

2016 Cotton Variety Demonstration, Jay, Florida

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This report includes the summary of the 2016 variety demonstration trial at West Florida Research and Education Center, Jay, Florida. It shows the performance of 22 early-, mid- and full-season maturing cotton varieties. This data represents only one year, results should be considered over several locations and years before conclusions are valid.

Table 1. Varieties Evaluated (Maturity E=early, M=mid, F=full):

	Brand	Variety	Maturity
1	Delta Pine	DP 1646 B2XF	M-F
2	Delta Pine	DP 1639 B2XF	M-F
3	Delta Pine	DP 1518 B2XF	E
4	Delta Pine	DP 1522 B2XF	E-M
5	Delta Pine	DP 1538 B2XF	M
6	Delta Pine	DP 1553 B2XF	F
7	Delta Pine	DP 1555 B2XF	M-F
8	Delta Pine	DP 1558 B/R B2RF	F
9	Bayer	ST 5115GLT	M
10	Bayer	ST 6182GLT	F
11	Bayer	BX 1739GLT	M-F
12	Phytogen	PHY333WRF	E-M
13	Phytogen	PHY444WRF	E-M
14	Phytogen	PHY487WRF	E-M
15	Phytogen	PHY495WRF	M
16	Phytogen	PHY499WRF	M
17	Phytogen	PHY552WRF	M-F
18	Croplan	3885 B2XF	M-F
19	Americot	NexGen 5007 B2XF	M-F
20	Dyna-Gro	DG 3526B2XF	E
21	Dyna-Gro	DG 3757B2XF	M-F
22	Dyna-Gro	CPS16654	M-F

2016 Growing Conditions and Experimental Design:

The study area soil type was a Red Bay sandy loam with 2% organic matter and pH 6.5 and a history of corn production during 2015. Each cotton variety was planted on 6 May under strip tillage in non-replicated plots. Plots were eight rows wide by 570 ft long with a 36-in. row spacing. Standard production practices for non-irrigated cotton production were followed throughout the season. Prowl H₂O 1.8 pt/A + Roundup 22 oz/A + Cotoran 3 pt/A were applied on 7 May for burndown and preemergence weed control. Roundup at 22 oz/A was applied 3 June and 22 June for postemergence weed control. Sherpa insecticide was applied at 4 oz/A 3 June and Wrangler insecticide at 2 oz/A on 14 July. Priaxor fungicide was applied at 4 oz/A 14 July. The plant growth regulator Stance was applied at 2 oz/A on 14 July and Mepiquat at 1 pt/A on 28 July. Cotton was harvested with a conventional spindle picker on 24 October and samples were sent to a commercial lab for fiber analysis.

Rainfall was below average for all months except September. Rainfall during the cotton growing season totaled 26.48 in., which was 10.02 in. below average. Weather data was obtained from Florida Automated Weather Network (FAWN) station located on Jay research farm and average represents the mean for the past 55 years of records (Table 2).

Table 2. Weather Conditions During 2016 Cotton Trial.

Month	Total Rainfall (in)	Average minimum air temperature (°F)	Average maximum air temperature (°F)
May	2.93 (1.57 below average)	62.1	83.5
June	5.47 (1.93 below average)	68.2	90.1
July	7.56 (0.49 above average)	73.1	91.0
August	3.83 (2.69 below average)	73.2	90.0
September	6.69 (0.45 above average)	69.9	88.9
October	0.00 (3.79 below average)	57.5	84.0

Summary

Cotton lint yield ranged from 668 to 1098 lb lint/A with gin turnout of 33.7 to 40.6% (Table 3). The six varieties with the highest yield were (highest to lowest) DP 1518, DP 1646, DP 1639, DP 1538, DP 1522 and DP 1555. The six highest lint value/A were DP 1646, DP 1518, DP 1639, DP 1555, PHY444 and DP 1522 (Tables 4).

Table 3. Cotton Variety Demonstration Gin Turnout and Yield.

	Variety	Yield			
		Seed Cotton ^w (lb/A)	Gin Turnout ^x (%)	Lint (lb/A)	Bales/A ^z
1	DP 1646 B2XF	2809	38.9	1094	2.3
2	DP 1639 B2XF	2562	39.7	1017	2.1
3	DP 1518 B2XF	2896	37.9	1098	2.3
4	DP 1522 B2XF	2565	36.4	933	1.9
5	DP 1538 B2XF	2488	38.2	950	2.0
6	DP 1553 B2XF	2030	38.8	787	1.6
7	DP 1555 B2XF	2293	40.6	930	1.9
8	DP 1558 B/R B2RF	1863	35.9	668	1.4
9	ST 5115GLT	2453	36.8	904	1.9
10	ST 6182GLT	1898	39.7	754	1.6
11	BX 1739GLT	1924	38.9	749	1.6
12	PHY333WRF	2376	38.0	902	1.9
13	PHY444WRF	2504	36.3	909	1.9
14	PHY487WRF	2292	33.7	773	1.6
15	PHY495WRF	1815	37.3	676	1.4
16	PHY499WRF	1983	35.2	698	1.5
17	PHY552WRF	2288	37.0	846	1.8
18	3885 B2XF	2208	34.8	769	1.6
19	NexGen 5007 B2XF	2575	35.8	921	1.9
20	DG 3526B2XF	2363	37.4	884	1.8
21	DG 3757B2XF	2093	36.7	768	1.6
22	CPS16654	2252	35.3	794	1.7

^w Weight (lb/A) includes lint + seed.

^x Gin Turnout = lint/seed cotton.

^y Bales/A are weight of lint only at 480 lb/bale

Plots were harvested on 24 October.

Table 4. Cotton Variety Demonstration Fiber Quality and Value.

	Variety	Mic ^u	Fiber length ^v (in.)	Fiber strength ^w (g/tex)	Uniform ^x (%)	Lint (lb/A)	Net loan price ^y (¢/lb)	Lint value ^y (\$/A)
1	DP 1646 B2XF	4.2	1.2	29	81.9	1094	56.45	540
2	DP 1639 B2XF	4.7	1.08	28.5	80	1017	54.90	487
3	DP 1518 B2XF	4.2	1.15	28.8	82.4	1098	54.40	515
4	DP 1522 B2XF	4.6	1.13	29.5	82.1	933	54.60	437
5	DP 1538 B2XF	4.6	1.06	26.4	81.6	950	52.45	428
6	DP 1553 B2XF	4.5	1.13	27.8	82.6	787	54.65	374
7	DP 1555 B2XF	4.7	1.13	29.1	82.1	930	56.05	457
8	DP 1558 B/R B2RF	4.6	1.11	31.5	81.9	668	53.20	302
9	ST 5115GLT	4.4	1.07	28.5	75.9	904	51.45	396
10	ST 6182GLT	4.6	1.06	26.9	80.2	754	52.45	343
11	BX 1739GLT	4.6	1.16	31.8	81.3	749	55.10	359
12	PHY333WRF	4.4	1.09	29.4	79.3	902	52.45	407
13	PHY444WRF	3.9	1.19	31.4	82.6	909	56.85	447
14	PHY487WRF	4.7	1.12	29.3	80.9	773	54.65	357
15	PHY495WRF	4.5	1.09	31.1	82.4	676	54.15	315
16	PHY499WRF	4.6	1.11	31.5	82.5	698	51.75	305
17	PHY552WRF	3.9	1.11	30.3	81.9	846	54.50	397
18	3885 B2XF	4.5	1.07	28	79.7	769	52.30	339
19	NexGen 5007 B2XF	4.3	1.1	26.6	79.9	921	54.45	428
20	DG 3526B2XF	4.5	1.11	26.6	82.8	884	56.00	428
21	DG 3757B2XF	4.5	1.08	26.8	80.1	768	51.20	334
22	CPS16654	4.2	1.19	30.9	81.6	794	55.20	375

^uMic (micronaire)= a measure of fiber fineness or maturity. An airflow instrument measures the air permeability of a given mass of cotton lint compressed to a fixed volume. Low "mike" values indicate finer or less mature fibers.

^vFiber length= average fiber length of the longer one-half of the fibers sampled, in hundredths of an inch.

^wFiber strength = force required to break a bundle of fibers one tex unit in size. A tex is the weight in grams of 1,000 meters of fiber. HVI clamp jaw spacing is 1/8 inch.

^xUniformity = length uniformity is the ratio between the mean length and the upper-half mean length of the fibers, expressed as a percentage.

^yEntries are listed according to lint value in \$/Acre based on \$0.52/lb +/- premium/discounts. Samples ginned at University of Tennessee and classed at the USDA Classing Office in Memphis, TN.