

**ARKANSAS CORN AND GRAIN SORGHUM PROMOTION BOARD
PROGRESS REPORT – January 2016**

- Title:** Evaluation of White Food Grade Grain Sorghum Hybrids in Arkansas
- Investigators:** Jason Kelley, Wheat and Feed Grains Extension Agronomist, Little Rock
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- Crop:** Grain Sorghum
- Objectives:**
- (1) Evaluate yield potential of white food grade grain sorghum hybrids compared to standard red hybrids currently being grown.
 - (2) Determine if white grain sorghum hybrids have desirable agronomic traits and resistance to diseases commonly found in Arkansas
 - (3) Evaluate white grain sorghum quality compared to hybrids currently being grown

Progress: Four food grade white seeded/tan plant grain sorghum hybrids were evaluated in the Arkansas Grain Sorghum Hybrid Testing Program. Locations of the grain sorghum hybrid testing program included; Keiser (irrigated and non-irrigated), Marianna (irrigated), Stuttgart (irrigated), and Rohwer (irrigated and non-irrigated). Yields of white sorghums this year were variable with yields comparable or lower yielding than red type sorghums (Table 1. Below). The entry 341/10 was the highest yielding and most consistent yielder. The other three hybrids were the lowest yielding or near the bottom when averaged across all locations. Hybrid maturity (early maturing) may have been a factor in the relatively low yields. Foliar disease ratings indicated that the white hybrids in general were as tolerant or more tolerant to anthracnose and target leaf spot than many of the standard red hybrids currently being grown. All trials were sprayed for sugarcane aphids at least once this year, but prior to spraying, aphids could be readily be found on the white hybrids, so the assumption would be that they would be susceptible to sugarcane aphids. Grain quality (test weight) and bird feeding ratings did not differ between the white hybrids or the standard red hybrids.

Table 1. Yields of Selected Grain Sorghum Hybrids in Arkansas Performance Tests, 2015¹.

Hybrid Name	Keiser		Marianna	Stuttgart	Rohwer		Average
	Keiser Irrigated	Keiser Non-Irrigated	Irrigated	Irrigated	Rohwer Irrigated	Rohwer Non-Irrigated	
(bu./A).....						
DEKALB DKS53-53	124.6	145.3	164.8	187.5	132.3	159.1	152.3
DEKALB DKS51-01	120.8	147.9	161.7	194.5	136.9	141.2	150.5
Mycogen 1G855	115.3	110.1	145.2	196.7	162.9	148.2	146.4
Pioneer 84P80	130.5	141	162.8	178.1	121.9	143.8	146.3
Dyna-Gro 765B	109.4	132	162.8	180.4	146.6	138.8	145
Pioneer 83P99	122.3	131.2	158.5	186.8	128.2	132.1	143.2
White 341/10	115.2	114.6	159.1	196.4	133.5	138.8	142.9
Alta AG3101	126.4	142.1	161.6	155.4	130.0	139.1	142.4
REV [®] 9782 [™]	122.1	135.9	156.8	157.7	135.9	129	139.6
Armor Maverick	92.0	122.1	166.2	180.6	146.5	128.8	139.4
REV [®] 9562 [™]	133.7	136.8	144.4	157.5	127.5	124.5	137.4
Armor BANDIT	119.9	142.4	152.7	163.7	118.4	116.2	135.5
REV [®] 9924 [™]	119.9	129.6	145.3	168.9	108.3	138.5	135.1
Alta AG3201	117.2	137.5	145.5	161.9	112.1	117.1	131.9
Alta AG2105	129.9	132.3	163.9	137.6	109.6	117.2	131.7
White 304/5	108.0	117.6	147.3	163.2	125.0	122.9	130.7
Alta AG1203	118.3	121.1	123.8	165.9	111.8	121.8	127.1
Alta AG2103	122.5	120.5	123.4	145.2	120.2	117.9	125
Alta AG2115	105.7	117.6	147.0	139.2	109.4	114.4	122.2
White 366/58	108.0	114	110.6	150.8	109.6	106.4	116.6
White 315/10	105.9	110.9	113.4	122.6	97.5	97.5	108
GRAND MEAN	117.9	128.0	147.6	159.4	125.0	126.4	134.1
LSD (5%)	12.3	10.6	14.2	16.5	12.7	14.0	13.4
C.V.	8.9	7.0	8.2	7.6	7.4	9.4	8.1

¹ Keiser = Northeast Research and Extension Center

Marianna = Lon Mann Cotton Research Station

Stuttgart = Rice Research and Extension Center

Rohwer = Rohwer Research Station