Sorghum Variety Evaluation With Sorghum As The First Crop On Virgin Soil

Robin Grumbles, Extension Agricultural Agent, David K. Parsons,
Extension Agricultural Agent - Field Testing and Robert Dennis, Extension Agronomist

Wesley D. Bates - Mohave Valley Elevation: 475 feet

Entry	Maturity[2]	Seed Color	Height (inch)	Head Type	Sterility[3]	Off-Type	Estimated[4] Yield (lbs/A)	Remarks
1. ASGROW DOUBLE TX	Medium Full	Red	53.5	Loose	L	Few	4450	One of the best.
2. ACCO GR1083		Lt. Red	44	Loose	L	Few	4350	Good head exertion.
3. DEKALB C42Y	Short Season	Tan to Very Lt. Red	41.5	Semi-Compact to Loose	L to M	Few	4275	Excellent exertion, many sterile heads on second tiller crop. Many forage off-types.
4. ACCO R1090	Medium Full	Lt. Red to Red	40.5	Loose	L	Many	4250	
5. FUNKS G589		Red	45	Semi-Compact to Loose	L	Few	4250	
6. FUNKS 623GBR	Medium Full	Lt. Red to Red	47	Semi-Compact	L	Few	4150	
7. FUNKS 701GBR	Full Season	Red	47	Compact	L	Few to Many	4150	Good head exertion.
8. NK 265	Medium Season	Lt. Red to Red	51	Semi-Compact to Loose	L	Very Few to Few	4150	Many green leaves, many tiller heads, mostly soft dough, moderate blasting on upper one-third of head.
9. ADVANCE R-12		Lt. Red to Red	51.5	Loose to to Semi-Compact	L		4100	Many tillers with small heads.
10. ASGROW SUPER RED	Short Season	Red	38	Loose	M	Few	4075	Many green leaves. Second set of tillers still soft dough. Heads light weight.
11. NK 2778	Medium Full	Red	39	Loose	L	Few to Many	4050	
12. ASGROW CAPITAN	Full Season	Lt. Red to Red	38	Semi-Compact to Loose	L	Few	4000	Many green leaves. Poor exertion.
13. NK 2779	Medium Full	Red	42	Loose	L	Few	4000	Very few late heads, those present are mostly sterile.
14. NK 4703		Red	40	Loose	L	Few	4000	Late heads mostly sterile.
15. FUNKS G766W	Full Season	Tan	45	Loose	L to M	Few to Many	3950	Much vegetative growth.
16. NK 2884[1]	Full Season	Red	40	Semi-Compact	L	Few	3900	
17. NK 4276[1]		Red	42	Loose	L	Few	3900	
18. NK 4733[1]		Red	42	Semi-Compact	M	Few	3900	
19. ACCO 912		Red	55	Semi-Compact to Loose	L	Many to Very Many	385	Head exertion poor.
20. ASGROW TOPAZ	Medium Full	Red	41.5	Semi-Compact	L	Few	3850	Border rows noticeably superior, possibly indicating inadequate nutrition for inner rows.
21. ASGROW OORADO	Medium Full	Red	40.5	Loose	L	Few	3800	Much green forage (leaves).
22. FUNKS G522	Medium Full	Brown to Red	37	Loose	M	Many	3600	Not well suited to this environment. Many green leaves, heads small.
23. NK 285[1]		Brown	38	Compact	M	Few	3600	Off-types are mostly large green leaved, multiple head forage types.
24. ADVANCE 80		Lt. Red to Red	39.5	Semi-Compact to Loose	M	Very Many	3550	
25. ADVANCE 82		Red	43	Loose	M to S	Many	3550	
26. FUNKS G404	Short Season	Lt. Red to Red	38	Semi-Compact to Loose	L to M	Very Many	3550	

1/Observations are for one replication only. All other entries had a minimum of two replications

2/Based on Agri-File, Field Crops 248.32.

3/L - light, M - medium, or S - severe.

4/Yield estimated based on observation of plants as they appeared where full stands were obtained.

Entry	Maturity[2]	Seed Color	Height (inch)	Head Type	Sterility[3]	Off-Type	Estimated[4] Yield (lbs/A)	Remarks
27. ASGROW BUG-OFF	Medium Season	Lt. Red	52.5	Semi-Compact	L	Few	3500	Good exertion.
28. NK 4138[1]		Red	46	Semi-Compact	M	Mod.	3500	
29. ACCO R 109A	Medium Full	Red	36	Semi-Compact to Loose	M	Mod. to Very Many	3400	
30. ADVANCE 7202		Red	49	Semi-Compact to Loose	L	Few	3450	
31. ASGROW DORADO E	Medium Full	Red	39	Semi-Compact to Loose	L to M	Few	3400	
32. MELOLAND		Tan	40.5	Semi-Compact to Loose	M	Mod.	3400	Replanted three times.
33. ASGROW GRANADA	Medium Full	Lt. Red to Red	47	Loose	M to S	Many	3250	
34. TEY 101	Medium	Red	34	Loose	M	Few	3200	Many small sterile heads.
35. FUNKS G251		Very Lt. Red	35	Loose	L	Few	3200	
36. NK 4132[1]		Lt. Red	48	Semi-Compact	M	Few	3000	Heads loose where large, large skip through plot.
37. NK 2105[1]		Lt. Red	38	Loose	L	Few	2500	Exertion is poor, heads small.

1/ Observations are for one replication only. All other entries had a minimum of two replications.

2/ Based on Agri-File, Field Crops 248.32.

3/ L - light, M - medium, or S - severe.

4/ Yield estimated based on observation of plants as they appeared where full stand were obtained.

Bird damage was primarily observed to have reduced yield on NK 265, Asgrow Capitan, Asgrow Dorado E and NK 2105. This was a preliminary test intended to assist in selection of best adapted entries for a fully replicated sorghum variety experiment to be conducted in the area in 1978.

Crop History and Related Information: Soil Analyses: Two composite samples were collected from the top 8 inches of soil on October 19, 1977. One sample was from portions of plots where plants had performed poorly and the other from portions of plots where grain yield estimates were greatest. Results: Analysis from problem areas where yield levels were about 50% normal: pH 8.2; total soluble salts, 2590 ppm (ESP 6.88). Analysis from area where yield approximated the plot average: pH 8.2; total soluble salts, 917 ppm. Analysis from a "slick" spot area: pH 8.2; total soluble salts, 12,593 ppm (ESP 22.70). (U of A Lab). Compacted wet clay soil layers were observed at depths of 8-12 inches below surface silty clay loam in many areas where sorghum yield potential was low. Planted: April 20-21, 1977. Method of Planting: Drilled solid with rows 7 inches apart, on the flat. Seeding rate: 15 lbs/acre. Performance Observations: October 19, 1977. Previous Crop: None. Land reclaimed from mesquite, salt cedar and riverwillow type vegetation. Soil Texture: Silty clay loam. Weed Control: None. Insect Control: One application of 7.5 lbs disyston granules per acre for aphid control. Fertilizer: 27.5 lbs nitrogen and 120 lbs P_2O_5 per acre as 11-48-0 preplant and an additional 96 lbs nitrogen per acre as UN32 in six equal applications. Nitrogen may have been a limiting factor in the yields obtained in this test planting. Irrigation: Water application for the sorghum crop was estimated to be 4.5 acre feet per acre.

Agri-File Field Crops 214.5.