

CORN VARIETY TEST

Larry Sullivan, Cochise County Agricultural Agent;  
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 David K. Parsons, Assistant Extension Specialist--Field Testing

Robert Haas                      Elevation: 4400 feet

Entry	Ave. Yield <sup>1/</sup> (lbs)	Harvest Moisture(%)	Bu. Wt. (lbs)	Yield <sup>2/</sup> (lbs/A)
DeKalb XL72AA	3015	26.0	53.5	12650 a
Funks G4507	3010	25.8	54.3	12630 a
Asgrow RX90	2900	25.4	54.8	12170 ab
NK's PX74	2890	24.6	54.5	12130 ab
Horizon KB870	2790	24.4	54.8	11710 abc
DeKalb XL83	2750	25.9	54.5	11540 abcd
Pioneer 3360	2740	24.5	56.0	11500 abcd
DeKalb XL75	2735	24.2	55.0	11480 abcd
Asgrow RX909	2730	25.2	55.0	11460 abcd
Ferry Morse HX 8800	2600	26.6	54.5	10910 bcd
NK's PX87	2480	26.9	54.3	10410 cd
Asgrow RX901	2470	23.2	55.3	10360 cd
Paymaster UC 8801	2430	23.9	56.0	10200 d

1/ All Yield data adjusted to a 15.5% moisture content.

2/ Means followed by the same letter are not significantly different at the .05 level by the Student-Newman-Keuls' Test.

Crop History:

Planted: April 25, 1979

Harvested: September 30, 1979

Seeding Rate: 33,000 seeds/A

Previous Crop: Corn

Insecticide: 10 lbs. of Furaidan (1.0 lb. of active ingredient/A) were incorporated at planting.

Weed Control: 2 quarts/A of Atrazine 4L were incorporated at planting.

Fertilization:

Source	Lbs/A	Time of Application	Lbs. N/A	Lbs. P <sub>2</sub> O <sub>5</sub> /A
18-46-0	250	Prior to planting	45	115
NH <sub>3</sub>	250	Plants at 6 in. height	205	0
UN 32	350	Prior to and during tasseling	112	0
		Total	362	115

Irrigation: 30 acre in/A of well water were applied through a center pivot sprinkler. An additional two inches occurred as rain.

Plot Size: 865 x 12 feet

Agri-File Field Crops 243.19

CORN VARIETY TEST

Lawrence M. Sullivan, Cochise County Agricultural Agent;  
David K. Parsons, Assistant Extension Specialist--Field Testing

Ernest Oertle                      Elevation: 4800 feet

Entry	Yield (lbs/plot) <sup>1/</sup>			Ave. Yield (lbs/plot)	Yield <sup>2/</sup> (lbs/A)
	Rep 1	Rep 2	Rep 3		
Asgrow RX90	8.63	16.25	11.50	12.13	7540 a
DeKalb XL72AA	11.50	11.25	13.13	11.96	7440 a
Acco UC8801	10.50	11.00	11.63	11.04	6870 a
Renk KK66E	10.50	---	11.50	11.00	6840 a
DeKalb EX676	12.38	10.13	10.13	10.88	6770 a
Ferry Morse 3010	10.13	12.00	10.38	10.84	6740 a
Asgrow RX901	10.38	11.13	10.63	10.75	6690 a
Tracy 214	9.38	9.50	13.38	10.75	6690 a
Funks 4507	9.63	10.75	11.38	10.59	6590 a
NK PX87	8.75	12.00	11.00	10.58	6580 a
NC+85	10.00	10.50	10.88	10.46	6510 a
Ferry Morse HX8800	8.63	12.50	10.13	10.42	6480 a
Asgrow RX909	12.00	9.88	8.13	10.00	6220 a
Acco UC8201	9.38	10.13	10.13	9.88	6150 a
Horizon W995	9.13	10.00	---	9.57	5950 a
Ferry Morse 3025	10.13	8.25	9.88	9.42	5860 a
NC+59	9.25	9.25	9.63	9.38	5830 a
Cargil 949	10.13	10.13	7.75	9.34	5810 a
DeKalb XL75	10.50	7.13	9.88	9.17	5700 a
DeKalb XL83	8.13	9.50	9.88	9.17	5700 a
Pioneer 3183	8.75	9.75	8.00	8.83	5490 a
NK PX74	8.75	8.75	---	8.75	5440 a
DeKalb XL62AA	8.13	7.50	10.25	8.63	5370 a
Texas C.I.A.	10.75	7.63	8.13	8.63	5370 a
Pioneer 3360	9.75	8.25	7.63	8.54	5310 a
Asgrow RX100	9.88	8.00	7.63	8.50	5290 a
T.E. 6995	8.75	6.13	9.25	8.04	5000 a

<sup>1/</sup> Plots were hand harvested and ears were allowed to dry to an equilibrium moisture content before shelling.

<sup>2/</sup> Means followed by the same letter are not significantly different at the .05 level by Student Newman-Keuls' Test.

Crop History:

Planted: May 18, 1979

Seeding Rate: 31,000 seeds/A

Previous Crop: Corn

Land Preparation: Burn stalks and rip. Re-rip and inject NH<sub>3</sub>. Disk and apply Sutan and Lasso.

Insecticide: 10 lbs of Furaidan (1.0 lb of active ingredient/A) was applied by air in late June.

Weed Control: A tank mix of 1 quart of Lasso (1 lb of active ingredient/A) and 1 quart of Sutan (1.67 lbs active ingredient/A) was applied in 10 gallons of water and disked in prior to planting. Additionally, the corn was cultivated twice.

Fertilization:

<u>Amount/A</u>	<u>Source</u>	<u>Time of Application</u>	<u>Lbs N/A</u>	<u>Lbs P<sub>2</sub>O<sub>5</sub>/A</u>
300	NH <sub>3</sub>	During land preparation	249	--
200	10-34-0	At planting	20	68
		Total	269	68

Irrigation: 40 acre inches/A of well water were estimated to have been applied through furrows during the growing season.

Plot Size: 70 square feet.

Agri-File Field Crops 243.20

Drought Resistant Sorghum on the Yuma Mesa

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 Department of Plant Sciences  
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With every increasing costs of water, the necessity of identifying grain sorghum varieties which can produce adequate yields with limited soil moisture has become more apparent. Investigations have been conducted at the Yuma Mesa Experiment Station to identify grain sorghum responses to varying water applications using a sprinkler irrigation gradient system. Severe environmental conditions in the Yuma area (Figure 1) coupled with soil of limited moisture storage capacity (Table 1) presented an ideal situation for imposing stress.

In March 1979, over 300 grain sorghum entries were planted in rows perpendicular to a sprinkler irrigation line source. Overlapping sprinkler patterns created a uniform water application gradient from the line source to the edge of the plots (Figure 2).

Results obtained from some entries are illustrated in Table 2. The hybrid RS626 was chosen as a check and it demonstrated its recognized drought resistance by producing viable heads to a distance of 15.3 m from the line source. No water was applied to this area through the system. Plants which showed full development in this region were able to do so on the initial seven flood irrigations, totalling 771 mm from March 26 through May 15 applied to the whole block.

Work has been continued during the summer of 1980 to identify new entries which demonstrate drought resistance. Some entries which showed promise for drought resistance breeding programs in 1979 were included in the 1980 trials.