

2015 Evaluation of Grain Sorghum Varieties, Jay, Florida

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This report includes the summary of the 2015 grain sorghum replicated variety trial at West Florida Research and Education Center, Jay, Florida. It shows the performance of six grain sorghum varieties. This data represents only one year, results should be considered over several locations and years before conclusions are valid.

Brand/Varieties that were evaluated:

1. Dekalb DKS37-07
2. Dekalb DKS44-20
3. Dekalb DKS53-53
4. Dekalb DKS53-67
5. Dekalb DKS54-00
6. Asgrow Pulsar

2015 Growing Conditions and Experimental Design:

On 8 June, 2015, grain sorghum varieties were planted 7.5 seed/ft. (109,000 seed/A) under conventional tillage in a Red Bay sandy loam soil which had been planted to peanut in summer 2014. Plots were 25 ft long by 12 ft (four 4rows) wide, and rows were spaced 36 in. apart. Grain sorghum varieties were replicated in four randomized complete blocks. Prior to planting granular starter fertilizer (3-27-28, 320 lb/A) was broadcast and disked in. Dual Magnum (1.3 pt/A) was applied 8 June, 2015 immediately after planting. Supplemental fertilizer was applied on 30 June (33-0-0, 200 lb/A). Crop stand was determined on 23 June, 2015 and crop height was measured on 9 September 2015. Plots were harvested with a plot combine on 14 September 2015 and test weights were determined. All data was collected from the two center rows of each plot. Rainfall for June was 3.10 in. below normal, July was 1.11 in. above normal, and August and September were 2.16 and 2.02 in. below normal in Jay, FL for 2015 (Table 1). Normal represents the mean for the past 54 years of records kept at WFREC, Jay.

Table 1. Weather conditions during 2015 Grain Sorghum trial.

Month	Total Rainfall (in)	Average minimum air temperature (°F)	Average maximum air temperature (°F)
June	4.30 (3.10 below normal)	67.2	98.0
July	9.16 (1.11 above average)	66.5	98.2
August	4.36 (2.16 below average)	62.1	96.4
September	4.22 (2.02 below average)	53.0	97.1

Summary

Stand count for all varieties ranged from 5.6 to 7 plants/ft (81,300 to 101,600 plants/A) (Table 2). All varieties except DKS44-20 and DKS54-00 had populations in excess of 84,000 plants/A. Grain sorghum 50% heading date ranged from 7/27/15 to 8/3/15 with DKS37-07 and Pulsar the earliest and DKS54-00 the latest.

Grain sorghum height was similar for all varieties tested and ranged from 53.5 to 55.9 inches. Grain sorghum yield ranged from 75 to 94 bu/A with DKS44-20 the lowest and DKS37-07 the highest yielding. Test weights were in a range from 49.4 to 54.5 lb/bu with DKS54-00 the lowest and DKS44-20 the highest test weight.

Table 2: Grain Sorghum variety stand and 50% heading date, Jay, FL 2015.

Brand	Hybrid	Plants/ft* (6/23/15)	Plants/A (6/23/15)	50% Heading Date
Dekalb	DKS37-07	7.0	101600	7/27/15
Dekalb	DKS44-20	5.6	81300	7/30/15
Dekalb	DKS53-53	5.8	84200	7/31/15
Dekalb	DKS53-67	5.8	84200	8/1/15
Dekalb	DKS54-00	5.6	81300	8/3/15
Asgrow	Pulsar	6.2	90000	7/27/15
	<i>LSD</i>	1.2	17600	
	<i>CV</i>	13.5 %	13.5 %	

*Determined from counts of two, 6-ft rows sections per plot.

LSD = Fisher's Protected LSD (P=0.05)

Table 3: Grain Sorghum variety height, test weight and yield, Jay, FL 2015.

Brand	Variety	Plant Height (in.)* (9/9/15)	Test Weight (lb/bu)	Yield (bu/A) (9/14/15)
Dekalb	DKS37-07	55.7	53.3	93.6
Dekalb	DKS44-20	55.0	54.5	74.5
Dekalb	DKS53-53	55.1	50.4	84.8
Dekalb	DKS53-67	53.5	52.0	81.2
Dekalb	DKS54-00	55.4	49.4	83.3
Asgrow	Pulsar	55.9	52.4	89.8
<i>LSD</i>		<i>NS</i>	<i>3.9</i>	<i>10.2</i>
<i>CV</i>			<i>4.9%</i>	<i>8.0%</i>

*Mean of six plants per plot.

LSD = Fisher's Protected LSD (P=0.05)