

## ARKANSAS CORN AND GRAIN SORGHUM PROMOTION BOARD –January 2015

**Title:** Evaluation of High Yield Practices to Increase Corn and Grain Sorghum Yields

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**Objectives:** (1) Compare yield of corn and grain sorghum using current extension recommendations to a high yield system that is utilized by some yield contest winners. (2) Compare each individual input to see which input creates a yield response within the high yield system compared to current recommendations and (3) Compare economics of the two production systems

**Results:** Corn and grain sorghum trials were conducted at Marianna and Rohwer in 2014 evaluating the impact of impact of deep tillage, in-furrow starter fertilizer, increasing plant populations, seed insecticide rates, foliar fungicides, and additional fertilizer individually and when combined together in a “High Yield System”. Results are shown below:

	Marianna	Rohwer
Treatment Comparisons	Yield Response to treatment and yield (bu/a)	
Deep Tillage vs None	-3 (267)	-7 (244)
In-furrow starter fertilizer vs None	+4 (284)	+5 (231)
Plant Population 39K vs 34K	+5 (265)	+11 (236)
Seed Insecticide 1250 vs 250	+3 (273)	+3 (230)
Foliar Fungicide V5&R2 vs None	+5 (271)	+2 (228)
Fert: 390-60-140-44-10 vs 220-60-90-24-10	+7 (284)	+ 5 (238)
Pioneer 1739High Yield system vs Extension	+21 (303)*	+16 (273)*
Dyna-Gro 57VP51 or DKC 64-69 High Yield system vs Extension	+33 (306)*	+7 (259)
* = Significant impact on yield, P value = 0.10		

	Marianna	Rohwer
Treatment Comparisons	Yield Response to treatment and yield (bu/a)	
Deep Tillage vs None	-3 (150)	+4 (147)
In-furrow starter fertilizer vs None	+0 (157)	+3 (148)
Plant Population 100K vs 80K	+1 (156)	-6 (137)*
Foliar Fungicide V10 & Flower vs None	+1 (154)	+4 (154)
Fert: 227-60-150-24-0 vs 160-60-90-0-0	+5 (158)	-1 (148)
Pioneer 84P80 or 84G62 Yield system vs Extension	+5 (156)	+11 (154)*
DKS 53-67 High Yield system vs Extension	+11 (160)*	+13 (154)*
* = Significant impact on yield, P value = 0.10		



**Figure 1.** Deep tillage performed at Marianna prior to planting corn. Tillage was approximately 15-18 deep. After deep tillage, an additional pass of a roller-bedder was made to smooth beds back down.



**Figure 2.** Grain sorghum growth differences between extension recommendations (left) vs high input (right). Grain sorghum on right had in-furrow starter fertilizer, additional nitrogen at planting, a higher seeding rate, and was a different hybrid.