



## OSU Cotton Official Variety Tests - 2014

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The Experiment Station cotton official variety tests (OVTs) were planted at the Southwest Research and Extension Center at Altus Center (SWREC) (furrow irrigated), Southwest Agronomy Research Station at Tipton (dryland), and Caddo Research Station at Fort Cobb (low elevation spray center pivot irrigated) in 2014. Continuing Exceptional Drought (D4 category) has affected production at Altus and Tipton once again. Since the SWREC is located within Lugert-Altus Irrigation District, no irrigation was available in 2014 and the trials there failed. The Tipton dryland location also failed due to drought in 2014.

The Caddo Research Station site is classified as a Binger fine sandy loam, 1 to 3 percent slopes. The taxonomic classification is: Fine-loamy, mixed, active, thermic Udic Rhodustalfs. The trial consisted of 4 replicates of entries in both 2012 and 2013. Plot size was four 40-inch rows wide by 30 ft in length in 2012. In 2013, row spacing was changed to 36 inches, and plots were four rows wide by 30 ft in length. Harvested area was the center two rows by the length of the plot.

Fort Cobb 2014 OVT results can be found in Tables 1 and 2.

### **2012 Methodology Change**

It should be noted that the methodology for the OVT program was changed in 2012 as compared to previous years. **This methodology is similar to other experiment station stripper harvested OVT locations such as Dr. Jane Dever's Texas A&M AgriLife Research program at Lubbock. At harvest, grab samples were taken from each plot in 3 of the 4 replicates. These grab samples were used to determine the lint and seed turnout for each individual entry and were used to convert plot bur cotton weights to lint per acre. Lint from these grab samples was submitted to the Texas Tech University Fiber and Biopolymer Research Institute to obtain high volume instrument (HVI) data.** Additionally, 50-boll samples were taken from each plot in 3 of the 4 replicates and other data (including boll sample lint fractions, boll size, seed index, lint index, and seed per boll) were derived from

those. Additional collected data included a plant height from the soil surface to terminal and a visual estimate of storm resistance (1-9 with 9 tightest).

### Caddo Research Station Site Information and Cultural Practices

- 20-May      Applied 500 lb/acre of 32-10-10 = 160-50-50 lb nutrients/acre
  
- 3-Jun        Planted no-till into standing terminated wheat cover @ 4 seed/row-ft in 36 inch rows = 58,080 seed/acre using JD MaxEmerge planter with Kincaid cone units
  
- 4-Jun        Prowl H2O @ 1qt/acre + Roundup PowerMax @ 1 qt/acre
  
- 19-Jun      Roundup PowerMax @ 1 qt/acre
  
- 8-Jul        Mepiquat chloride @ 8 oz/acre + Vydate @ 6oz/acre + Roundup PowerMax @ 1 qt/acre
  
- 21-Jul      Mepiquat chloride @ 8 oz/acre + Vydate @ 6oz/acre + Roundup PowerMax @ 1qt/acre
  
- 7-Aug        Mepiquat chloride @ 8 oz/acre + Roundup PowerMax @ 1qt/acre
  
- 24-Oct      Ginstar @ 12 oz/acre + Bollbuster @ 42 oz/acre
  
- 24-Nov      Harvested using JD 482 plot stripper

Rainfall and irrigation by month (Fort Cobb actual).

Month	Precipitation	Irrigation	Total
	----- Inches -----		
May	5.38	--	5.38
June	5.43	0.75	6.18
July	2.22	3.00	5.22
August	1.61	4.00	5.61
September	1.30	3.00	4.30
Total	15.94	10.75	26.69

Preplant soil test results.

Depth	pH	Nitrate-N lb/acre	Mehlich III P ppm	Mehlich III K ppm
0-6 inches	7.6	3	23	121
6-12 inches	7.3	4	4	91
12-18 inches	7.1	4	2	112
Total profile nitrate-N lb/acre	--	11	--	--



Table 1. Yield and agronomic results from the OSU cotton official variety test, Caddo Research Station, Fort Cobb, OK 2014.

Entry	Lint yield lb/acre	Grab sample turnout		Boll sample lint fraction		Boll size	Seed index	Lint index	Seed per boll	Storm resistance	Final plant height inches
		Lint	Seed	Picked	Pulled						
		-----%		-----		g seed cotton/boll	g wt 100 fuzzy seed	g wt lint from 100 fuzzy seed	count/boll	visual scale (1=loose, 9=tight)	
NexGen NG 1511B2RF	1924	28.7	43.6	46.1	37.2	8.1	10.3	9.2	32.5	4	33
Stoneville ST 4946GLB2	1904	25.1	46.3	42.3	34.5	8.6	11.9	9.0	33.2	6	34
PhytoGen PHY 333WRF	1896	24.6	41.5	43.9	34.1	8.6	10.1	8.2	35.8	5	35
CPS-All-Tex CT14515B2R	1883	24.6	43.2	44.9	35.0	8.4	10.2	8.6	34.3	7	37
FiberMax FM 1830GLT	1861	27.5	46.5	44.6	35.9	8.2	10.7	8.8	33.4	6	31
All-Tex Nitro-44B2RF	1827	24.1	47.2	41.9	33.9	7.8	12.0	8.9	29.5	6	32
CPS-All-Tex CT13464B2R	1820	25.6	46.1	42.7	35.2	8.1	11.6	9.0	31.8	7	34
Bayer BCSBX1538GLT	1800	27.0	43.3	45.6	36.6	8.8	11.6	10.3	31.4	7	33
PhytoGen PHY 499WRF	1785	24.0	44.1	45.5	34.3	7.5	10.1	8.8	29.6	4	38
PhytoGen PHY 222WRF	1753	26.4	44.1	44.0	34.1	7.8	11.2	8.9	29.9	6	32
Deltapine DP 0912B2RF	1750	24.5	47.7	41.1	32.1	7.5	10.7	7.6	31.4	3	33
Stoneville ST 4747GLB2	1743	24.4	44.6	42.8	33.9	8.1	10.6	8.2	33.6	6	31
Croplan Genetics CG 3787B2RF	1737	24.8	42.7	44.1	34.4	7.4	10.1	8.2	31.1	4	34
Deltapine DP 1410B2RF	1731	25.5	48.4	41.1	32.7	7.9	10.7	7.7	33.7	7	32
FiberMax FM 1944GLB2	1714	22.9	47.7	41.8	33.0	8.5	11.4	8.3	33.9	6	32
FiberMax FM 2011GT	1710	25.9	45.1	43.8	34.7	9.2	12.2	9.8	32.9	8	33
PhytoGen PHY 367WRF	1691	25.5	45.6	43.3	34.6	7.1	9.8	7.7	31.8	5	29
NexGen NG 3306B2RF	1688	24.4	48.1	40.9	32.4	7.6	10.6	7.5	33.2	6	35
Deltapine DP 1044B2RF	1674	24.4	49.0	40.1	31.4	6.8	10.1	7.0	30.9	5	33
PhytoGen PHY 339WRF	1645	23.8	47.0	40.8	32.3	7.5	9.9	7.0	34.8	4	35
FiberMax FM 2322GL	1642	27.3	42.0	47.9	37.9	8.1	10.9	10.5	29.2	7	34
Deltapine DP 1219B2RF	1639	24.0	46.4	42.6	32.9	6.9	9.1	6.9	33.0	4	36
FiberMax FM 2334GLT	1619	27.1	42.7	45.0	34.9	7.3	9.5	8.2	31.8	6	30
FiberMax FM 1320GL	1614	24.1	44.0	43.9	33.9	8.4	10.1	8.2	34.9	8	33
Deltapine DP 1321B2RF	1604	25.8	43.4	44.8	37.1	7.4	11.0	9.3	29.4	5	32
MON 12R224B2R2	1600	23.5	46.5	42.1	33.8	7.4	10.8	8.2	31.3	5	34
FiberMax FM 2484B2RF	1543	25.6	46.3	43.7	34.6	7.0	10.5	8.4	29.0	7	30
PhytoGen PHY 725RF	1383	22.1	50.3	39.6	31.3	8.5	11.0	7.3	35.9	4	36
Test average	1721	25.1	45.5	43.2	34.2	7.9	10.7	8.4	32.3	6	33
CV, %	9.3	5.4	3.8	2.7	5.1	6.7	6.6	8.3	8.2	15.2	6.4
OSL	0.0017	<0.0001	<0.0001	<0.0001	0.0007	<0.0001	<0.0001	<0.0001	0.0428	<0.0001	<0.0001
LSD	224	2.2	2.8	1.9	2.8	0.9	1.2	1.1	4.3	1	3

CV - coefficient of variation.

OSL - observed significance level, or probability of a greater F value.

LSD - least significant difference at the 0.05 level.



Table 2. Fiber property results from the OSU cotton official variety test, Caddo Research Station, Fort Cobb, OK 2014.

Entry	Micronaire	Length	Staple	Strength	Uniformity	Elongation	Reflectance	Yellowness
	units	inches	32nds inch	g/tex	%	%	rd %	+b %
All-Tex Nitro-44B2RF	4.3	1.27	40.5	34.5	86.0	5.8	69.9	6.5
Bayer BCSBX1538GLT	4.9	1.22	39.0	33.7	85.0	4.1	70.0	6.5
CPS-All-Tex CT13464B2R	4.6	1.27	40.8	35.0	85.5	6.2	69.0	6.7
CPS-All-Tex CT14515B2R	4.5	1.20	38.3	32.6	84.5	6.1	71.0	7.9
Croplan Genetics CG 3787B2RF	4.6	1.22	39.1	30.2	85.4	7.2	72.7	7.1
Deltapine DP 0912B2RF	5.0	1.16	37.1	32.8	84.0	6.2	72.2	6.5
Deltapine DP 1044B2RF	4.4	1.18	37.8	33.0	85.2	7.1	72.3	6.5
Deltapine DP 1219B2RF	4.4	1.24	39.8	33.6	84.6	5.1	72.6	6.8
Deltapine DP 1321B2RF	5.1	1.19	38.2	32.9	85.1	6.8	71.8	7.2
Deltapine DP 1410B2RF	4.4	1.27	40.5	32.0	83.9	4.8	70.4	6.0
FiberMax FM 1320GL	4.7	1.19	38.1	33.7	83.9	6.0	73.0	6.6
FiberMax FM 1830GLT	4.6	1.27	40.5	32.7	85.0	4.8	74.2	6.2
FiberMax FM 1944GLB2	4.6	1.21	38.8	33.2	83.7	4.5	74.5	6.1
FiberMax FM 2011GT	4.8	1.18	37.8	32.1	83.4	5.0	71.7	7.0
FiberMax FM 2322GL	4.5	1.26	40.2	33.8	84.9	4.5	70.4	6.9
FiberMax FM 2334GLT	4.7	1.24	39.8	33.0	84.6	4.8	73.9	6.1
FiberMax FM 2484B2RF	4.1	1.25	39.9	33.2	84.5	4.5	75.1	5.9
MON 12R224B2R2	4.6	1.20	38.5	31.6	84.1	5.5	71.8	6.5
NexGen NG 1511B2RF	5.2	1.16	37.1	34.1	84.3	7.0	71.2	7.3
NexGen NG 3306B2RF	4.5	1.25	40.1	35.0	85.6	6.1	71.3	6.8
PhytoGen PHY 222WRF	5.4	1.18	37.8	32.9	84.3	6.4	70.9	6.6
PhytoGen PHY 333WRF	4.5	1.21	38.6	31.6	85.4	5.4	69.7	7.2
PhytoGen PHY 339WRF	4.2	1.22	38.9	32.4	84.6	6.3	72.9	6.3
PhytoGen PHY 367WRF	4.8	1.18	37.8	32.4	84.2	6.2	70.3	7.1
PhytoGen PHY 499WRF	4.4	1.21	38.6	33.7	84.9	6.4	69.9	7.0
PhytoGen PHY 725RF	4.3	1.26	40.3	35.9	85.0	5.9	70.6	6.9
Stoneville ST 4747GLB2	4.7	1.23	39.5	30.5	83.5	3.9	70.8	6.1
Stoneville ST 4946GLB2	4.6	1.20	38.4	33.4	84.9	6.2	71.2	6.9
Test average	4.6	1.22	39.0	33.1	84.6	5.7	71.6	6.7
CV, %	5.0	1.9	1.9	3.1	0.9	5.3	1.5	4.1
OSL	<0.0001	<0.0001	<0.0001	<0.0001	0.0034	<0.0001	<0.0001	<0.0001
LSD	0.4	0.04	1.2	1.7	1.2	0.5	1.8	0.4

CV - coefficient of variation.

OSL - observed significance level, or probability of a greater F value.

LSD - least significant difference at the 0.05 level.