



## OSU Cotton Official Variety Tests - 2015

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The Oklahoma Agricultural Experiment Station official variety tests (OVTs) were planted at the Southwest Research and Extension Center at Altus (Lugert-Altus Irrigation District - furrow irrigated), Tipton Valley Research Center (dryland), and Caddo Research Station at Fort Cobb (center pivot irrigated) in 2015.

### Site information:

- 1) Altus conventional tillage furrow irrigated OVT – 40-inch rows, planted June 4 at 4 seeds/row-ft, harvested November 10, 4 replicates planted, 4 replicates harvested
- 2) Tipton no-till dryland OVT – 40-inch rows, planted June 10 at 3 seeds/row-ft, harvested November 12, 4 replicates planted, 3 replicates harvested for yield and quality.
- 3) Fort Cobb no-till in terminated small grains cover – low elevation spray center pivot irrigated OVT – 36-inch rows, planted June 8 at 4 seeds/row-ft, 4 replicates planted, trial was compromised by phenoxy herbicide drift (volatilization) from a neighbor south of the research farm in early July, and **was not harvested**.

Plots were four rows wide and 30 feet long at all sites. Harvested area was the center two rows by the length of the plot. Trials were harvested with a brush-roll plot stripper and grab sampled by plot (three replicates). Grab samples were ginned on research equipment at the Southwest Research and Extension Center. 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 samples were submitted to the Texas Tech University Fiber and Biopolymer Research Institute (FBRI) 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 plant height from the soil surface to terminal and a visual estimate of storm resistance (1-9 with 9 tightest). Important cultural practices are noted in Table 1, and the 2015 OVT results for Altus (Tables 2 and 3) and Tipton (Tables 4 and 5) are presented below.

Table 1. Cultural practices used for the cotton official variety tests at Altus and Tipton, 2015.

Location	Fertilizer application	Irrigations	Herbicide applications	Plant growth regulator application	Insecticide applications	Harvest aid applications
Altus	February 24 - Broadcast air boom truck application of 40-30-0 @ 126 lbs/A, nitrogen rate reduced based on residual N determined by deep soil sampling (to 18 inches)	7 total July 16 July 22 July 30 August 11 August 18 August 25 September 1	<p>March 30 - PPI ground rig broadcast application of Trifluralin HF @ 2.0 pts/A</p> <p>June 3 - Pre-plant ground rig broadcast application of Mad Dog Plus + Choice Weather Master + Activator 90 nonionic surfactant @ 48.0 oz /A + ½ % v/v + ½ % v/v</p> <p>June 24 - Postemerge ground rig broadcast application of Roundup Power Max + Choice Weather Master + Activator 90 nonionic surfactant @ 32.0 oz /A + ½ % v/v + ½ % v/v</p> <p>July 8 - Postemerge ground rig broadcast application of Roundup PowerMax + Staple LX + Choice Weather Master + Activator 90 nonionic surfactant @ 48.0 oz /A + 3.2 oz /A + ½ % v/v + ½ % v/v</p>	August 3 - Aerial application of Mepex + Induce nonionic surfactant @ 16.0 oz/A + ¼ % v/v	<p>June 17 - Aerial application of Acephate 90 WDG + Induce nonionic surfactant @ 6.5 oz/A + ¼ % v/v</p> <p>July 11 - Aerial application of Acephate 90 WDG + Induce nonionic surfactant @ 8.0 oz/A + ¼ % v/v</p> <p>July 19 - Aerial application of Acephate 90 WDG + Induce nonionic surfactant @ 8.0 oz/A + ¼ % v</p>	<p>October 15 - Aerial application of Boll Buster + DFT 6 @ 2.0 pts/A + 1.5 pts/A</p> <p>October 27 - Aerial application of Aim EC + Maximizer Crop Oil @ 1.6 oz/A + 1% v/v</p>
Tipton	February 24 - Broadcast air boom truck application of 40-30-0 @ 126 lbs/A	n/a	<p>March 26 - Pre-plant ground rig broadcast application of Roundup Power Max + Clarity + Choice Weather Master + Activator 90 nonionic surfactant @ 32 oz /A + 8 oz/A + ½ % v/v + ½ % v/v</p> <p>June 11 – Preemerge ground rig broadcast application of 48 oz/A Gramoxone 2.0 SL + 1qt/A Prowl H20</p> <p>June 25 - Postemerge ground rig broadcast application of Mad Dog Plus + Choice Weather Master + Activator 90 nonionic surfactant @ 48.0 oz/A + ½ % v/v + ½ % v/v</p> <p>July 8 - Postemerge ground rig broadcast application of Mad Dog Plus + Staple LX + Choice Weather Master + Activator 90 nonionic surfactant @ 48.0 oz/A + 3.2 oz/A + ½ % v/v + ½ % v/v</p> <p>August 13 - Postemerge ground rig broadcast application of Mad Dog Plus + Choice Weather Master + Activator 90 nonionic surfactant @ 48.0 oz/A + ½ % v/v + ½ % v/v</p>	July 11 - Aerial application of Mepiquat Chloride @ 3.0 oz/A	<p>June 19 - Aerial application of Acephate 97 + Induce nonionic surfactant @ 6.5 oz/A + ¼ % v/v</p> <p>July 11 - Aerial application of Acephate 97 + Induce nonionic surfactant @ 8.0 oz/A + ¼ % v/v</p> <p>July 18 - Aerial application of Acephate 97 + Induce nonionic surfactant @ 8.0 oz/A + ¼ % v/v</p>	<p>October 12 - Aerial application of Boll Buster + Folex 6 EC + Kinetic Nonionic surfactant @ 2.0 pts/A + 1.5 pts/A + ¼ % v/v</p> <p>October 26 - Aerial application of Aim EC + Maximizer Crop Oil @ 1.6 oz/A + 1% v/v</p>



Table 2. Yield and agronomic results from the OSU irrigated cotton official variety test, Southwest Research and Extension Center, Altus, OK 2015.

Entry	Lint yield	Grab sample turnout		Boll sample lint fraction		Boll size	Seed index	Lint index	Seed per boll	Storm resistance	Final plant height
		Lint	Seed	Picked	Pulled						
	lb/acre	-----%-----				g seed cotton/boll	g wt 100 fuzzy seed	g wt lint from 100 fuzzy seed	count/boll	visual scale (1=loose, 9=tight)	inches
FiberMax FM 2322GL	1663	29.7	42.1	45.2	34.9	7.5	10.2	8.8	29.9	7	31
Deltapine DP 1614B2XF	1656	27.0	41.9	43.6	31.6	7.0	8.2	6.5	34.0	6	29
PhytoGen PHY333WRF	1649	25.0	43.0	40.1	28.9	7.1	9.5	6.7	30.9	6	32
Deltapine DP 1612B2XF	1568	25.2	45.7	38.2	28.4	7.1	9.8	6.3	32.1	5	29
Deltapine DP 1410B2RF	1542	26.8	47.9	38.7	28.9	7.1	10.2	6.6	31.2	8	29
PhytoGen PX2037-18WRF	1508	24.9	44.9	38.3	29.1	6.8	11.2	7.2	27.8	7	29
Monsanto MON15R525B2XF	1498	26.4	45.3	40.0	29.6	7.6	9.8	6.7	33.3	5	31
PhytoGen PHY312WRF	1482	24.2	44.9	38.8	28.0	7.0	10.5	6.8	28.6	6	32
Monsanto MON15R513B2XF	1475	25.0	45.5	39.1	27.9	7.1	9.8	6.5	30.6	4	31
Monsanto MON15R519B2XF	1474	26.3	43.3	42.6	31.0	6.7	8.5	6.4	32.1	4	30
FiberMax FM 1320GL	1472	25.4	44.3	40.8	31.8	7.3	10.0	7.1	33.0	8	27
Deltapine DP 1518B2XF	1466	25.1	46.3	38.1	27.7	6.2	9.8	6.2	27.5	7	32
PhytoGen PHY222WRF	1463	23.3	43.3	39.0	28.0	7.3	10.8	7.1	28.6	6	28
PhytoGen PHY339WRF	1459	25.8	46.4	39.6	29.7	6.8	9.4	6.2	32.0	5	32
FiberMax FM 1830GLT	1422	26.9	44.5	42.0	33.1	6.9	10.6	7.9	29.6	6	27
PhytoGen PHY444WRF	1422	25.6	44.2	40.5	31.6	6.5	9.8	6.9	30.0	7	32
Deltapine DP 1549B2XF	1409	24.6	46.1	39.7	29.4	6.8	9.3	6.2	32.0	7	32
Stoneville ST 4747GLB2	1406	24.5	44.8	39.0	30.0	7.0	10.0	6.6	31.8	6	32
NexGen NG 3406B2XF	1390	24.8	46.1	39.5	29.2	7.3	9.8	6.5	32.8	6	29
Stoneville ST 4946GLB2	1354	23.9	46.7	37.2	29.4	7.3	10.7	6.5	33.1	7	29
FiberMax FM 1900GLT	1350	25.0	46.1	39.0	30.8	7.4	10.5	7.0	32.4	7	28
FiberMax FM 2334GLT	1329	26.8	43.3	41.5	32.4	6.7	9.1	6.7	32.7	6	26
PhytoGen PX2045-11WRF	1326	23.5	46.7	36.6	28.6	7.2	10.5	6.2	33.3	7	30
Deltapine DP 1044B2RF	1319	23.3	48.0	37.2	29.2	6.3	9.6	5.8	31.7	7	33
PhytoGen PX2048-04WRF	1312	23.0	43.2	35.8	29.5	7.0	11.1	7.4	28.2	7	30
NexGen NG 3405B2XF	1307	23.4	46.5	37.7	27.3	7.2	10.1	6.3	31.4	5	28
Deltapine DP 1522B2XF	1297	23.4	45.8	36.1	28.4	6.6	9.7	6.4	29.4	6	31
DynaGro CT 14515B2RF	1290	25.3	44.4	41.4	32.5	7.5	10.5	7.6	32.0	7	33
Monsanto MON15R511B2XF	1198	24.7	48.8	37.8	29.2	7.5	9.7	6.0	36.4	8	34
FiberMax FM 1944GLB2	1196	23.0	46.7	37.3	29.2	7.2	11.0	6.7	31.6	7	29
DynaGro CT 15143B2XF	1194	25.2	43.3	41.0	31.9	6.7	10.7	7.7	28.4	4	39
DynaGro CT 15994B2XF	1142	24.3	45.1	38.3	29.7	7.2	9.7	6.2	34.3	6	34
Test average	1407	25.0	45.2	39.4	29.9	7.0	10.0	6.7	31.3	6	30
CV, %	7.2	3.2	2.0	4.1	5.3	6.1	4.9	5.6	5.6	9.7	6.8
OSL	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0134	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
LSD	142	1.3	1.5	2.6	2.6	0.7	0.8	0.6	2.9	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 3. Fiber property results from the OSU irrigated cotton official variety test, Southwest Research and Extension Center, Altus, OK 2015.

Entry	Micronaire	Length	Staple	Strength	Uniformity	Elongation	Reflectance	Yellowness
	units	inches	32nds inch	g/tex	%	%	rd %	+b %
Deltapine DP 1044B2RF	3.2	1.17	37.5	32.1	82.5	7.2	68.4	6.8
Deltapine DP 1410B2RF	3.2	1.21	38.8	32.0	81.1	5.5	68.6	6.5
Deltapine DP 1518B2XF	3.3	1.21	38.6	29.4	82.7	6.0	67.3	6.3
Deltapine DP 1522B2XF	3.2	1.15	36.9	31.7	81.9	7.2	67.7	7.0
Deltapine DP 1549B2XF	3.3	1.19	38.0	32.8	82.1	6.1	69.7	7.1
Deltapine DP 1612B2XF	3.3	1.21	38.6	32.9	83.2	7.1	66.1	6.8
Deltapine DP 1614B2XF	3.9	1.22	39.0	31.6	83.8	7.4	65.4	7.2
DynaGro CT 14515B2RF	3.4	1.18	37.8	32.9	81.8	6.6	69.8	7.5
DynaGro CT 15143B2XF	3.4	1.14	36.5	31.6	82.5	6.3	65.8	6.2
DynaGro CT 15994B2XF	3.5	1.16	37.2	31.9	83.0	6.3	67.8	6.4
FiberMax FM 1320GL	3.6	1.17	37.4	34.2	83.4	6.3	68.9	7.0
FiberMax FM 1830GLT	3.6	1.23	39.3	33.7	83.2	5.0	73.4	6.2
FiberMax FM 1900GLT	3.3	1.22	39.1	33.7	83.6	4.5	66.4	6.7
FiberMax FM 1944GLB2	3.3	1.22	39.1	33.3	82.3	4.9	71.8	6.5
FiberMax FM 2322GL	3.7	1.24	39.6	34.6	83.2	4.6	67.9	6.6
FiberMax FM 2334GLT	3.7	1.25	39.9	34.3	84.4	4.9	71.8	6.3
Monsanto MON15R511B2XF	2.9	1.24	39.7	31.0	82.2	5.5	71.6	6.5
Monsanto MON15R513B2XF	3.5	1.22	38.9	30.2	83.4	6.8	66.6	6.8
Monsanto MON15R519B2XF	3.9	1.12	35.8	29.7	83.8	6.1	67.4	6.7
Monsanto MON15R525B2XF	3.9	1.24	39.8	31.9	83.0	4.8	67.1	6.4
NexGen NG 3405B2XF	3.2	1.12	35.9	27.4	81.7	6.4	71.2	7.0
NexGen NG 3406B2XF	3.2	1.16	37.2	31.6	83.3	7.2	70.8	6.9
PhytoGen PHY222WRF	3.6	1.19	38.1	31.8	84.3	7.3	69.2	6.5
PhytoGen PHY312WRF	3.1	1.20	38.4	32.1	83.0	6.3	66.6	6.9
PhytoGen PHY333WRF	3.1	1.19	38.2	31.0	82.4	5.8	66.4	7.0
PhytoGen PHY339WRF	3.3	1.20	38.3	31.9	82.6	6.3	68.7	6.3
PhytoGen PHY444WRF	2.8	1.25	40.0	31.0	83.3	5.7	71.6	7.1
PhytoGen PX2037-18WRF	3.1	1.23	39.4	30.7	81.7	6.4	68.4	6.5
PhytoGen PX2045-11WRF	3.1	1.26	40.2	32.6	83.8	6.5	66.8	6.2
PhytoGen PX2048-04WRF	3.5	1.18	37.8	34.7	82.9	6.7	65.2	7.1
Stoneville ST 4747GLB2	3.3	1.19	38.2	29.8	81.5	4.9	67.0	6.0
Stoneville ST 4946GLB2	3.2	1.19	38.0	35.1	83.3	7.3	68.3	7.3
Test average	3.4	1.20	38.4	32.0	82.8	6.1	68.4	6.7
CV, %	4.1	1.6	1.6	3.4	1.1	4.5	2.2	3.6
OSL	<0.0001	<0.0001	<0.0001	<0.0001	0.0029	<0.0001	<0.0001	<0.0001
LSD	0.2	0.03	1.0	1.8	1.5	0.4	2.4	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.



Table 4. Yield and agronomic results from the OSU dryland cotton official variety test, Tipton Valley Research Center, Tipton, OK 2015.

Entry	Lint yield	Grab sample turnout		Boll sample lint fraction		Boll size	Seed index	Lint index	Seed per boll	Storm resistance	Final plant height
		Lint	Seed	Picked	Pulled						
	lb/acre	-----%-----				g seed cotton/boll	g wt 100 fuzzy seed	g wt lint from 100 fuzzy seed	count/boll	visual scale (1=loose, 9=tight)	inches
PhytoGen PHY 333WRF	742	25.0	41.7	40.4	29.9	5.9	8.8	6.2	28.5	7	29
PhytoGen PHY 444WRF	728	26.7	42.5	42.0	31.9	6.1	9.5	7.0	27.9	8	28
Stoneville ST 4946GLB2	709	26.4	46.3	40.3	31.1	6.7	10.2	7.0	30.1	8	29
FiberMax FM 2322GL	707	28.3	41.1	43.1	32.2	7.0	10.2	7.9	28.8	7	30
FiberMax FM 1900GLT	704	25.4	45.6	39.1	30.4	6.8	10.0	6.5	31.7	8	26
NexGen NG 3406B2XF	695	25.3	45.4	40.0	30.1	6.0	8.8	6.0	30.3	7	26
FiberMax FM 1830GLT	695	27.9	43.8	42.2	32.5	7.2	9.9	7.4	31.7	7	28
PhytoGen PHY 312WRF	688	24.9	44.2	40.0	30.2	6.1	9.4	6.5	28.6	6	30
PhytoGen PHY 222WRF	681	23.6	44.7	39.3	28.9	6.2	10.1	6.6	27.3	6	26
Stoneville ST 4747GLB2	679	24.0	45.0	37.5	28.4	6.2	9.5	5.8	30.3	7	27
NexGen NG 3405B2XF	671	24.6	43.8	41.1	30.4	6.4	9.4	6.7	29.1	6	27
Deltapine DP 1044B2RF	656	25.5	45.9	39.1	31.7	6.0	9.3	6.1	30.7	7	29
PhytoGen PHY 339WRF	655	25.2	45.5	39.8	31.2	6.1	8.9	6.0	31.7	6	30
FiberMax FM 2334GLT	628	26.3	42.2	43.0	32.1	6.1	8.7	6.7	29.1	5	29
FiberMax FM 1944GLB2	563	23.6	45.1	37.1	27.8	6.0	9.7	5.9	28.7	5	27
DynaGro CT 15425B2XF	553	22.8	41.7	39.8	28.5	7.5	10.6	7.1	30.0	8	30
DynaGro CT 15994B2XF	525	25.0	44.1	39.2	29.1	5.9	9.2	6.1	28.2	6	30
Deltapine DP 1549B2XF	512	25.2	43.8	41.9	32.3	6.2	8.4	6.1	32.6	7	31
DynaGro CT 15143B2XF	479	25.0	41.2	40.9	30.4	5.7	9.4	6.6	26.5	5	31
Test average	646	25.3	43.9	40.3	30.5	6.3	9.5	6.5	29.6	7	29
CV, %	11.4	3.6	2.6	3.2	4.3	7.8	5.6	5.4	5.5	11.5	6.1
OSL	0.0007	<0.0001	<0.0001	<0.0001	0.0005	0.0022	0.0004	<0.0001	0.0018	<0.0001	0.0045
LSD	122	1.5	1.9	2.1	2.2	0.8	0.9	0.6	2.7	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 5. Fiber property results from the OSU dryland cotton official variety test, Tipton Valley Research Center, Tipton, OK 2015.

Entry	Micronaire	Length	Staple	Strength	Uniformity	Elongation	Reflectance	Yellowness
	units	inches	32nds inch	g/tex	%	%	rd %	+b %
Deltapine DP 1044B2RF	4.3	1.12	35.7	31.8	81.9	7.1	71.6	8.0
Deltapine DP 1549B2XF	4.1	1.11	35.6	32.5	81.4	5.2	71.1	8.7
DynaGro CT 15143B2XF	4.3	1.04	33.4	30.5	81.3	6.1	68.5	7.3
DynaGro CT 15425B2XF	4.2	1.15	36.7	34.6	83.3	5.5	74.1	7.7
DynaGro CT 15994B2XF	4.5	1.10	35.3	31.9	82.2	5.8	68.4	7.5
FiberMax FM 1830GLT	4.5	1.15	36.8	34.7	82.9	4.4	75.0	7.4
FiberMax FM 1900GLT	3.8	1.14	36.5	33.2	81.5	3.9	70.5	8.0
FiberMax FM 1944GLB2	3.7	1.11	35.4	28.6	81.2	5.1	72.1	7.0
FiberMax FM 2322GL	4.3	1.16	37.1	36.1	83.0	4.5	70.5	8.2
FiberMax FM 2334GLT	4.3	1.17	37.5	33.5	83.6	4.3	74.2	7.5
NexGen NG 3405B2XF	4.1	1.07	34.2	27.9	81.5	5.9	71.4	8.0
NexGen NG 3406B2XF	4.0	1.09	34.8	30.2	82.4	7.2	70.6	7.8
PhytoGen PHY 222WRF	4.2	1.13	36.1	32.6	83.6	7.3	71.1	7.9
PhytoGen PHY 312WRF	4.0	1.13	36.3	30.9	82.9	6.0	69.5	7.8
PhytoGen PHY 333WRF	3.9	1.10	35.3	30.2	81.3	5.5	68.0	8.1
PhytoGen PHY 339WRF	3.7	1.13	36.0	31.9	82.3	6.2	71.2	7.5
PhytoGen PHY 444WRF	3.6	1.16	37.2	32.8	83.1	5.8	73.5	8.2
Stoneville ST 4747GLB2	3.7	1.10	35.3	26.2	79.4	4.1	69.9	6.9
Stoneville ST 4946GLB2	4.1	1.10	35.3	31.9	83.0	6.4	71.2	8.2
Test average	4.1	1.12	35.8	31.7	82.2	5.6	71.2	7.8
CV, %	3.7	2.0	2.0	4.1	0.9	11.1	1.5	5.3
OSL	<0.0001	<0.0001	<0.0001	<0.0001	0.0034	<0.0001	<0.0001	0.0007
LSD	0.3	0.04	1.2	2.1	1.3	1.0	1.8	0.7

CV - coefficient of variation.

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

LSD - least significant difference at the 0.05 level.