	2	22
W-744 DR	Warner	58	50	2	5
T-E Dinero	T-E	57	47	3	23
W-839 DR	Warner	58	46	3	22
H 796	Asgrow	57	47	2	19
G-550	Funk's	57	51	3	21
1225 DR	Helena	59	49	2	19
G-1498	Funk's	56	42	2	10
M 990	McCurdy	59	47	2	20
RA 787	Ring Around	57	52	3	24
M 57 YG	McCurdy	59	51	3	32
2670	N.K.	58	53	2	39
DR 1125	Paymaster	59	48	2	24
W-866 A	Warner	58	52	2	18
2660	N.K.	58	48	3	20
DR 1075	Paymaster	57	49	2	28
W-832	Warner	54	49	3	9
G-522 A	Funk's	58	45	3	18
HT-126	Hunt	58	49	3	20
M 572 G	Pfizer	59	51	2	31
DK-64a	DeKalb	58	54	2	31
X 8072	Pioneer	58	47	2	26
8311	Pioneer	58	46	2	20
1330 DR	Helena	58	57	2	35
DK-59	DeKalb	60	50	2	29
RA 808 GB	Ring Around	58	49	3	26
8222	Pioneer	59	47	2	15
W-851 DR	Warner	60	51	2	20
2300	N.K.	56	44	2	10
T-E Y-77	T-E	59	50	3	29
350 DMG	Crop Seed	56	50	2	16
2244	N.K.	56	44	2	19
1330	Wilstar	58	58	3	43

(continued)

(continued)

Table 2. Performance of 62 grain sorghum hybrids in Mississippi Grain Sorghum Performance Trials, by hybrid and location, 1982.

Hybrid	Brand	50% 1 Bloom (days)	Plant 2 Height (in.)	Seed 3 Mold (rating)	Bird 4 Damage (%)
8303	Pioneer	57	48	2	27
G-611	Funk's	58	48	2	20
7638	Coker	57	43	3	20
M 568 G	Pfizer	57	42	2	20
HT-656 BR	Hunt	59	52	2	1
G-1701	Funk's	62	51	2	7
M 737	McCurdy	57	45	2	14
Topaz	Asgrow	58	50	2	17
HT-128 GDR	Hunt	58	47	3	24
BC 162	Crop Seed	56	44	3	18
X 8071	Pioneer	59	51	3	30
Colt	Asgrow	60	51	3	41
Mustang	Asgrow	57	45	2	21
RA 733 GB	Ring Around	58	44	4	17
7723	Coker	58	59	3	38
7623	Coker	56	52	3	38
DK-42y	DeKalb	57	50	3	21
7655	Coker	54	50	3	29
HW-5521	Funk's	55	48	2	36
Corral	Asgrow	54	50	2	49
	Mean	57	49	2.4	22

1 Average of Holly Springs and Mississippi State.
2 Average of Newton, Brooksville, Holly Springs and Mississippi State.
3 Rated at Meridian, MS by Dr. Natale Zummo. Seed mold - 0 = No molded seed, 4 = severe mold and weathering.
4 Average of Verona, Holly Springs, Brooksville and Mississippi State.

Results

Too few bird-resistant entries were received to permit a separate trial, and both bird-resistant and non-bird-resistant hybrids were tested in one trial at each location. Bird damage was recorded at Mississippi State, Verona, Holly Springs and Brooksville. Damage averaged over these locations ranged from 1 to 49% (Table 2). Bird damage at Mississippi State averaged 9% with a range of 0 to 27%. The average at Verona was 20% with a range of 0 to 43%, the Holly Springs average was 18% with a range of 0 to 73%, and the Brooksville average was 40% with a range of 3 to 65%.

Lodging was negligible at all locations

Grain yield of the 62 hybrids ranged from 1089 lbs/acre for Coker 7623 in the Holly Springs trial to 6262 lbs/acre for Paymaster R 1090 in the Raymond trial (Table 3). Yields averaged over all locations ranged from 2225 lbs/acre for Asgrow Corral to 4287 lbs/acre for N.K. Savanna 5.

Quantity of harvested good-quality grain (or silage) is the best guide to the desirability of sorghum hybrids; however, performance data for any one year may be misleading. Therefore, the two- and three-year average yields of hybrids that have been evaluated for these periods of time are presented (Tables 4 and 5).

Table 3. Yield of 62 grain sorghum hybrids in Mississippi Grain Sorghum Performance Trials, by hybrids and location, 1982

Hybrid	Brand	Yield						
		Miss. State	Verona	Newton	Holly Springs	Raymond	Brooksville	Mean
		lbs. acre						
Savanna 5	N. K.	4107	4420	4685	3732	6045	2735	4287
EXP. 8150	N. K.	5045	4876	4512	2686	5671	2773	4261
BR 54	(check)	4869	3597	4530	4951	5054	2454	4243
B 815	Pioneer	4560	4059	4518	4051	5959	2242	4232
G-522 DR	Funk's	5039	4153	3828	4501	5834	2005	4227
DK-64	Dekalb	3974	4209	4506	3398	5303	3918	4218
G-1516 BR	Funk's	5064	4025	3268	4864	5393	2610	4204
M 465	Pfizer	4762	4192	3399	3368	5329	4000	4175
R 1090	Paymaster	5007	4142	3732	3761	6262	1966	4145
7675	Coker	5140	4248	3851	3383	5646	2072	4057
W-744 DR	Warner	4371	3981	3238	4864	5338	2496	4048
Dinero	T-E	4535	3870	2929	5358	4910	2624	4038
W-839 DR	Warner	4936	3892	3149	4254	5862	2023	4024
H 796	Asgrow	4346	3514	3679	5067	5538	1882	4004
G-550	Funk's	4705	3764	3524	4094	4809	2864	3960
1225 DR	Helena	5310	3697	3286	3282	5938	2136	3941
G-1498	Funk's	5159	3552	3310	3296	5563	2460	3890
M 990	McCurdy	4837	4081	3149	2991	5499	2588	3858
RA 787	Ring Around	4541	3697	3262	3311	5223	2981	3836
M57 YG	McCurdy	4378	3297	3929	3223	5715	2433	3829
2670	N.K.	4604	3909	3369	2483	4377	3819	3760
DR 1125	Paymaster	4541	3814	3179	3746	5482	1751	3752
W-866A	Warner	3244	3280	4345	4095	5096	2454	3752
2660	N.K.	5152	3725	4125	3035	4954	1527	3749
DR 1075	Paymaster	4485	3925	3143	3456	5432	2051	3749
W-832	Warner	3313	4075	4030	3572	5219	2249	3743
G-522A	Funk's	5007	3920	3839	2555	5407	1712	3740
HT-126	Hunt	4737	3586	3399	4167	5150	1379	3736
M572 G	Pfizer	4434	3992	3601	3354	5261	1740	3730
DK-64a	Dekalb	4264	3136	3935	3630	5270	2093	3721
X 8072	Pioneer	4548	3225	3214	3659	5383	2256	3714
8311	Pioneer	4012	3392	4048	2846	5803	2157	3710
1330 DR	Helena	4724	3770	3536	3557	4212	2440	3707
DK-59	Dekalb	5165	3553	3173	2439	4470	3423	3704
RA 808 GB	Ring Around	4094	2535	3423	3107	5618	3381	3693
8222	Pioneer	4837	3330	3292	2672	5895	1987	3669
W-851 DR	Warner	4403	3920	3988	2715	4603	2377	3668
2300	N.K.	4441	3514	3137	3688	4572	2645	3666
T-E Y-77	T-E	4050	3414	3703	3485	5282	1959	3649
350 DMG	Crop Seed	3370	3525	4173	3136	4963	2744	3647
2244	N.K.	4063	3247	2994	3354	4562	3522	3624
1330	Wilstar	3370	3836	3744	2585	5419	2787	3624
8303	Pioneer	4371	3147	3316	3674	5093	2129	3622
G-611	Funk's	4894	3380	3060	3223	4910	2214	3614
7638	Coker	4019	3419	3643	3441	5314	1627	3577
M 568 G	Pfizer	3697	2635	3262	3804	5088	2964	3575
HT-656 BR	Hunt	3162	3425	4101	2962	5729	2039	3570
G-1701	Funk's	4812	3964	2375	3354	5125	1726	3559
M 737	McCurdy	3949	2530	2619	3543	5158	3537	3556
Topaz	Asgrow	3748	3553	1929	4254	5244	2490	3536
HT-128 GDR	Hunt	4195	3764	3203	2817	5813	1372	3527
BC 162	Crop Seed	3804	3041	3369	3586	5197	2100	3516
X 8071	Pioneer	5020	2936	3649	3485	5687	3020	3513
Colt	Asgrow	4403	2852	2899	2715	4116	2659	3441
Mustang	Asgrow	3502	2658	2643	4254	5244	2490	3536
RA 733 GB	Ring Around	4132	3086	3274	3732	4591	1358	3362
7723	Coker	3653	3770	3697	2236	4474	2334	3361
7623	Coker	4831	3375	2250	1089	4924	3034	3251
DK-42y	Dekalb	3508	3108	2369	3282	4319	2440	3171
7655	Coker	3886	2947	2411	2919	3188	2737	3015
HW-5521	Funk's	4119	2274	1435	2875	4040	1986	2789
Corral	Asgrow	3382	2041	2042	1583	2672	1627	2225
	Mean	4365	3545	3407	3429	5153	2406	3712
	LSD(.05)	154	156	244	375	253	357	—
	CV	3.1%	12.3%	19.9%	30.5%	13.7%	41.4%	—

Table 4. Two year average (1981-82) of 23 grain sorghum hybrids in Mississippi Grain Sorghum Performance Trials, by hybrid and location of trials.

Hybrid	Brand	Yield					
		Miss. State	Verona	Newton	Holly Springs	Raymond	Mean
		lbs./acre					
Savanna 5	N.K.	5380	4091	3440	2768	5055	4147
B 815	Pioneer	4864	3791	3353	3375	5086	4094
G-522 DR	Funk's	5493	3358	3024	3483	4840	4040
R 1090	Paymaster	5179	3625	2613	3127	5093	3927
2660	N.K.	5262	3727	2858	2667	4591	3894
W-839	Warner	5221	3530	2281	3310	5058	3880
7675	Coker	5311	3612	2725	2893	4797	3868
Dinero	T-E	4723	3216	2415	3869	4317	3708
W-744 DR	Warner	4805	3269	2566	3351	4323	3663
G-522 A	Funk's	5164	3175	2903	2351	4690	3657
DK-64	Dekalb	4766	2887	3082	2722	4722	3636
8303	Pioneer	5028	3120	2405	3083	4225	3572
7638	Coker	4459	3330	3038	2565	4449	3568
HT 128 GDR	Hunt	4700	3516	2581	2201	4786	3553
W 851 DR	Warner	4775	3079	3226	2097	4573	3550
HT 126 DR	Hunt	4757	3019	2748	3105	4100	3549
1330 DR	Helena	5027	3028	2511	3006	3950	3504
G-611	Funk's	5175	3090	2187	2643	4299	3479
2670	N.K.	4899	3607	2435	2303	4122	3473
DK-59	Dekalb	5379	3257	2272	2166	4048	3424
8311	Pioneer	4292	2996	2820	2305	4518	3386
7623	Coker	4985	3059	1966	1397	4375	3156
DK-42y	Dekalb	4326	2711	2205	2557	3855	3131
	Mean	4971	3308	2681	2754	4515	3503

Table 5. Three year average (1980-82) yield of 11 grain sorghum hybrids in Mississippi Grain Sorghum Performance Trials, by hybrid and location of trials.

Hybrid	Brand	Yield				
		Miss. State	Verona	Newton	Raymond	Mean
Savanna 5	N.K.	4828	4201	3524	5760	4578
G-522A	Funk's	5051	---	2930	5617	4533
B 815	Pioneer	4836	3904	3369	5748	4464
7675	Coker	5074	---	2668	5544	4429
DK-64	Dekalb	4180	---	3563	5515	4419
G-522 DR	Funk's	5163	3389	2839	5802	4298
Dinero	T-E	4574	---	2608	5397	4193
G-611	Funk's	4809	---	2389	5187	4128
7638	Coker	4030	---	3037	5290	4119
2670	N.K.	4408	---	2739	4926	4024
8311	Pioneer	4011	3130	2920	5352	3853
	Mean	4633	3656	2962	5467	4276

Hybrids designated for entry in the 1982 Mississippi Grain Sorghum Performance Trials by sponsors.

Hybrid	Brand	Company	Address
Corral	Asgrow	Asgrow Seed Company	Kalamazoo, MI
Mustang	Asgrow		
Topaz	Asgrow		
H 796	Asgrow		
Colt	Asgrow		
7723	Coker	Coker's Pedigreed Seed Company	Hartsville, SC
7675	Coker		
7638	Coker		
7623	Coker		
7605	Coker		
BC 162	Crop Seed	Crop Seed, Inc.	Lubbock, TX
BC 350 DMG	Crop Seed		
DK-59	DeKalb	DeKalb Ag. Research, Inc.	Lubbock, TX
DK-64	DeKalb		
DK-42y	DeKalb		
DK-64a	DeKalb		
G-522 DR	Funk's	Funk Seeds International	Alexandria, LA
G-611	Funk's		
G-522 A	Funk's		
G-1701	Funk's		
G-550	Funk's		
G-1498	Funk's		
HW 5521	Funk's		
G-1516 BR	Funk's		
1330 DR	Helena	Helena Chemical Co.	Memphis, TN
1225 DR	Helena		
1330	Wilstar		
HT-126 DR	Hunt-Terra	Hunt-Terra Seeds, Inc.	Lubbock, TX
HT-656 BR	Hunt-Terra		
HT-128 GDR	Hunt-Terra		
M737	McCurdy	McCurdy Seed Company	Fremont, IA
M57 YG	McCurdy		
M990	McCurdy		
Savanna 5	N.K.	Northrup King, Co.	Columbus, MS
2660	N.K.		
2670	N.K.		
2300	N.K.		
2244	N.K.		
Exp. 8150	N.K.		
DR 1125	Paymaster	Paymaster Seeds	Plainview, TX
DR 1075	Paymaster		
R 1090	Paymaster		
M565	Pfizer	Pfizer Genetics	Mason City, IL
M572 G	Pfizer		
M568 G	Pfizer		
B 815	Pioneer	Pioneer Hi-Bred International, Inc.	Tipton, IN
8303	Pioneer		
8311	Pioneer		
8222	Pioneer		
X8071	Pioneer		
X8072	Pioneer		
733 GB	RA	Ring Around Products, Inc.	Montomgery, AL
808 GB	RA		
787	RA		
Dinero	T-E	Taylor-Evans Seed Co.	Tulia, TX
Y-77	T-E		
W-851 DR	Warner	George Warner Seed Co., Inc.	Hereford, TX
W-839 DR	Warner		
W-744 DR	Warner		
W-866 A	Warner		
W-832	Warner		

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