



**Texas Panhandle Cotton Variety Trials
07-947TX**

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**Dr. Jourdan Bell, Extension and Research Agronomist
Texas A&M AgriLife Extension Service
Amarillo, TX
and
Dr. Mark Kelley, Extension Agronomist – Cotton
Texas A&M AgriLife Extension Service
Lubbock, TX**

Introduction

Planted cotton acreage in the Texas Panhandle increased by approximately 115,000 acres in 2014. As regional groundwater water levels decline across the Texas Panhandle, producers are unable to meet the water demand for many crops. Cotton is a sustainable alternative for limited irrigated conditions that is increasing in popularity among Panhandle producers. Cotton yields in the Texas Panhandle increased by approximately 80,000 bales in 2014 from 2013 production. Increased annual production is attributed to increased harvested acreage. While in-season precipitation was comparable to seasonal averages, heat unit accumulation was greatly reduced through July 2014 resulting in delayed reproductive growth and boll development across the central and northern Panhandle. In short-season cotton producing regions, variety selection is critical to avoid yield penalties due to the narrow production window between planting and maturity. Early and medium maturing varieties have a shorter bloom period and are generally more determinant than full season varieties. As a result, early maturing varieties are often unable to recover from in-season stress. The objective of this project was to evaluate the profitability of newer early and medium maturing cotton varieties grown in on-farm trials in the Texas Panhandle.

Variety Characteristics

In the 2014 Texas Panhandle Cotton Variety Trials, the following varieties were planted at 5 locations:

- Deltapine 1212B2RF: early maturing variety with excellent seed vigor. Well suited for limited irrigation. Medium to medium-short plant height.
- Deltapine 1410B2RF: early maturing, light hairy leaf and medium plant height.
- FiberMax 1320GL: an early maturing, short plant
- FiberMax 1830GLT: an early, medium maturing variety with a smooth leaf and moderate storm resistance
- FiberMax 2011GT: a short stature, early maturing variety
- NexGen 1511B2RF: a medium maturing with semi-smooth leaf. Plant height is medium to tall and labeled to be moderately storm tolerant.

- NexGen 3306B2RF: an early-medium maturing variety with a semi-smooth leaf. Plant height is medium to tall and labeled to be very storm tolerant.
- PhytoGen 222WRF: a very early maturing variety with a smooth leaf, short plant height and excellent storm tolerance
- PhytoGen 333WRF: a medium to tall, early maturing variety with a hairy leaf type that is labeled to be very storm tolerant
- PhytoGen 339WRF: a tall, early maturing variety with fair storm tolerance that has fair storm tolerance
- Stoneville 4747GLB2: a very early maturing variety

Materials and Methods

Varieties were planted in a randomized complete block design with three replications at each of the five original locations. 2014 trials were located in the following counties:

County	Location	Agent	Cooperator
Sherman	Sunray	Marcel Fischbacher	Tommy Cartrite
Moore	Dumas	Marcel Fischbacher	Stan Spain
Hartley	Dalhart	Michael Bragg	Mark and Ryan Williams
Gray	Pampa	Brandon McGinty	Ryan Davis
Carson	White Deer	Jody Bradford	Dudley Pohnert

All locations were under center pivot irrigation. Weed and insect control measures, if needed, and harvest aid applications were performed by cooperating producers. Plots were harvested with commercial harvesters by producers with assistance provided by program personnel at all locations. The Carson County location was lost in early June due to thrips and hail damage. The remaining locations were taken to harvest; however, the yield at the Sherman County location was reduced by a late storm. Plots were harvested using producer/cooperator equipment, and grab samples were taken by plot and ginned at the Texas A&M AgriLife Research and Extension Center at Lubbock. Resulting lint samples were submitted to the Texas Tech University – Fiber and Biopolymer Research Institute for HVI fiber analysis and CCC loan values were calculated for all locations except the Sunray, Sherman County location. At Sunray, plot conditions were poor and variable at the time of harvest; upper position bolls had been dropped and lower bolls were of varying condition. Lint was strung out from the bolls that were open, or lint remained tight in the bur. Lint samples were insufficient to be properly evaluated for HVI fiber quality.

2014 Agronomic Information for Each Location:

County	Sherman	Moore	Hartley	Gray
Location	Sunray	Dumas	Middlewater	Pampa
Latitude, Longitude	36.113855, -101.765726	35.929955, -102.135087	35.866343, -102.802080	35.604750, -100.951973
Soil Type	Sherman Clay Loam	Sherman Silt Loam	Dallam Fine Sandy Loam	Pullman Clay Loam
Irrigation	N/A	7.18"	18"	10" (2" pre)
Precipitation	10.8"	8.6"	5.5"	12.2"
Previous Crop	Grain Sorghum	Cotton	Wheat	Wheat
Fertilizer	N/A	N/A	30 units NPK	N/A
Planting Population	56000	65000	55000	58000
Replications	3	3	3	3
Date Planted	5/7/2014	5/6/2014	5/8/2014	5/23/2014
Date of Initial Harvest Aid Application		10/17/2014	10/20/2014	10/21/2014
Harvest Aid		Harvest Pro 32 oz/ac	Folex 12 oz/ac	Boll'd 32 oz/ac
		Folex 16 oz/ac	Ethephon 32 oz/ac	Folex 16 oz/ac + MSO 4oz/ac
Date of Sequential Harvest Aid Application		10/31/2014	11/1/2014	
Harvest Aid		Sharpen 1 oz/ac	Gramoxone 28 oz/ac	
		Harvest Pro 16 oz/ac		
Harvest Date	1/20/2015	12/4/2014	12/3 & 4/2014	1/16/2015
Varieties	Deltapine 1212B2RF	Deltapine 1212B2RF	Deltapine 1212B2RF	Deltapine 1212B2RF
	Deltapine 1410B2RF	Deltapine 1410B2RF	Deltapine 1410B2RF	Deltapine 1410B2RF
	FiberMax 1320GL	FiberMax 1320GL	FiberMax 1320GL	FiberMax 1320GL
	FiberMax 2011GT	FiberMax 2011GT	FiberMax 1830GLT	FiberMax 2011GT
	NexGen 1511B2RF	NexGen 1511B2RF	FiberMax 2011GT	NexGen 1511B2RF
	NexGen 3306B2RF	NexGen 3306B2RF	NexGen 3306B2RF	NexGen 3306B2RF
	PhytoGen 222WRF	PhytoGen 222WRF	PhytoGen 222WRF	PhytoGen 222WRF
	PhytoGen 333WRF	PhytoGen 333WRF	PhytoGen 333WRF	PhytoGen 333WRF
	Stoneville 4747GLB2	PhytoGen 339WRF	Stoneville 4747GLB2	PhytoGen 339WRF
		Stoneville 4747GLB2		Stoneville 4747GLB2

Yield and HVI Results

Location 1 – Sunray, Sherman County

At the Sunray, Sherman County location, substantial field variability was observed and resulted in significant differences among varieties for lint and seed turnout (Table 1). Lint turnouts of field-cleaned bur cotton averaged 17.9% with a high of 22.5% for Stoneville 4747GLB2 and a low of 15.4% for PhytoGen 222WRF. Seed turnouts averaged 37.8% and ranged from a high of 45.3% for Stoneville 4747GLB2 to a low of 30.5% for NexGen1511B2RF. Bur cotton, lint and seed yields averaged 2300, 427, and 897 lb/acre, respectively. Stoneville 4747GLB2 had the highest lint yield of 925 lbs/acre. Lint samples were unable to be evaluated for HVI fiber analysis which prevented evaluation of economic parameters.

Location 2 – Dumas, Moore County

At the Dumas, Moore County location, lint turnouts of field-cleaned bur cotton averaged 28.7% (Table 2) with a high of 30.7% for FiberMax 1320GL. Bur cotton yields averaged 3398 lbs/acre and Stoneville 4747GLB2 was greatest with 4011 lbs/acre. Lint yields averaged 977 lbs/ac and ranged from a high of 1183 lb/acre for Stoneville 4747GLB2 to a low of 801 lbs/acre for NexGen1511B2RF. Seed yields averaged 1731 lbs/acre across all varieties. Loan values derived from grab samples averaged \$0.4959, and ranged from a high of \$0.5127 for Deltapine 1212B2RF to a low of \$0.4517 for NexGen1511B2RF. After applying loan values to lint yields, the test average lint value was \$485.50/acre. After subtracting ginning and seed/technology costs from total value (lint value + seed value), net value averaged \$505.60/acre all across varieties. Net values ranged from a high of \$620.47/acre to a low of \$366.19/acre for Stoneville 4747GLB2 and NexGen1511B2RF, respectively. FiberMax 2011GT (\$597.37/acre), FiberMax 1320GL (\$565.91/acre), and PhytoGen 333WRF (\$552.36/acre) were included in the statistical upper tier for net value with Stoneville 4747GLB2. A difference of approximately \$254/acre was observed between the highest and lowest performing varieties at this location.

Classing data from grab samples are reported in Table 3. Micronaire values ranged from a high of 3.0 for FiberMax 1320GL to a low of 2.3 for NexGen1511B2RF. Staple was highest for Deltapine 1410B2RF (36.9) and lowest for NexGen 1511B2RF (34.6). The highest uniformity, 82.4%, was observed in NexGen 3306B2RF and NexGen 1511B2RF had the lowest with 80.5%. Fiber strength values ranged from a high of 30.4 g/tex for NexGen 3306B2RF to a low of 26.2 g/tex for Stoneville 4747GLB2. Elongation averaged 7.7% and leaf grades averaged 1.4 across varieties. Color grade components of Rd (reflectance) and +b (yellowness) averaged 80.5 and 8.2, respectively and resulted in average color grades of mostly 21.

Location 3 – Middlewater, Hartley County

Lint turnouts of field-cleaned bur cotton at the Middlewater, Hartley County location, averaged 31.9% (Table 4). Bur cotton yields averaged 4293 lbs/acre and lint yields ranged from a high of 1544 lbs/acre for FiberMax 2011GT to a low of 1205 lbs/acre for PhytoGen 222WRF. Seed yields averaged 1989 lbs/acre. Loan values derived from grab samples averaged \$0.5710/lb across all varieties. After applying loan values to lint

yields, the test average lint value was \$782.45/acre. After subtracting ginning and seed/technology costs from total value (lint value + seed value), net value averaged \$821.67/acre across all varieties. Net values ranged from a high of \$929.85/acre for FiberMax 2011GT to a low of \$721.17/acre for PhytoGen 222WRF. A difference of approximately \$209/acre was observed between the highest and lowest performing varieties at this location.

Classing data from grab samples at Middlewater are reported in Table 5. Micronaire values averaged 3.9 and ranged from a high of 4.3 for FiberMax 1320GL to a low of 3.6 for Deltapine 1410B2RF. Staple averaged 37.1 and uniformity averaged 82.1%. The highest staple was observed in FiberMax 1830GLT (38.5) and the greatest uniformity value of 83.6% was observed in NexGen 3306B2RF. Fiber strength values ranged from a high of 32.2 g/tex for NexGen 3306B2RF to a low of 28.0 g/tex for Stoneville 4747GLB2. Elongation and leaf grades averaged 8.2% and 1.3, respectively. Color grade components, reflectance (Rd) and yellow (+b) averaged 79.6 and 7.9 respectively. This resulted in color grades of mostly 21 and 31.

Location 4 – Pampa, Gray County

At the Pampa, Gray County location, lint turnouts of field-cleaned bur cotton averaged 27.3% (Table 6). Bur cotton yields averaged 4767 lbs/acre and PhytoGen 339WRF was greatest with 5374 lbs/acre. Lint yields ranged from a high of 1498 lbs/acre for PhytoGen 339WRF to a low of 1100 lbs/acre for Stoneville 4747GLB2. Seed yields averaged 2295 lbs/acre across all varieties. Loan values derived from grab samples averaged \$0.5043/lb and ranged from \$0.5377 for Deltapine 1212B2RF to \$0.4900 for NexGen 3306B2RF. After applying loan values to lint yields, the test average lint value was \$657.92/acre. After subtracting ginning and seed/technology costs from total value (lint value + seed value), net value averaged \$721.97/acre across all varieties. Net values ranged from a high of \$848.63/acre to a low of \$583.05/acre for Deltapine 1212B2RF and Stoneville 4747GLB2, respectively. PhytoGen 339WRF (\$830.92/acre), FiberMax 2011GT (\$829.04/acre), and FiberMax 1320GL (\$810.44/acre) were not statistically different from Deltapine 1212B2RF in terms of net value. A difference of approximately \$265/acre was observed between the highest and lowest performing varieties at this location.

Classing data from grab samples are reported in Table 7. Significant differences were observed among varieties for strength and elongation only at this location. Micronaire values averaged 2.9, staple averaged 37.5, and uniformity averaged 82.1%. Fiber strength values ranged from a high of 30.7 g/tex for FiberMax 1320GL to a low of 27.5 g/tex for PhytoGen 339WRF. Elongation values averaged 7.5% and leaf grades averaged 2.1. Color grade components, reflectance (Rd) and yellow (+b) averaged 76.9 and 7.9, respectively. This resulted in color grades of mostly 31 and 41.

Summary and Conclusions

Over the last several years, cotton producers in the Texas Panhandle region have increased planted acreage of cotton from approximately 616 thousand in 2008 to approximately 1.25 million in 2011. While regional cotton production has been variable since 2011 due to drought conditions, regionally, cotton production is still a very

important part of the Panhandle economy. With improved genetics and technologies, as well as the benefits of rotational crop management systems, cotton yields in the Texas Panhandle topped 1.4 million bales in 2010. In 2014, production increased approximately 90,000 bales over 2013 to 845,000 bales. As producers begin to regain cotton acreage, data generated from regional variety trials is utilized in varietal selections. Characteristics commonly evaluated include lint yield, turnout percentages, fiber quality, and earliness. The objective of this project was to evaluate the profitability of cotton varieties in producers' fields in the Texas Panhandle. Trials were located in Sherman County (northeast of Sunray), Moore County (northwest of Dumas), Hartley County (west of Middlewater), Gray County (north of Pampa), and Carson County (south of White Deer). The Carson County location was lost in early June due to thrips and hail. The remaining locations were taken to harvest; however, the yield at the Sherman County location was reduced by a late storm.

Across all trials, the greatest average lint turnout was 31.9% at the Middlewater location. The greatest average bur cotton yield was 4767 lbs/ac at Pampa with the greatest bur cotton yield achieved by PhytoGen 339WRF at 5374 lbs/ac. However, the greatest test average net value was achieved at Middlewater with \$821.67/acre. Evaluation of the highest and lowest performing varieties at Middlewater, Dumas and Pampa resulted in an overall difference of approximately \$243/acre. Several varieties performed well at individual locations, and when comparing across locations, Deltapine 1212B2RF, FiberMax 1320GL, FiberMax 1830GLT, FiberMax 2011GT, PhytoGen 333WRF, PhytoGen 339WRF, and Stoneville 4747GLB2 were generally in the statistical upper tier for net value. Differences in net value were observed among varieties at all locations for 2014. However, this is not always the case and producers should compare varieties across as many years and locations as possible before deciding on a new variety. As industry continues to release new varieties with varying technologies, additional multi-site and multi-year applied research is needed to evaluate these varieties across a series of environments.

Acknowledgments

We wish to express our appreciation to the producer-cooperators: Ryan Davis of Pampa (Gray County location), Mark and Ryan Williams of Middlewater (Hartley County), Tommy Cartrite of Sunray (Sherman County), Stan Spain of Dumas (Moore County), and Dudley Pohnert of Pampa (White Deer, Carson County location) for providing the land, equipment and time to conduct these projects. Furthermore, we thank Dr. Jane Dever and Ms. Valerie Morgan – Texas A&M AgriLife Research for use of the ginning facilities and Dr. Eric Hequet – Texas Tech University Fiber and Biopolymer Research Institute for HVI fiber quality analyses. We gratefully acknowledge Ms. Kristie Keys and Mr. Travis Brown for their assistance. Finally, we sincerely thank Cotton Incorporated – Texas State Support Committee for their generosity in funding this and other research projects.

Table 1. Harvest results from the Large Plot Replicated Irrigated Cotton Variety Trial , Cartrite Farm, Moore, TX, 2014.

Entry	Lint turnout	Seed turnout	Bur cotton yield	Lint yield	Seed yield
	----- % -----			----- lb/acre -----	
Stoneville 4747GLB2	22.5	45.3	4102	925 a	1858
FiberMax 2011GT	20.8	43.6	2804	582 b	1221
FiberMax 1320GL	17.2	36.5	2647	455 b	967
PhytoGen 333WRF	17.1	35.8	2645	452 b	946
Deltapine 1410B2RF	18.0	35.4	2066	373 bc	731
Deltapine 1212B2RF	17.4	38.7	1865	325 bc	722
PhytoGen 222WRF	15.4	36.5	2036	314 bc	743
NexGen 3306B2RF	16.3	37.7	1475	241 c	557
NexGen 1511B2RF	16.6	30.5	1063	177 c	324
Test average	17.9	37.8	2300	427	897
CV, %	7.9	10.3	11.5	12.4	12.3
OSL	0.0003	0.0099	<0.0001	<0.0001	<0.0001
LSD	2.5	6.7	459	92	190

For lint yield, means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

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

LSL - least significant difference at the 0.05 level.

Note: some columns may not add up due to rounding error.

Table 2. Harvest results from the Large Plot Irrigated Replicated Cotton Variety Trial Stan Spain Farm, Dumas - Moore Co, TX, 2014.

Entry	Lint turnout		Seed turnout		Bur cotton		Lint yield		Seed yield		Lint value		Seed value		Total value		Ginning cost		Seed/technology cost		Net value	
	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----	----- % -----
	lb/acre		lb/acre		lb/acre		lb/acre		lb/acre		\$/lb		\$/acre		\$/acre		\$/acre		\$/acre		\$/acre	
Stoneville 4747GLB2	29.5	51.1	4011	1183	2050	0.4965	587.27	256.24	843.52	120.32	102.73	620.47 a										
FiberMax 2011GT	30.2	50.9	3646	1102	1855	0.5072	559.04	231.91	790.96	109.39	84.20	597.37 ab										
FiberMax 1320GL	30.7	48.9	3419	1050	1671	0.5232	549.40	208.91	758.31	102.58	89.82	565.91 abc										
PhytoGen 333WRF	28.2	50.8	3773	1063	1917	0.4910	521.99	239.58	761.57	113.18	96.03	552.36 abc										
Deltapine 1212B2RF	29.0	50.5	3371	978	1703	0.5127	501.64	212.82	714.46	101.12	96.55	516.79 bcd										
Deltapine 1410B2RF	28.4	53.3	3414	971	1821	0.4948	480.42	227.67	708.09	102.43	96.55	509.11 bcde										
PhytoGen 222WRF	26.9	50.0	3482	936	1741	0.4905	459.34	217.61	676.95	104.46	96.03	476.45 cde										
PhytoGen 339WRF	27.4	50.2	3222	882	1617	0.4833	426.25	202.12	628.37	96.65	96.03	435.69 def										
NexGen 3306B2RF	29.5	53.6	2725	803	1461	0.5077	407.66	182.67	590.33	81.74	92.92	415.67 ef										
NexGen 1511B2RF	27.4	50.6	2920	801	1478	0.4517	361.96	184.75	546.71	87.60	92.92	366.19 f										
Test average	28.7	51.0	3398	977	1731	0.4959	485.50	216.43	701.93	101.95	94.38	505.60										
CV, %	5.9	4.3	9.6	9.6	9.8	3.3	9.7	9.8	9.7	9.6	--	11.6										
OSL	0.1664	0.2999	0.0052	0.0012	0.0092	0.0036	0.0002	0.0092	0.0010	0.0052	--	0.0007										
LSD	NS	NS	557	161	290	0.0278	81.00	36.26	117.20	16.72	--	100.50										

For net value/acre, means within a column with the same letter are not significantly different at the 0.05 probability level.
 CV - coefficient of variation.

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

LSD - least significant difference at the 0.05 level, NS - not significant.

Note: some columns may not add up due to rounding error.

Assumes:

\$3.00/cwt ginning cost.

\$250/ton for seed.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Table 3. HVI fiber property results from the Large Plot Irrigated Replicated Cotton Variety Trial Stan Spain Farm, Dumas - Moore Co, TX, 2014.

Entry	Micronaire		Staple 32 ^{nds} inch	Uniformity		Strength g/tex	Elongation %	Leaf grade	Rd reflectance	+b yellowness	Color grade	
	units			%							color 1	color 2
Deltapine 1212B2RF	2.8		35.8	81.9	28.9	8.5	1.3	79.3	8.7	2.0	1.0	
Deltapine 1410B2RF	2.6		36.9	80.9	29.7	6.7	1.3	80.2	7.9	2.3	1.0	
FiberMax 1320GL	3.0		35.0	81.6	28.3	8.0	1.0	80.2	8.1	2.3	1.0	
FiberMax 2011GT	2.7		35.4	81.3	28.1	7.1	1.3	82.1	7.7	2.0	1.0	
NexGen 1511B2RF	2.3		34.6	80.5	26.4	7.7	2.5	80.6	8.7	1.7	1.0	
NexGen 3306B2RF	2.7		36.5	82.4	30.4	8.4	1.0	80.2	8.8	1.7	1.0	
PhytoGen 222WRF	2.8		35.1	82.3	28.2	8.9	1.0	80.3	8.3	2.0	1.0	
PhytoGen 333WRF	2.6		35.9	81.1	28.9	7.2	2.0	80.0	8.7	2.0	1.0	
PhytoGen 339WRF	2.5		35.5	81.3	28.0	8.2	1.3	81.5	8.2	2.0	1.0	
Stoneville 4747GLB2	2.8		36.1	80.7	26.2	6.1	1.3	80.9	7.1	2.7	1.0	
Test average	2.7		35.7	81.4	28.3	7.7	1.4	80.5	8.2	2.1	1.0	
CV, %	5.5		1.1	0.4	3.4	6.3	48.8	1.5	3.1	--	--	
OSL	0.0010		<0.0001	<0.0001	0.0011	<0.0001	0.2430	0.2748	<0.0001	--	--	
LSD	0.3		0.7	0.6	1.6	0.8	NS	NS	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, NS - not significant

Table 4. Harvest results from the Large Plot Replicated Irrigated Cotton Variety Trial, Mark and Ryan Williams Farm, Middlewater, TX, 2014.

Entry	Lint		Seed		Bur cotton		Lint		Seed		Lint		Seed		Ginning		Seed/technology		Net	
	turnout	turnout	turnout	turnout	yield	yield	yield	yield	yield	yield	value	value	value	value	cost	cost	value	value	value	value
	----- % -----		----- lb/acre -----		----- \$/lb -----		----- \$/acre -----													
FiberMax 2011GT	33.8	45.1	4569	1544	2062	0.5703	880.45	257.71	1138.16	137.07	71.25	929.85	a							
FiberMax 1320GL	34.7	44.9	4239	1473	1904	0.5658	833.32	236.04	1071.36	127.17	76.00	868.18	ab							
Deltapine 1212B2RF	31.9	46.4	4513	1438	2096	0.5670	815.17	262.01	1077.18	135.40	81.70	860.09	ab							
FiberMax 1830GLT	34.2	46.5	4176	1428	1940	0.5785	825.95	242.50	1068.45	125.27	87.00	856.17	ab							
Stoneville 4747GLB2	30.5	45.3	4423	1351	2005	0.5615	758.67	250.59	1009.26	132.70	86.93	789.64	bc							
NexGen 3306B2RF	30.3	49.4	4157	1260	2053	0.5822	733.26	256.59	989.85	124.72	78.63	786.50	bc							
Deltapine 1410B2RF	30.4	47.9	4179	1269	2003	0.5663	718.45	250.39	968.84	125.36	81.70	761.78	c							
PhytoGen 222WRF	29.5	45.1	4091	1205	1846	0.5760	694.37	230.80	925.17	122.73	81.26	721.17	c							
Test average	31.9	46.3	4293	1371	1989	0.5710	782.45	248.58	1031.03	128.80	80.56	821.67								
CV, %	5.2	4.0	5.5	5.6	5.4	2.3	5.5	5.4	5.5	5.5	--	6.0								
OSL	0.0072	0.0921†	0.1743	0.0009	0.1503	0.5135	0.0012	0.1493	0.0079	0.1738	--	0.0029								
LSD	2.9	2.6	NS	134	NS	NS	75.78	NS	99.26	NS	--	86.86								

For net value/acre, means within a column with the same letter are not significantly different at the 0.05 probability level.
 CV - coefficient of variation.

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

LSD - least significant difference at the 0.05 level, †indicates significance at the 0.10 level, NS - not significant.

Note: some columns may not add up due to rounding error.

Assumes:

\$3.00/cwt ginning cost.

\$250/ton for seed.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Table 5. HVI fiber property results from the Large Plot Replicated Irrigated Cotton Variety Trial, Mark and Ryan Williams Farm, Middlewater, TX, 2014.

Entry	Micronaire	Staple	Uniformity	Strength	Elongation	Leaf	Rd	+b	Color grade	
									color 1	color 2
	units	32 ^{nds} inch	%	g/tex	%	grade	reflectance	yellowness	color 1	color 2
Deltapine 1212B2RF	4.0	37.4	82.4	32.1	9.9	1.0	78.1	8.2	3.0	1.0
Deltapine 1410B2RF	3.6	37.8	81.0	30.9	7.3	1.7	79.4	7.9	2.7	1.0
FiberMax 1320GL	4.3	35.6	82.0	30.6	8.7	1.0	79.8	8.0	2.7	1.0
FiberMax 1830GLT	3.7	38.5	82.2	30.9	7.0	1.3	81.2	7.7	2.3	1.0
FiberMax 2011GT	3.8	35.7	81.7	30.5	7.7	1.3	80.0	7.6	2.7	1.0
NexGen 3306B2RF	3.8	38.3	83.6	32.2	8.7	1.3	80.2	8.8	2.0	1.0
PhytoGen 222WRF	4.1	36.3	82.6	29.3	9.8	1.3	80.3	8.1	2.3	1.0
Stoneville 4747GLB2	4.0	37.1	80.8	28.0	6.7	1.7	77.8	7.1	3.3	1.0
Test average	3.9	37.1	82.1	30.6	8.2	1.3	79.6	7.9	2.6	1.0
CV, %	6.2	1.6	1.0	2.9	4.1	54.6	1.6	3.9	--	--
OSL	0.0692 [†]	0.0001	0.0174	0.0009	<0.0001	0.9110	0.0637 [†]	0.0009	--	--
LSD	0.4	1.0	1.4	1.5	0.6	NS	1.8	0.5	--	--

CV - coefficient of variation.

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

LSD - least significant difference at the 0.05 level, [†]indicates significance at the 0.10 level, NS - not significant

Table 6. Harvest results from the Large Plot Replicated Irrigated Cotton Variety Trial Ryan Davis Farm, Pampa, TX, 2014.

Entry	Lint turnout	Seed turnout	Bur cotton yield	Lint yield	Seed yield	Lint loan value	Lint value	Seed value	Total value	Ginning cost	Seed/technology cost	Net value
	----- % -----		----- lb/acre -----		----- \$/lb -----		----- \$/acre -----					
Deltapine 1212B2RF	29.7	48.2	4893	1455	2359	0.5377	782.26	294.85	1077.11	146.78	81.70	848.63 a
PhytoGen 339WRF	27.9	48.5	5374	1498	2606	0.4992	747.71	325.70	1073.41	161.23	81.26	830.92 a
FiberMax 2011GT	28.9	47.9	5193	1502	2489	0.4960	744.91	311.15	1056.07	155.78	71.25	829.04 a
FiberMax 1320GL	29.0	46.9	5029	1460	2358	0.5087	742.62	294.69	1037.32	150.87	76.00	810.44 ab
PhytoGen 333WRF	26.7	48.6	4918	1314	2390	0.5105	670.75	298.78	969.54	147.53	81.26	740.75 bc
NexGen 1511B2RF	24.7	48.0	4797	1187	2304	0.5073	602.01	287.95	889.96	143.91	78.63	667.43 cd
Deltapine 141052RF	26.0	49.9	4589	1194	2292	0.4968	593.21	286.44	879.65	137.67	81.70	660.28 d
NexGen 3306B2RF	25.8	49.1	4479	1156	2200	0.4900	566.24	275.05	841.29	134.38	78.63	628.29 de
PhytoGen 222WRF	28.4	46.0	4105	1166	1888	0.5053	589.30	235.99	825.28	123.14	81.26	620.89 de
Stoneville 4747GLB2	25.6	48.2	4289	1100	2067	0.4912	540.22	258.41	798.64	128.67	86.93	583.05 e
Test average	27.3	48.1	4767	1303	2295	0.5043	657.92	286.90	944.83	143.00	79.86	721.97
CV, %	11.1	10.1	5.4	5.4	5.4	5.6	5.3	5.4	5.4	5.4	--	6.0
OSL	0.4991	0.9966	0.0002	<0.0001	<0.0001	0.6836	<0.0001	<0.0001	<0.0001	0.0002	--	<0.0001
LSD	NS	NS	439	121	212	NS	60.38	26.52	86.83	0.0002	--	73.69

For net value/acre, means within a column with the same letter are not significantly different at the 0.05 probability level.

CV - coefficient of variation.

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

LSD - least significant difference at the 0.05 level, NS - not significant.

Note: some columns may not add up due to rounding error.

Assumes:

\$3.00/cwt ginning cost.

\$250/ton for seed.

Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Table 7. HVI fiber property results from the Large Plot Replicated Irrigated Cotton Variety Trial Ryan Davis Farm, Pampa, TX, 2014.

Entry	Micronaire		Staple 32 ^{nds} inch	Uniformity		Strength g/tex	Elongation %	Leaf grade	Rd reflectance	+b yellowness	Color grade	
	units			%	%						color 1	color 2
Deltapine 1212B2RF	3.2		37.2	82.1	30.4	8.2	2.7	76.5	8.0	3.3	1.0	
Deltapine 1410B2RF	2.9		38.4	81.9	30.5	7.1	2.3	76.6	7.6	3.7	1.0	
FiberMax 1320GL	3.0		38.1	82.8	30.7	7.1	2.3	77.8	7.7	3.3	1.0	
FiberMax 2011GT	2.9		36.9	82.3	29.6	8.1	1.7	75.9	8.2	3.3	1.3	
NexGen 1511B2RF	2.9		37.4	82.6	29.3	7.6	2.0	77.7	8.4	3.0	1.0	
NexGen 3306B2RF	2.9		38.1	81.9	29.8	8.0	2.3	75.8	7.8	4.0	1.0	
PhytoGen 222WRF	2.9		36.6	81.9	29.3	8.1	2.7	75.5	8.7	3.3	1.0	
PhytoGen 333WRF	2.9		37.4	82.4	30.2	7.2	1.3	77.5	7.8	3.3	1.0	
PhytoGen 339WRF	2.9		37.4	81.4	27.5	6.0	2.0	77.7	7.0	3.7	1.0	
Stoneville 4747GLB2	2.7		37.5	82.0	29.4	8.1	1.3	77.6	7.6	3.3	1.0	
Test average	2.9		37.5	82.1	29.7	7.5	2.1	76.9	7.9	3.4	1.0	
CV, %	9.6		2.0	1.0	2.5	10.3	43.4	1.8	6.5	--	--	
OSL	0.7374		0.1729	0.6354	0.0029	0.0471	0.5426	0.3319	0.0464	--	--	
LSD	NS		NS	NS	1.3	1.3	NS	NS	0.9	--	--	

CV - coefficient of variation.

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

LSD - least significant difference at the 0.05 level, NS - not significant