COMMERCIAL HYBRID GRAIN SORGHUM LIMITED IRRIGATION YIELD TEST GROWN AT THE UNIVERSITY OF ARIZONA MARANA AGRICULTURAL CENTER IN 1983

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Eighty commercial hybrid grain sorghums were evaluated for field grain production and other agronomic characteristics in a full season test with limited irrigation at the University of Arizona Marana Agricultural Center in 1983. This test was planted in moisture on May 20, 1983, in single row 40-inch beds. Sixty lbs/acre of N was applied in the irrigation water. Total irrigation water applied was 17 inches. There was record-breaking rainfall of 16.92 inches for a total water application of 33.92 inches. This test was under about 1 foot of slow-running flood waters for about 48 hours on October 2 and 3, 1983. Much of the rainfall occurred in August, September, and October after the time of maximum influence on grain yield. The entries were combine-harvested on December 1 and 8, 1983.

A list of the test entries is given in Table 1. The performance data are presented in Table 2 ranked in order of grain yield. The numbers in the second column are the entry numbers which can be identified by referring to that numbered entry in Table 1.

The grain yields shown have been corrected for the bird damage amounts indicated. The yields of entries that experienced from zero to 20 to 25 percent bird damage may be considered to be quite accurate. Yields of entries with 25- about 40 or 50 percent bird damage should be considered rather questionable. Yields with bird damages of 50-60 percent and higher should be considered highly questionable as to accuracy. The earlier maturities experienced the greater bird damage.

Table 1. List of commercial hybrid grain sorghums grown full season with minimum irrigation at Marana, Arizona, 1983.

Entry No.	Entry	Entry No.	Entry
1	ASGROW COLT	41	PIONEER X328
2	ASGROW CORRAL	42	PIONEER XS426
3	ASGROW H768	43	CALIF. IV 79H12
4	ASGROW H8107	44	RICHARDSON Y112A
5	ASGROW OPAL	45	RICHARDSON Y303A
6	ASGROW TOPAZ	46	RICHARDSON Y322A
7	BROWNING #2	47	RICHARDSON Y344
8	RS610	48	RING-AROUND RA433
9	DEKALB DK424	49	RING-AROUND RA747
10	DEKALB DK46	50	RING-AROUND RA787
11	DEKALB DK57	51	RING-AROUND RA795
12	FERRY MORRIS GT565	52	RING-AROUND RA1805
13	FUNK G522	53	RING-AROUND RA1806
14	FUNK G550	54	RING-AROUND RA1807
15	FUNK G611	55	CALIF. IV 74H29
16	FUNK G1400	56	SEEDTEC WAC651DR
17	FUNK G1498	57	SEEDTEC WAC652G
18	FUNK G1711	58	SEEDTEC WAC692
19	FUNK HW5449	59	SEEDTEC WAC692R
20	FUNK HW5972	60	SEEDTEC WAC710DR
21	FUNK HW6016	61	SEEDTEC WAC1002
22	FUNK HW6275	62	CALIF. IV 74H27
23	RS626	63	STAUFFER 535GR
24	GROAGRI GSA1212	64	STAUFFER 734GR
25	GROAGRI GSA1290	65	STAUFFER S9533
26	GROAGRI GSA1299	66	STAUFFER S9750
27	GROAGRI GSA1310A	67	RS610
28	RS671	68	TAYLOR-EVANS TEY60
29	NC+HYBRIDS NC+ 160	69	TAYLOR-EVANS TEY 10 1G
30	NC+HYBRIDS NC+ 165	70	TEXAS TRIUMPH TWO 484G
31	NC+HYBRIDS NC+ 174	71	TEXAS TRIUMPH TWO 50YG
32	NC+HYBRIDS NC+ 178	72	TEXAS TRIUMPH TWO 54YG
33	NC+HYBRIDS NC+ 271	73	TEXAS TRIUMPH TWO 60-D
34	NORTHRUP KING NK265	74	TEXAS TRIUMPH TWO 624G
35	NORTHRUP KING NK2660	75	TEXAS TRIUMPH TWO 644G
36	PIONEER 8199	76	TEXAS TRIUMPH TWO 70-D
37	PIONEER 8222	77	TEXAS TRIUMPH TWO 80-D
38	PIONEER 8300	78	RS626
39	PIONEER 8333	79	YOUNG ORO G
40	PIONEER XS 325	80	YOUNG ORO G XTRA #1

Table 2. Grain yield and other agronomic data from a commercial hybrid grain sorghum yield test grown full season with minimum irrigation at Marana, Arizona, 1983.

Rank	Entry	Test wt. (lb/bu)	Days to 50% bloom	Height (in)	Tillering1/ capacity	% bird damage	Grain yield2/ (lb/A)
1	6.	59.90	77.3	40.0	1.0	0	7100.3
2	66.	58.44	78.3	40.0	1.0	1.3	6940.9
3	18.	60.29	79.0	45.3	1.0	0	6937.5
4	80.	57.09	77.3	42.3	1.0	1.3	6931.5
5	22.	59.00	74.0	45.3	1.3	3.3	6763.3
6	15.	59.55	77.7	44.7	1.0	1.0	6672.7
7	13.	57.96	75.7	42.7	1.0	0	6512.2
8	24.	59.01	78.7	39.0	1.0	0	6385.2
9	31.	59.97	79.7	45.7	1.0	3.0	6312.2
10	30.	59.63	81.3	51.0	1.0	5.0	6278.7
11	33.	58.89	78.0	41.7	1.0	.7	6166.4
12	1.	58.70		47.7	1.0	3.3	6060.1
13	35.	59.04	76.7	37.7	1.0	0	6040.0
14	12.	59.53	78.0	37.7	1.0	0	6000.4
15	11.	57.70	69.0	44.7	1.0	5.0	5960.8
16	77.	59.71	80.0	42.0	1.0	0	5923.0
17	25.	58.83	73.3	40.0	1.0	16.7	5857.7
18	28.	55.81	73.7	41.3	1.0	0	5854.2
19	2.	58.14	67.3	48.0	1.3	13.3	5840.9
20	49.	57.90	72.7	43.3	1.3	20.0	5837.0
21	76.	56.99	76.7	38.0	1.0	1.7	5834.7
22	45.	59.30	78.7	36.0	1.0	0	5761.4
23	54.	56.81	78.0	40.3	1.0	0	5754.4
24	19.	60.06	82.3	45.7	1.0	0	5715.5
25	63.	60.18	68.0	47.0	1.0	26.7	5661.6
26	43.	56.52	67.0	47.3	2.3	0	5641.0
27	36.	60.02	79.3	41.7	1.0	1.7	5615.8
28	26.	59.73	75.0	40.7	1.0	.7	5615.7
29	50.	58.31	70.0	41.7	1.0	3.3	5613.7
30	27.	58.35	77.7	34.3	1.0	0	5586.6
31	32.	57.28	82.7	38.3	1.0	1.0	5557.2
32	79.	57.66	74.7	37.0	1.0	0	5542.4
33	38.	58.68	80.0	42.7	1.0	.7	5535.8
34	73.	57.91	76.0	35.3	1.0	0	5488.6
35	60.	56.74	76.0	36.0	1.0	0	5445.0
36	69.	56.65	78.0	33.7	1.0	0	5434.1
37	59.	57.20	74.7	36.0	1.0	0	5425.5
38	64.	56.94	77.7	34.7	1.0	0	5417.5
39	47.	57.83	74.0	40.3	1.0	13.3	5401.4
40	42.	58.71	75.3	42.7	1.0	2.7	5303.1
41	46.	59.10	78.7	40.3	1.0	1.0	5284.3
42	29.	59.87	74.0	43.7	1.3	3.3	5093.2
43	62.	57.01	65.0	48.0	1.7	1.0	5080.5
44	53.	55.10	76.3	35.0	1.0	0	5077.0
45	52.	56.55	76.7	42.7	1.0	0	5053.0
46	9.	59.75	69.3	41.7	1.0	5.0	5040.2
47	5.	57.87	76.7	39.3	1.0	0	4992.4
48	4.	59.82	81.7	45.3	1.0	0	4991.6
49	41.	57.87	77.7	40.7	1.0	0	4960.1
50	72.	57.84	67.3	45.7	1.0	28.3	4862.6
51	3.	60.26	69.7	38.7	1.3	16.7	4850.4
52	55.	53.31	64.7	47.3	2.0	.7	4801.0
53	75.	56.06	79.0	34.7	1.0	0	4794.7
54	74.	55.49	75.7	33.3	1.0	0	4725.1
55	8.	57.19	63.0	38.0	1.3	11.7	4692.9
56	37.	59.15	82.3	39.7	1.0	0	4685.8
57	10.	58.88	65.7	37.7	1.0	15.0	4684.8
58	57.	57.06	67.3	42.7	1.0	26.7	4624.7
59	44.	59.14	68.7	43.0	1.0	8.3	4603.1
60	16.	59.00	65.7	44.3	1.7	11.7	4553.6
61	17.	58.42	65.3	38.3	1.3	11.7	4553.3
62	78.	55.91	64.3	40.0	1.0	1.7	4501.2
63	58.	54.39	76.7	34.0	1.0	0	4464.9
64	39.	58.20	81.7	34.3	1.0	0	4434.0
65	23.	55.32	66.0	40.0	1.0	3.3	4390.7
66	21.	57.92	81.7	39.3	1.0	0	4389.9
67	40.	59.57	79.7	41.7	1.0	0	4377.8
68	67.	54.19	64.7	41.0	1.0	5.0	4356.6
69	14.	56.70	64.0	38.7	1.3	8.3	4321.6
70	20.	57.03	70.0	41.0	1.3	4.0	4249.7
71	51.	58.24	66.7	39.0	1.0	5.0	3972.0
72	34.	57.51	66.0	40.7	1.0	15.0	3858.5
73	7.	58.85	65.7	37.3	1.3	3.3	3842.8
74	68.	56.46	66.3	42.3	1.0	16.7	3724.4
75	65.	55.76	64.7	45.3	1.0	30.0	3668.6
76	71.	58.05	63.3	34.0	1.0	18.3	3546.5
77	48.	55.71	62.7	35.3	1.0	10.0	3332.0
78	56.	55.93	65.0	45.3	1.0	20.0	3295.0
79	70.	56.33	58.7	31.0	1.0	10.0	2650.0
80	61.	56.34	58.7	30.7	1.0	6.7	2441.1

1/ Tillering capacity indicated at harvest: 1 = very few tiller heads, 2 = average number of tiller heads, 3 = greatest number of extra heads.

2/ LSD (.05) = 1359 lb/acre, CV = 16.4%