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Lynn M. Gourley

Ned C. Edwards

Roscoe L. Ivy

Normie W. Buehring

Carl H. Hovermale

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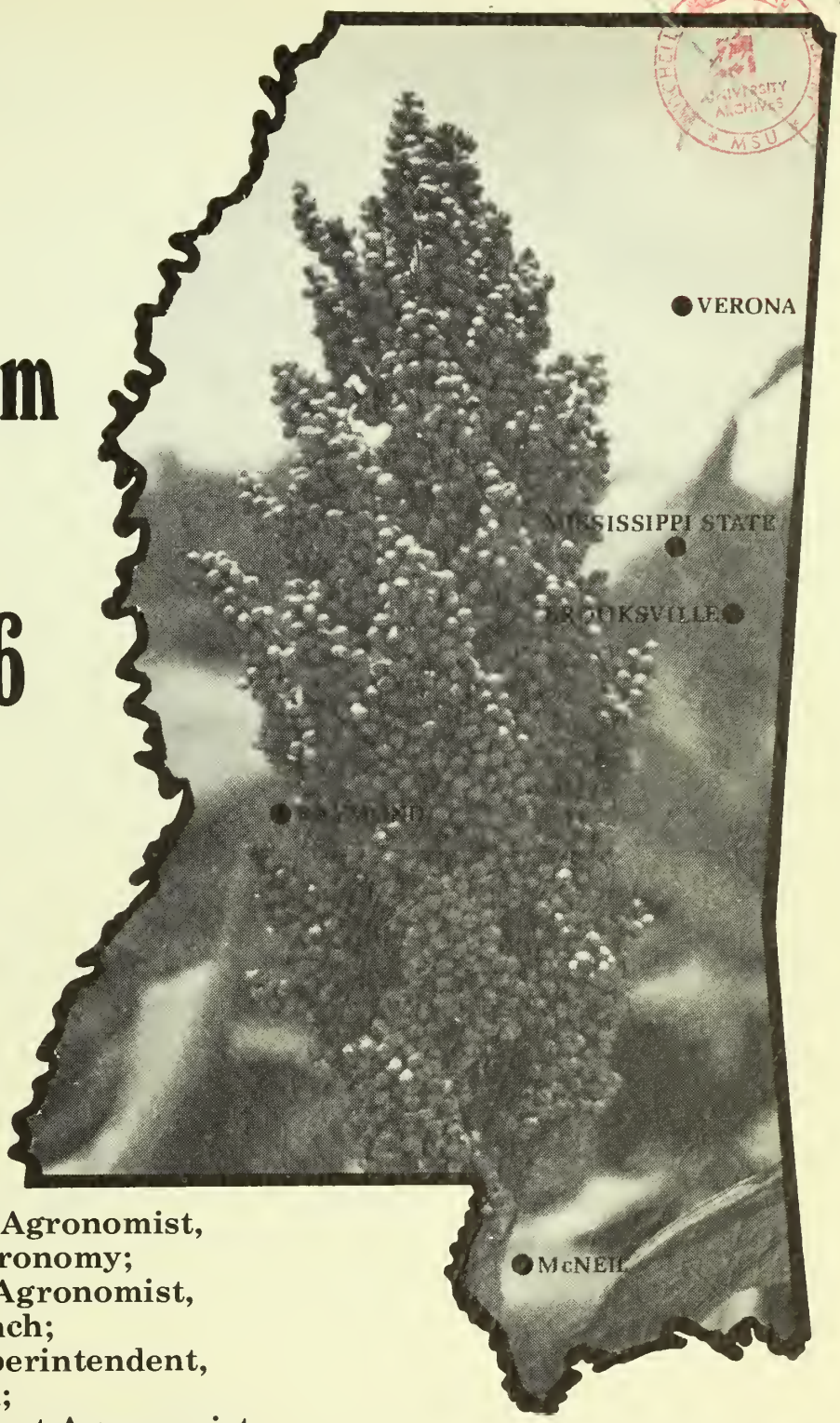

By
Lynn M. Gourley, Associate Agronomist,
MAFES Department of Agronomy;
Ned C. Edwards, Associate Agronomist,
MAFES Brown Loam Branch;
Roscoe L. Ivy, Assistant Superintendent,
MAFES Black Belt Branch;
Normie W. Buehring, Assistant Agronomist,
MAFES Northeast Mississippi Branch;
Carl H. Hovermale, Assistant Agronomist,
MAFES South Mississippi Branch

MAFES
MISSISSIPPI AGRICULTURAL & FORESTRY EXPERIMENT STATION
James H. Anderson, Director
Mississippi State University, Mississippi State, MS 39762

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Mississippi Grain Sorghum Performance Trials in 1976

Trials are conducted annually in Mississippi to provide farmers, seedsmen, county agents 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 38 commercial and experimental hybrids at five locations in Mississippi in 1976 (Table 1). Because a true test of performance cannot be made without control of insects, insecticides were applied as needed (two applications of a recommended insecticide usually are sufficient[1]).

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

Quantity of harvested good-quality grain (or silage) is the best guide to the desirability of sorghum hybrids. Performance data for any one year may be misleading. Therefore, performance of each hybrid tested in 1976 is presented in this report along with three-year averages of performances of hybrids that have been tested for this long.

Table 1. Planting Dates, Fertilizer Formulations and Rates, and Insecticides Applied, Hybrid Grain Sorghum Performance Trials, by Location of Trials, Mississippi, 1976.

Location	Planting date	Fertilizer Formulations and Rates[1]	Insecticides Applied[2]
McNeil[3]	May 5	50-0-0 SD	3-diazinon
Raymond	April 16	65-65-65 PP 100-0-0 SD	None
Brooksville	May 25	40-40-40 PP 60-0-0 SD	7-sevin
Mississippi State	May 23	100-0-0 SD	4-diazinon
Verona	May 21	45-0-60 PP 100-0-0 SD	None

[1]SD = Sidedressed, PP = Preplant
[2]Insecticides Applied as Labeled.
[3]McNeil plots were irrigated twice (3/4" water/irrigation)

Testing Procedures

A randomized complete block experimental design with four replications was used at all locations. Each plot consisted of two rows, 38 or 40 inches wide and 20 feet long. All trials were planted at the rate of seven pounds of seed per acre. Areas of 1/1000 of an acre were hand-harvested from each replication, heads were dried and threshed, and grain yield was adjusted to 14 percent moisture. Trials with average bird damage of more than 25 percent were not harvested. Data reported have not been adjusted for bird damage. Planting dates, fertilizer formulations and rates and insecticides applied are presented in Table 1.

Results

Trials with non-bird resistant hybrids at Brooksville, Mississippi State and Verona were destroyed by birds. Early harvest to prevent bird damage to non-bird-resistant varieties was partly successful at McNeil and Raymond---bird damage at McNeil was negligible and averaged 24 percent at Raymond.

Grain yield of the 24 non-bird-resistant hybrids in the 1976 trials

[1]*See MAFES Bulletins 817 and 836 for methods of control of grain sorghum insects.*

Table 2. Performance of 24 non-bird-resistant hybrids in Mississippi Grain Sorghum Performance Trials, average of two locations (McNeil and Raymond), 1976.

Hybrid	50% Bloom[1]	Plant Height[1]	Bird Damage	Yield		
				McNeil	Raymond	Mean
	(days)	(in.)	(%)	----------(lbs/A)----------		
Wilstar 1425	77	53.5	11	6575	4736	5656
Excel RA 747	76	56.8	25	6314	4549	5432
Growers ML-135	77	50.2	9	5964	4828	5396
Pioneer brand 8311	80	50.2	10	5756	5014	5385
Excel RA 808	79	55.5	15	5935	4645	5290
Wilstar 1225	79	48.2	11	6101	4470	5286
Funk's G522	77	51.0	9	5690	4694	5192
N. K. 284	80	54.8	19	6397	3764	5080
Funk's G701 GBR	79	54.8	20	6449	3706	5078
DeKalb F-67	83	50.0	8	6126	4014	5070
T. T. Two 62y-G	81	48.5	6	6017	4076	5046
Funk's G622 GBR	79	49.2	9	5839	4214	5026
Warner W-832	78	52.5	11	5143	4800	4972
Acco X-4498	78	54.2	20	5936	3576	4756
Acco R 109-A	81	50.2	9	4690	4793	4742
Excel RA 811-A	79	61.8	50	6168	3218	4693
Funk's HW 3862	78	50.0	9	4736	4643	4690
Acco R 1029-A	77	53.0	49	5507	3779	4643
Funk's G722 DR	81	56.5	21	5950	3307	4628
Acco R 1090	83	50.8	11	5374	3775	4574
T-E Y101	77	49.8	11	4733	3951	4342
T. T. Two 72y	80	58.5	84	5654	2639	4146
Warner W-866	73	58.5	69	5405	2801	4103
Wilstar 1330	77	64.0	91	6030	2091	4060
Mean	78.7	53.4	24	5770	4003	4886
L. S. D. (.05)				1725	1213	
C. V.				21.6%	21.9%	

[1]Recorded at Raymond, MS.

Table 3. Performance of 14 bird-resistant hybrids in Mississippi Grain Sorghum Trials, average of five locations (McNeil, Raymond, Brooksville, Mississippi State, and Verona), 1976.

Hybrid	50% Bloom[1]	Plant Height[1]	Lodg.[1]	McNeil	Raymond	Brooks-ville	Miss. State	Verona	Mean
	(days)	(in.)	(%)	----------(lbs/A)----------					
Acco BR-Y93	82	62.0	2	6715	5425	4748	7338	7456	6336
GSA 1334 BR	81	57.5	0	7356	5218	4802	7346	6697	6284
Funks G516 BR	79	59.5	0	6879	5094	4756	7244	6672	6129
T-E EXP 7542	75	57.5	0	7156	5027	4744	7068	6507	6100
Wilst. 1360-BR	83	59.0	0	6539	5131	4943	7356	6397	6073
Pioneer B 815	81	61.0	0	6157	5925	4104	6537	6721	5889
W-744 BR	77	57.5	0	5889	5099	4706	6897	6656	5849
Bird-A-Boo II	77	56.2	0	6350	5161	4236	6960	6062	5754
N. K. X3101 A	73	66.2	0	6702	5374	3619	6074	6775	5709
DeKalb BR-65	82	55.8	0	6551	4421	4482	6946	6120	5704
Funk's BR 79	75	62.8	35	5994	3992	3534	7280	6464	5453
DeKalb BR-64	81	64.5	0	6290	4490	3693	6906	5865	5449
T-E EXP 7551	77	58.2	0	5810	3586	4186	6087	6045	5143
DeKalb BR-54	81	67.0	8	5321	4587	4116	5183	6324	5106
Mean	78.9	60.3	3	6408	4895	4334	6081	6483	5784
L. S. D. (.05)				1425	1098	957	1071	1058	
C. V.				16.0%	16.2%	15.9%	11.4%	11.8%	

[1]Recorded at Raymond, MS.

ranged from 2,091 pounds per acre for Wilstar 1330 in the Raymond trials to 6,575 for Wilstar 1425 in the McNeil trials. Yield of the 24 hybrids averaged 5,770 pounds per acre at McNeil, 4,003 at Raymond, and 4,886 for the two locations (Table 2).

Grain yield of the 14 bird-resistant hybrids in the 1976 trials ranged from 3,534 pounds per acre for Funk's BR 79 in the Brooksville trials to 7,456 for Acco BR-Y93 in the Verona trials. Yield of these 14 hybrids averaged 5,784 pounds per acre for the five test locations (Brooksville, McNeil, Mississippi State, Raymond and Verona), ranging from 4,334 at Brooksville to 6,483 at Verona (Table 3).

Three-year average yields of non-bird-resistant and bird-resistant hybrids are reported in Tables 4 and 5.

Table 4. Yield of seven non-bird-resistant hybrids in Mississippi Grain Sorghum Performance Trials, by location of trials, average for three years, 1974-76.

Hybrid	Yield in lbs/A		
	McNeil	Raymond	Mississippi[1] State
Excel RA 811-A	4942	3592	3090
Funk's G522	4675	4027	2984
Excel RA 808	4659	3976	3202
Acco R 1090	4295	3784	3279
Acco R 109-A	4198	4082	3334
T-E Y101	4113	4051	3358
Acco R 1029-A	4429	3714	3185

[1]Average for 1974 and 1975 only.

Table 5. Yield of six bird-resistant hybrids in Mississippi Grain Sorghum Performance Trials, by location of trials, average for three years, 1974-76.

Hybrid	Yield in lbs/A			
	McNeil	Raymond	Miss. State	Verona
N. K. X3101 A	5178	5532	5666	4051
Pioneer brand B815	5106	5549	5020	4229
Funk's BR 79	5093	4938	5375	3794
Funk's G516 BR	5046	5386	5180	3985
DeKalb BR-54	4500	5058	4580	3949
Acco BR Y93	5154	5667	5412	4239

Hybrids Designated for Entry in the 1976 Mississippi Grain Sorghum Performance Trials, by Sponsers.

Hybrid	Company	Address
Acco R 109-A	Acco Seed Company	Plainview, Texas
Acco R 1090		
Acco R 1029-A		
Acco X-4498		
Acco BR Y93		
DeKalb BR-54	DeKalb AgResearch, Inc.	Lubbock, Texas
DeKalb BR-64		
DeKalb BR-65		
DeKalb F-67		
Excel RA 747	Ring Around Products, Inc.	Plainview Texas
Excel RA 808		
Excel RA 811-A		
Funk's BR 79	Louisiana Seed Co., Inc.	Plainview, Texas
Funk's G522		
Funk's G516 BR		
Funk's G622 GBR		
Funk's G701 GBR		
Funk's G722 DR		
Funk's HW 3862		
Growers ML-135	Growers Seed Assn.	Lubbock, Texas
Growers GSA 1334 BR		
N. K. 284	Northrup, King & Co.	Richardson, Texas
N. K. X3101 A		
Pioneer brand B815	Pioneer Hi-Bred, Inc.	Tipton, Indiana
Pioneer brand 8311		
T-E Bird-A-Boo II	Taylor-Evans Seed Co.	Tulia, Texas
T-E Y101		
T-E EXP 7542		
T-E EXP 7551		
T. T. Two 72y	Texas Triumph Seed Co., Inc.	Ralls, Texas
T. T. Two 62y-G		
Warner W-832	Warner Seed Co., Inc.	Hereford, Texas
Warner W-744 BR		
Warner W-866		
Wilstar 1225	Helena Chemical Co.	West Helena, Arkansas
Wilstar 1330		
Wilstar 1360-BR		
Wilstar 1425		