

2017 Evaluation of Soybean Varieties, Jay, Florida

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This report includes the summary of the 2017 soybean replicated variety trial (OVT) and large plot demonstration trial at West Florida Research and Education Center, Jay, Florida. It shows the performance of 15 soybean varieties in the OVT Trial (Table 1) and 13 varieties in Demonstration Trial (Table 5). This data represents only one year, results should be considered over several locations and years before conclusions are valid. In addition to the single year report, a multi-year summary is provided for varieties that were evaluated for two or more years.

Table 1. Soybean Entries that were evaluated: (Brand/Variety/Maturity)

	Brand	Variety	Maturity Index
1	Asgrow	AG64X8	6.4
2	Asgrow	AG69X6	6.9
3	Asgrow	AG72X7	7.2
4	Asgrow	AG74X8	7.4
5	Asgrow	AG75X6	7.5
6	Dupont Pioneer	P55T81R	5.5
7	Dupont Pioneer	P55A49X	5.5
8	Dupont Pioneer	P72A21X	7.2
9	Dupont Pioneer	P76T54R2	7.6
10	Bayer	CZ 6060RY	6.0
11	Bayer	CZ 7070RY	7.0
12	AG South Genetics	AGS 568 RR	5.6
13	AG South Genetics	AGS 738 RR	7.3
14	Croplan	RX6467	6.4
15	Croplan	RX6487	6.4

2017 OVT Growing Conditions and Experimental Design:

The soil type was a Red Bay sandy loam and the study area was planted to cotton in 2016. Fertilizer was applied according to soil test results (400 lb/A 3-7-28 applied 26 June). Soybean varieties were planted on 15 May under strip tillage. Plots were 4 rows wide by 25 feet long with 36-in. row spacing. Standard practices for soybean production were followed throughout the season. Roundup herbicide at 1 qt/A was

applied 17 March and 12 May to control any vegetation present prior to strip-tillage. Liberty at 22 oz/A plus Stealth at 1 qt/A were applied 17 May immediately after planting. Roundup at 26 oz/A was applied 26 June for postemergence weed control. Quadris fungicide was applied at 12 oz/A on 12 July for disease management. Intrepid insecticide was applied at 8 oz/A 9 August, Diamond insecticide was applied at 6 oz/A on 16 August and Tombstone insecticide at 2 oz/A was applied on 13 September for insect control. Soybeans were harvested on 26 October with a plot combine, percent moisture determined and plot weights converted to bu/A yield at 13% moisture.

Rainfall was 4 to 5 inches below average for July, September and November and was 3 to 13 inches above average for May, June, August and October. For the entire growing season, rainfall was 9 inches above average. Weather data was obtained from Florida Automated Weather Network (FAWN) station located on Jay research farm and normal represents the mean for the past 54 years of records (Table 2).

Table 2. Weather conditions during 2017 soybean trial.

Month	Total Rainfall (in)	Average minimum air temperature (°F)	Average maximum air temperature (°F)
May	7.34 (2.84 inches above average)	61.6	83.3
June	20.34 (12.94 inches above average)	70.3	84.4
July	2.50 (5.55 inches below average)	72.4	90.3
August	9.60 (3.08 inches above average)	72.4	88.9
September	0.77 (5.47 inches below average)	66.8	86.3
October	9.06 (5.27 inches above average)	59.3	79.4
November	0.18 (4.02 inches below average)	48.2	71.6
Total	49.79 (9.09 inches above average)		

OVT Summary

Stand count for all varieties ranged from 5.7 to 7.3 plants per foot of row (82,600 to 106,600 plants/A) (Table 3). AG72X7, AG74X8, P55T81R, and P76T54R2 had populations in excess of 100,000 plants/A while CZ 7070RY and RX6467 had populations less than 86,000 plants/A.

AG64X8, AG 69X6, AG 74X8, P76T54R2 and RX6487 all yielded over 57 bu/A while P55T81R and P55A49X produced less than 45 bu/A (Table 4). Soybean test weight ranged from 47.2 to 57.3 lb/bu with most cultivars above 54 lb/bu.

Table 3: Soybean OVT emergence, Jay, FL 2017.

	Variety	Plants/ft* 6/26/17	Plants/A* 6/26/17
1	AG64X8	6.2	89,400
2	AG69X6	6.1	88,900
3	AG72X7	7.3	106,600
4	AG74X8	6.9	100,300
5	AG75X6	6.4	92,600
6	P55T81R	7.0	102,100
7	P55A49X	6.7	97,500
8	P72A21X	6.1	88,500
9	P76T54R2	7.0	101,600
10	CZ 6060RY	6.5	94,800
11	CZ 7070RY	5.9	85,800
12	AGS 568 RR	6.3	91,200
13	AGS 738 RR	6.5	93,900
14	RX6467	5.7	82,600
15	RX6487	6.1	88,500
	<i>LSD</i>	<i>1.0</i>	<i>14,500</i>
	<i>CV</i>	<i>11.0%</i>	<i>11.0%</i>

*Determined from counts of two, 6-ft rows sections per plot. Planted 7.0 seed/ft (101,600 seed/A).

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

Table 4: Soybean OVT test weight and yield, Jay, FL 2017.

	Variety	Test Weight (lb./bu)	Yield (bu/A) 10/26/17
1	AG64X8	54.0	58.2
2	AG69X6	55.4	62.6
3	AG72X7	54.0	53.3
4	AG74X8	54.7	60.3
5	AG75X6	55.6	56.9
6	P55T81R	51.3	40.2
7	P55A49X	47.2	34.0
8	P72A21X	56.2	52.6
9	P76T54R2	55.7	59.7
10	CZ 6060RY	53.0	49.9
11	CZ 7070RY	55.4	56.0
12	AGS 568 RR	51.8	45.5
13	AGS 738 RR	55.8	49.9
14	RX6467	57.3	56.2
15	RX6487	56.9	57.3
	LSD	2.0	4.2
	CV	2.6%	5.6%

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

Soybean yield greater than 57 bu/A are shown in **bold**.

Large Plot Demonstration

Table 5. Demonstration Entries that were evaluated: (Brand/Variety/Maturity)

	Brand	Variety	Maturity Index
1	Asgrow	AG64X8	6.4
2	Asgrow	AG69X6	6.9
3	Asgrow	AG72X7	7.2
4	Asgrow	AG74X8	7.4
5	Asgrow	AG75X6	7.5
6	Dupont Pioneer	P55T81R	5.5
7	Dupont Pioneer	P72A21X	7.2
8	Dupont Pioneer	P76T54R2	7.6
9	Bayer	CZ 6060RY	6.0
10	Bayer	CZ 7070RY	7.0
11	AG South Genetics	AGS 738 RR	7.3
12	Croplan	RX6467	6.4
13	Croplan	RX6487	6.4

2017 Demonstration Growing Conditions and Experimental Design:

Growing conditions were identical to those for the OVT Trial listed above except the non-replicated plots were eight rows wide by 1000 ft long. Planting date, fertilization and herbicide, fungicide and insecticide applications were the same for both OVT and Demonstration plots. Demonstration plots were harvested 16 November.

Demonstration Summary

Soybean yield in the Demonstration plots ranged from 43.3 to 63.3 bu/A (Table 5). Yields from the Demonstration were sometimes slightly lower and sometimes higher than those from the same varieties in the OVT trial (Table 4 vs. Table 6). However, two varieties had more than a 10 bu/A difference between the OVT and Demonstration. P55T81R yielded 14 bu/A more in the Demonstration than OVT while RC6467 yielded 12.9 bu/A more in the OVT than Demonstration. The average difference between the OVT and Demonstration trials for the 13 varieties that were in both trials was 1.7 bu/A less for the Demonstration compared to the OVT.

Table 6: Soybean Large Plot Demonstration trial yield, Jay, FL 2017.

	Variety	Yield (bu/A) 11/16/17
1	AG64X8	51.8
2	AG69X6	57.1
3	AG72X7	49.0
4	AG74X8	59.3
5	AG75X6	50.1
6	P55T81R	54.3
7	P72A21X	52.0
8	P76T54R2	63.3
9	CZ 6060RY	56.7
10	CZ 7070RY	56.3
11	AGS 738 RR	49.0
12	RX6467	43.3
13	RX6487	52.4

Soybean yield greater than 57 bu/A are shown in **bold**.

Multi-Year Summary

Several varieties were evaluated in 2016 and 2017 with a few in 2015, 2016 and 2017 (Table 7). P76T54R2 and CZ 7070 RY averaged more than 58 bu/A over three years.

Table 7. Multi-Year Soybean Variety Performance, WFREC, Jay, FL (2015-2017).

Brand	Variety	2017	2-Year Average	3-Year Average
Asgrow	AG69X6	62.6	60.0	
Asgrow	AG75X6	56.9	57.7	
Pioneer	P55T81R	40.2	45.8	
Pioneer	P76T54R2	59.7	59.1	58.9
Bayer	CZ 6060 RY	49.9	48.7	51.0
Bayer	CZ 7070 RY	56.0	56.9	64.1

Yields in excess of 57 bu/A are in **bold**.