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Cotton Variety Tests, Oklahoma – 2006[1]

Melanie B. Bayles
Senior Agriculturist
Dept. of Plant and Soil Sciences
Oklahoma State University

Laval M. Verhalen
Professor
Dept. of Plant and Soil Sciences
Oklahoma State University

Robert W. Thacker
Senior Superintendent of the Southwest Research and Extension Center, Altus, and of the Southwest Agronomy Research Station, Tipton

Don W. Hooper
Senior Superintendent of the South Central Research Station, Chickasha

J. C. Banks
Extension Cotton Specialist and Director of the Southwest Research and Extension Center, Altus, and of the Southwest Agronomy Research Station, Tipton

Cotton producers in Oklahoma could often increase their lint yield, fiber quality, or both by using varieties better adapted to their locations and growing conditions. With the same inputs of capital and labor, some cotton varieties provide a much greater return on the producer's investment than do others. The primary objectives of the Oklahoma cotton variety testing program are to determine the relative performance of commercially available varieties when grown under Oklahoma climatic conditions and to distribute that information to cotton producers in the state. Results from this research should help producers, researchers, and extension personnel select better varieties.

Materials and Methods

In 2006, two irrigated cotton variety trials were planted on the research station near Altus. Dryland tests were grown on research stations near Chickasha, Tipton, and Perkins. The experiments near Chickasha and Tipton were not harvested because a severe drought greatly reduced yield. Soil types, planting dates, harvest dates, and cultural treatments for all tests are provided in Table 1. All varieties (whether conventional or transgenic) within a test were treated the same with respect to production inputs including weed and insect control. Table 2 includes weather information extracted from Oklahoma Mesonet data for the locations where the tests were conducted (http://www.mesonet.org/public/summary.html). Degree-day 60 (DD60) data for specified time periods at those locations were determined using the cotton degree-day calculator available at http://agweather.mesonet.org/crops/default.html.

The experiments included varieties grown commercially throughout the Cotton Belt as well as a number of advanced strains from various breeding programs. Because these tests are conducted on a fee basis, some varieties currently on the market were not tested as the companies who own or market them chose not to participate. Some of the varieties and/or strains tested this year may not yet be commercially available, but possibly will become available in the next year or two. The trials were conducted using randomized complete-block experimental designs with four replications. Each plot consisted of four rows 30 feet long with 40 inches between rows, except at Perkins where plots were single rows 35 feet long. The two center rows in each multiple-row plot were machine harvested to determine lint yield. Boll samples were taken from the outside rows of those plots prior to harvest to

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[1] Research in this report was conducted under Oklahoma Agricultural Experiment Station Project S-714 (Evaluation of Cotton Varieties for Oklahoma) by personnel in the Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, OK 74078.

measure lint percentages and fiber properties. In the Perkins test, boll samples were taken from the single-row plots prior to harvest; and plots were then hand harvested. Lint samples from all tests were sent to the International Textile Center at Texas Tech University in Lubbock to obtain High Volume Instrument (HVI) fiber quality measurements using the Uster 900A system.

Results and Discussion

Results from the test locations harvested in 2006 are presented in Tables 3 through 5. Some of the varieties grown in those experiments in 2006 were also included in the experiments at those locations in the previous year or years. Tables 6 through 9 present average data for varieties included in the Altus trials for 2 years (2005 and 2006) or 3 years (2004 through 2006). Because they were not harvested in 2006, the Chickasha results (Table 10) and the Tipton results (Table 11) were averaged over years 2004 and 2005 only. The Perkins results were reported over 3 years (2004-2006) in Table 12; the 2005-2006 results for this test were not presented separately because no additional varieties would have been included. Three-year comparisons are superior to those from only 2 years.

Producers should use the data from the variety test (or tests) which most nearly corresponds to the characteristics of their farm(s) to select varieties better adapted to their locations and growing conditions. They should consider location in the state, whether the test was irrigated or dryland, as well as how the varieties in that test performed **relative** to one another. Producers are cautioned that differences in lint yield and fiber coarseness (micronaire) should be compared over years (Tables 6 through 12). Those two traits are environmentally sensitive, and results from a single experiment can be misleading. Measurements for the other traits are more consistent over environments; therefore, data from only a year or two at a location should accurately predict their relative performance. If producers' cotton acreages are substantial, they should probably grow more than one variety to reduce losses, if and when they occur.

Lint Yield

Lint yield is the most important factor that producers should consider when deciding which varieties to grow. Lint yields in this publication are reported in pounds per acre. Statistical analyses of yield are represented by "protected" LSD (least significant difference) values given in the footnotes below each data table. If the difference between the yields of any two varieties exceeds the LSD (0.05) value given for that table, the chances are approximately 95 out of 100 that this apparent difference in yield was real. Likewise, if the difference exceeds the LSD (0.01) value, the chances are about 99 out of 100 that the difference was real.

Lint Percentages

Lint percentage (sometimes called "gin turnout") influences ginning costs. Lint percentages are reported on both a picked and a pulled basis. Picked lint percentage was calculated as the percent lint in a sample of seed cotton, while pulled lint percentage was calculated as the percent lint in a sample of "snapped" cotton. Producers who harvest with mechanical pickers should examine picked lint percentages, while those who harvest with strippers should compare pulled lint percentages. As the price received for cottonseed increases, the importance of a high lint percentage decreases. In addition, a variety with high lint yield per acre (but with a moderate lint percentage) often gives higher net returns per acre than does a lower yielding variety with a higher lint percentage. Differences in lint yield are considerably more important to net returns than are differences in lint percentage.

Fiber Properties

Fiber length, coarseness, and strength are the fiber properties reported here which partially determine the price per pound for lint. While uniformity and elongation are important in the manufacturing process, at present, little or no price incentives are received by producers for either. Fiber length was measured as the upper half mean (in inches). Those measurements were also converted into 32's. Uniformity ratios were obtained by dividing mean length (also measured in inches) by the upper half mean length and expressing the result as a percentage. Fiber coarseness was measured in standard micronaire units. Fiber strength was measured in grams-force per tex. Elongation of fiber prior to breaking was estimated as a percentage of its length.

Higher values for lint yield, the lint percentages, fiber length, uniformity ratio, fiber strength, and elongation are generally more desirable than lower ones. Fiber coarseness is acceptable anywhere within the micronaire "base" range of 3.5 to 4.9 inclusive. The "premium" range is between 3.7 and 4.2 inclusive. If fiber coarseness falls in the "discount" range (below 3.5 or above 4.9), the price per pound of lint is reduced. Penalties tend to be more severe for micronaires below 3.5 (especially below 3.0) than for those above 4.9. Therefore, producers should probably choose varieties with micronaires toward the upper half of the range, rather than the lower.

In recent years, the demand from international markets for cotton with high fiber quality has forced producers to pay more attention to the quality of fiber they produce. Approximately 90 percent of Oklahoma's cotton crop is exported. Therefore, fiber quality must become increasingly important to Oklahoma producers. While there is not yet a uniform opinion as to what the international market demands, the general recommendations include "31 color or better; 3 leaf grade or better; 35 staple (1.08-1.10 inches) or better; length uniformity of 81% or higher; 26 grams/tex or stronger and mid-range micronaire of 4.1 to 4.6."[2]

Recommendations

Based on their relative performance over the past 2 to 3 years, the better **yielding** cotton varieties (in alphabetical order) for South Central and Southwestern Oklahoma appear to be:

[2] U.S. Fiber Advantages, Cotton Grower Plus, November 2004, p. 17-18, 20; see also Estur, G. 2004. Quality Requirements on Export Markets for U.S. Cotton. In Proc. Beltwide Cotton Conf., San Antonio, TX. 5-9 Jan. 2004. Natl. Cotton Counc. Am., Memphis, TN. (Also available at http://www.icac.org/cotton_info/speeches/estur/2004/quality_reqs_us_exp.pdf.)

For Dryland Production	*For Irrigated Production*
All-Tex Atlas RR	BW-2038 B2F
BCG 24R	BW-3255 B2F
DP 494 RR	BW-4630 B2F
FM 958	BW-9775 B2F
NG 1553 R	CG 4020 B2RF
PM 2167 RR	DG 2242 B2RF
PM 2266 RR	DP 445 BG/RR
PM 2326 RR	DP 455 BG/RR
ST 4686 R	DP 515 BG/RR
ST 4892 BR	ST 4892 BR
ST 5599 BR	ST 5599 BR

Producers in North Central Oklahoma should refer to Table 12.

Acknowledgments

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Note:
Codes used in varietal names in the tables are as follows:

AFD = Bayer CropScience
BCG or BW = Beltwide Cotton Genetics
CG = Croplan Genetics
DG = Dyna-Gro
DP or DPL = Deltapine
FM = FiberMax (Bayer CropScience)
NG = NexGen (Stoneville)
PHY = PhytoGen
PM = Paymaster (Deltapine)
ST = Stoneville

B or BG = Bollgard
B2 or BGII or D = Bollgard II
LL = LibertyLink/Ignite
R or RR = Roundup Ready
RF or F = Roundup Ready Flex
W = WideStrike

"X" or "x" = strain (subject to change)

Seed Sources

All-Tex Cotton Seed Co.
P.O. Box 1057
Levelland, TX 79336

American Cotton Breeders, Inc.
5210 88th Street
Lubbock, TX 79424

Bayer CropScience
4225 Avenue A
Lubbock, TX 79404

Beltwide Cotton Genetics
574 Greentree Cove
Suite 101
Collierville, TN 38017

Beltwide Cotton Genetics
605 Woodland Drive
Harlingen, TX 78550

Croplan Genetics
8700 Trail Lake Drive West
Suite 100
Memphis, TN 38125

Delta and Pine Land Co.
1301 E. 50th Street
Lubbock, TX 79404

Delta and Pine Land Co.
P.O. Box 157
Scott, MS 38772

Monsanto/Stoneville Pedigreed Seed
6025 85th Street
Lubbock, TX 79424

Phytogen Seed Co. LLC
1832 Swynford Lane
Collierville, TN 38017

United Agriculture Products (UAP)
Dyna-Gro Seed
101 E. Corporate Drive
Suite 180
Lewisville, TX 75067

Table 1. Locations, Soil Types, Planting Dates, Harvest Dates, and Cultural Treatments for the Cotton Variety Tests in Oklahoma, 2006.

Table Number	*Nearest Town*	*Soil Type*	*Date Planted*[1]	*Date Harvested*[1]	*Cultural Treatments*[1,2]
3	Altus	Hollister clay loam[3]	May 16	November 2	280 lbs./A 40-10-0 6 irrigations 3 insecticide applications 2 plant growth regulator applications 1 defoliant + boll opener + nonionic surfactant
4	Altus (Picker Test)	Hollister clay loam[3]	May 16	November 3	280 lbs./A 40-10-0 6 irrigations 3 insecticide applications 2 plant growth regulator applications 1 defoliant + boll opener + nonionic surfactant
--	Chickasha	Reinach silt loam[4]	June 2	Not harvested[7]	100 lbs./A 46-0-0 No irrigations No insecticide applications No harvest aid treatments
--	Tipton	Tipton silt loam[5]	May 19	Not harvested[7]	150 lbs./A 40-10-0 No irrigations 1 insecticide application No harvest aid treatments
5	Perkins	Teller loam[6]	June 21	February 20	174 lbs./A 46-0-0 No irrigations No insecticide applications No harvest aid treatments

[1] This information for Tables 6 through 12 for 2004 and 2005 may be found in the previous variety test reports CR-2094 (0305) and CR-2094 (0406), respectively.
[2] All experiments received preplant incorporated (PPI) herbicides. Experiments at Altus and Tipton also received preemergence (PRE) herbicides.
[3] Fine, smectitic, thermic Typic Haplustert.
[4] Coarse-silty, mixed, superactive, thermic Pachic Haplustoll.
[5] Fine-loamy, mixed, superactive, thermic Pachic Argiustoll.
[6] Fine-loamy, mixed, active, thermic Udic Argiustoll.
[7] Not harvested because a severe drought greatly reduced yield.

Table 2. Weather Summaries for Growing Seasons at Each Location, 2006.[1,2]

Month	Average Maximum Temp. (°F)	Average Minimum Temp. (°F)	Average 4-inch Bare Soil Temp. (°F)	Number of Days Where Max. Temp. >100°F	Number of Days Where Min. Temp. <60°F	Number of Days Where Min. Temp. >85°F	DD60	Rain (in.)
Altus								
May	88	60	74	3	16	0	436	2.92
June	96	68	85	5	1	0	653	0.13
July	99	73	89	11	0	0	788	0.84
August	96	73	89	5	0	0	756	1.52
September	83	58	75	0	19	0	310	3.17
October	75	50	66	0	24	0	160	4.82
TOTAL				24	60	0	3,103	13.40
Chickasha								
May	84	59	76	0	16	0	365	2.20
June	93	65	87	1	7	0	565	1.67
July	99	71	91	12	1	0	754	1.30
August	98	73	91	14	0	0	767	5.87
September	83	56	74	0	20	0	283	2.89
October	74	48	66	0	25	0	146	2.28
TOTAL				27	69	0	2,880	16.21
Perkins								
May	83	59	75	0	16	0	351	3.13
June	92	66	84	2	2	0	558	2.23
July	98	72	88	12	0	0	722	2.08
August	97	74	89	14	1	0	765	1.71
September	84	58	73	0	19	0	320	2.69
October	73	49	63	0	27	0	142	1.50
TOTAL				28	65	0	2,858	13.34
Tipton								
May	88	61	74	1	14	0	445	2.70
June	96	68	85	7	1	0	655	0.49
July	101	74	88	19	0	0	790	1.09
August	99	75	86	19	0	0	799	3.29
September	84	58	69	0	16	0	329	2.85
October	75	51	71	0	23	0	175	5.98
TOTAL				46	54	0	3,193	16.40

[1] Information in this table was extracted from Oklahoma Mesonet data available at http://www.mesonet.org/public/ summary.html. Degree-day 60 (DD60) data were calculated using the cotton degree-day calculator at http://agweather.mesonet.org/crops/default.html.

[2] This information for 2005 may be found in the previous variety test report CR-2094 (0406).

Irrigated Test Results in 2006

Table 3. Irrigated Cotton Variety Test Results near Altus, 2006.

Variety	Lint Yield (lbs./A)	Lint Percentage		Fiber Length	Uniformity			Fiber Strength	Elongation
		Picked	Pulled		32's	Ratio	Micronaire		
ST 4664 RF	1946*	43.7	33.6	1.09	35	80.3	4.5	29.6	7.7
DP 408 BII	1922	44.0	33.8	1.12	36	81.4	5.1	28.8	5.5
ST 5327 B2RF	1915	45.7	35.0	1.08	35	82.2	5.0	29.8	7.8
ST 5599 BR	1874	40.9	33.0	1.10	35	82.7	5.4	29.1	6.1
ST 4892 BR	1873	44.5	34.3	1.08	35	83.6	5.6	28.8	6.5
ST 5283 RF	1873	44.5	34.0	1.10	35	82.0	4.9	31.0	7.5
PHY 310 R	1854	45.5	35.3	1.07	34	81.1	5.3	27.3	7.0
DP 455 BG/RR	1776	44.6	35.1	1.14	37	83.3	4.7	31.7	5.9
DP 445 BG/RR	1766	45.1	35.2	1.09	35	82.7	5.3	31.6	7.3
DG 2100 B2RF	1751	42.6	32.0	1.04	33	82.6	4.9	25.4	7.4
All-Tex Marathon B2/RF	1722	42.1	31.6	1.09	35	83.4	4.8	27.6	6.8
ST 6611 B2RF	1722	44.7	35.6	1.08	35	82.6	5.5	27.1	5.3
DG 06064 B2RF	1704	40.1	30.6	1.10	35	82.8	4.5	26.4	7.3
FM 988 LLB2	1703	39.8	30.3	1.20	38	82.2	4.9	33.6	5.3
DG 2520 B2RF	1702	41.8	31.0	1.12	36	83.3	4.7	26.5	6.0
All-Tex Summitt B2/RF	1697	42.0	31.5	1.07	34	83.1	5.2	24.4	7.4
PHY 425 RF	1694	41.6	31.7	1.18	38	85.4	4.9	31.5	7.5
ST 4427 B2RF	1689	40.6	30.6	1.14	37	83.2	4.0	32.3	5.8
PHY 370 WR	1685	42.2	32.5	1.09	35	83.7	4.8	32.1	6.8
DG 2242 B2RF	1683	41.3	31.0	1.14	37	83.3	4.8	29.2	7.0
DP 515 BG/RR	1681	41.7	32.9	1.10	35	82.3	5.4	27.9	5.7
CG 4020 B2RF	1679	39.4	29.4	1.19	38	83.0	4.2	27.3	6.8
CG 3020 B2RF	1671	41.2	30.9	1.10	35	83.0	4.9	24.7	6.3
ST 4357 B2RF	1664	39.5	29.6	1.19	38	84.0	4.5	28.1	6.5
CG 3520 B2RF	1661	41.3	31.1	1.12	36	83.3	5.0	28.9	7.4
ST 4554 B2RF	1658	41.6	31.7	1.13	36	84.0	5.1	33.3	8.0
FM 960 B2R	1657	41.8	31.9	1.15	37	82.9	5.3	31.9	5.0
PHY 470 WR	1644	40.5	30.4	1.13	36	85.5	4.7	33.5	7.4
DP 555 BG/RR	1637	46.2	35.6	1.07	34	81.3	5.3	29.9	5.4
NG 3273 B2RF	1630	39.6	29.9	1.13	36	83.8	4.8	28.2	6.9
BCG 24R	1628	40.1	32.1	1.09	35	82.7	4.8	29.4	6.7
PHY 480 WR	1626	40.9	31.2	1.15	37	85.0	5.0	33.9	7.4
ST 4700 B2RF	1624	40.4	30.0	1.15	37	84.2	4.8	28.5	7.1
All-Tex Apex B2/RF	1622	40.6	29.8	1.20	38	83.9	4.7	28.9	6.0
DP 444 BG/RR	1620	42.5	32.5	1.12	36	83.4	4.6	28.8	6.0
FM 958 LL	1603	40.5	30.4	1.18	38	82.7	4.8	31.3	4.6
FM 9058 F	1598	41.2	30.4	1.18	38	82.9	4.6	31.6	4.6
BW-1605 RF	1596	41.1	31.7	1.18	38	82.8	4.5	31.7	5.0
BW-8245 B2F	1579	39.7	30.5	1.09	35	82.6	4.8	28.9	5.7
DP 143 B2RF	1577	40.2	31.2	1.21	39	82.6	4.7	29.9	5.5
FM 958	1565	41.6	31.3	1.11	36	84.6	4.9	33.3	5.2
All-Tex 55066 B2/RF	1563	39.3	29.2	1.18	38	83.8	4.4	29.6	6.5
DP 117 B2RF	1563	41.7	31.7	1.12	36	83.6	5.1	34.0	6.1
NG 3550 RF	1559	38.5	30.0	1.12	36	82.5	4.8	31.6	6.4
FM 9063 B2F	1548	41.2	30.9	1.11	36	82.5	4.9	31.8	6.3
DP 164 B2RF	1541	41.5	31.9	1.20	38	82.6	4.3	32.6	6.3
FM 9068 F	1530	42.0	31.8	1.12	36	82.6	5.1	34.2	6.1
All-Tex Titan B2/RF	1529	38.0	28.2	1.19	38	84.7	4.3	27.1	6.9

(Table 3. continued on next page)

Table 3. (continued)

Variety	Lint Yield (lbs./A)	Lint Percentage Picked	Lint Percentage Pulled	Fiber Length	Uniformity 32's	Uniformity Ratio	Micronaire	Fiber Strength	Elongation
PHY 485 WRF	1520	41.8	31.3	1.12	36	84.9	5.1	35.0	7.0
FM 955 LLB2	1515	38.5	28.3	1.22	39	83.2	5.4	25.8	5.3
Americot 821 R	1493	40.2	31.2	1.10	35	83.6	5.0	31.8	6.6
PM 2167 RR	1489	39.0	30.0	1.04	33	84.3	5.2	31.7	6.2
DG 0A265 BR	1481	40.2	30.0	1.18	38	84.8	4.6	38.0	5.8
PM 2266 RR	1479	38.3	28.9	1.08	35	84.0	5.2	34.4	6.9
NG 3969 R	1470	39.5	29.7	1.15	37	84.6	4.5	32.4	6.7
PM 2280 BG/RR	1470	38.0	29.5	1.08	35	82.8	4.2	35.7	6.1
BW-1505 RF	1462	39.8	30.5	1.12	36	84.2	4.6	32.3	6.0
PM 2326 RR	1433	37.6	29.4	1.08	35	85.4	5.2	34.6	6.2
FM 5044 RR	1431	37.4	28.9	1.12	36	83.4	4.4	28.5	7.3
ST 6565 B2RF	1430	41.1	31.9	1.11	36	81.7	5.5	27.1	5.8
NG 2448 R	1375	38.4	29.0	1.16	37	84.7	4.7	35.6	6.4
PHY 72	1374	38.1	29.3	1.21	39	85.5	4.6	40.0	6.1
AFD 3511 RR	1370	36.4	28.5	1.07	34	83.0	5.1	29.5	6.5
BW-6896 B2F	1357	38.6	29.2	1.12	36	82.5	3.7	27.1	5.9
xBCG-3552 B2F	1280	37.7	29.5	1.11	36	82.0	4.4	28.7	5.6
FM 965 LLB2	1263	39.4	29.2	1.10	35	83.5	5.0	31.4	4.9
All-Tex 45039 B2/RF	1258	35.8	27.1	1.14	37	80.9	4.6	33.0	6.0
All-Tex Atlas RR	1233	37.5	27.9	1.08	35	83.8	4.4	29.6	6.3
All-Tex 45015 RF	1230	35.9	27.2	1.08	35	81.9	5.2	34.4	6.1
All-Tex Excess RR	1075	34.8	25.1	1.12	36	84.7	4.6	35.7	6.6
Experimental Average	1587	40.6	31.0	1.12	36	83.2	4.8	30.7	6.3

* LSD (0.05) = 141 lbs.; LSD (0.01) = 186 lbs.

Table 4. Irrigated Picker-Harvested Cotton Variety Test Results near Altus, 2006.

Variety	Lint Yield (lbs./A)	Lint Percentage		Fiber Length	Uniformity			Fiber Strength	Elongation
		Picked	Pulled		32's	Ratio	Micronaire		
ST 5599 BR	1415*	40.8	32.4	1.08	35	81.0	5.1	29.4	5.7
DP 445 BG/RR	1405	43.7	33.7	1.07	34	82.8	4.6	34.5	7.6
PHY 470 WR	1359	43.9	32.7	1.09	35	84.1	5.5	31.2	7.9
ST 4554 B2RF	1350	42.6	33.1	1.09	35	82.6	5.2	29.8	8.5
PHY 310 R	1330	44.2	34.4	1.05	34	83.1	5.2	31.1	7.2
ST 5327 B2RF	1319	44.0	33.6	1.10	35	84.7	5.1	34.4	6.9
ST 4357 B2RF	1298	41.2	30.6	1.14	37	80.8	4.5	26.7	6.5
PHY 480 WR	1296	42.7	32.8	1.09	35	83.4	5.3	29.7	7.8
BW-9775 B2F	1271	37.3	27.5	1.17	37	84.1	4.5	29.6	6.1
BW-3255 B2F	1265	39.8	29.7	1.08	35	83.7	4.7	27.9	6.5
DP 455 BG/RR	1260	42.8	33.4	1.12	36	82.3	4.7	33.2	5.4
DG 2242 B2RF	1254	40.4	29.7	1.13	36	81.5	4.3	28.0	6.7
Americot 1532 B2RF	1243	39.8	29.4	1.10	35	82.9	4.5	25.2	6.7
PHY 370 WR	1242	42.9	32.6	1.09	35	82.2	5.0	32.9	6.1
BW-4630 B2F	1238	40.5	30.1	1.14	37	83.0	4.6	28.6	6.2
CG 4020 B2RF	1232	40.0	30.0	1.16	37	83.8	4.3	28.0	5.9
DP 408 BII	1228	41.7	32.2	1.11	36	81.6	5.4	31.1	5.7
NG 3273 B2RF	1220	38.4	28.8	1.10	35	83.5	4.5	26.4	6.4
ST 4700 B2RF	1218	38.3	28.8	1.15	37	84.5	4.4	29.0	6.8
ST 5283 RF	1217	44.6	34.3	1.07	34	82.9	5.0	34.3	6.7
ST 4427 B2RF	1217	42.6	32.7	1.11	36	83.8	4.8	27.0	5.3
PHY 425 RF	1212	41.1	30.7	1.12	36	84.4	4.8	33.2	7.2
DP 164 B2RF	1211	39.2	30.6	1.18	38	81.8	4.8	30.2	5.1
CG 3520 B2RF	1209	38.7	29.5	1.17	37	84.5	4.7	27.5	7.3
DP 117 B2RF	1206	41.5	31.9	1.08	35	82.5	5.0	33.5	6.5
BW-2038 B2F	1186	39.3	28.4	1.14	37	83.0	4.6	24.6	7.3
Americot 1504 B2RF	1185	39.7	30.0	1.09	35	83.7	4.5	28.2	6.5
CG 3020 B2RF	1177	39.1	29.2	1.06	34	81.1	4.4	26.7	6.5
ST 6565 B2RF	1174	43.2	34.9	1.08	35	82.2	5.6	27.5	5.7
ST 6611 B2RF	1174	41.8	32.8	1.13	36	82.9	5.4	28.1	5.6
DP 143 B2RF	1164	40.5	31.0	1.16	37	81.4	4.7	27.6	5.5
DG 0A265 BR	1139	39.5	30.2	1.11	36	84.4	4.4	38.8	5.9
FM 988 LLB2	1137	43.6	33.0	1.10	35	81.8	5.2	31.5	5.2
DG 06064 B2RF	1127	38.0	29.1	1.07	34	81.6	4.1	26.0	7.3
FMX 0643 B2F	1126	43.2	33.0	1.16	37	82.9	4.5	35.4	4.8
DG 2520 B2RF	1097	39.9	29.7	1.15	37	82.8	4.3	28.4	6.3
DG 2100 B2RF	1062	38.1	27.9	1.07	34	83.7	4.1	26.9	6.3
PHY 485 WRF	1050	40.2	29.8	1.11	36	83.9	4.7	29.2	8.3
FM 9063 B2F	1037	38.5	28.5	1.18	38	84.3	4.7	36.1	5.4
FM 1880 B2F	1019	38.6	30.1	1.17	37	82.1	4.8	35.8	6.0
FM 960 B2R	1002	39.7	30.1	1.12	36	83.2	5.0	33.0	5.2
FM 965 LLB2	957	40.7	30.3	1.07	34	81.8	4.9	31.2	5.5
Experimental Average	1203	40.9	31.0	1.11	36	82.9	4.8	30.2	6.4

* LSD (0.05) = 132 lbs.; LSD (0.01) = 175 lbs.

Dryland Test Results in 2006

Table 5. Dryland Cotton Variety Test Results near Perkins, 2006.

Variety	Lint Yield (lbs./A)	Lint Percentage		Fiber Length	Uniformity			Fiber Strength	Elongation
		Picked	Pulled		32's	Ratio	Micronaire		
PM 2167 RR	421*	39.7	30.7	1.00	32	83.5	5.1	30.0	6.5
PM 2266 RR	405	37.8	29.3	1.01	32	83.3	4.9	31.8	7.7
PM 2326 BG/RR	373	37.6	28.9	1.04	33	84.1	5.1	33.1	6.9
All-Tex Atlas RR	357	37.1	28.8	1.02	33	83.8	4.9	31.9	6.8
PM 2326 RR	353	37.2	29.0	1.06	34	82.3	5.3	33.8	6.6
FM 5013	278	37.2	27.5	1.10	35	86.2	5.1	34.6	6.9
Tamcot Luxor	267	38.2	28.3	1.08	35	84.5	4.7	32.7	5.8
BCG 24R	258	39.2	30.7	1.10	35	83.7	5.2	31.4	6.7
FM 958	235	38.4	28.3	1.15	37	83.8	4.9	33.7	4.9
FM 960 B2R	102	39.0	27.3	1.17	37	83.3	4.6	30.7	4.9
Experimental Average	305	38.1	28.9	1.07	34	83.9	5.0	32.4	6.4

* LSD (0.05) = 97 lbs.; LSD (0.01) = 131 lbs.

Irrigated Test Results over Years

Table 6. Irrigated Cotton Variety Test Results near Altus, 2005-2006.

Variety	Lint Yield (lbs./A)	Lint Percentage		Fiber Length	Uniformity			Fiber Strength	Elongation
		Picked	Pulled		32's	Ratio	Micronaire		
ST 5599 BR	2033*	42.6	34.4	1.10	35	82.6	5.3	28.6	5.3
ST 4892 BR	1987	45.2	34.3	1.06	34	83.5	5.3	27.9	6.6
DP 455 BG/RR	1935	45.9	36.1	1.12	36	82.8	4.6	30.0	5.9
PHY 310 R	1890	45.2	35.1	1.07	34	82.2	5.1	27.1	7.0
DP 515 BG/RR	1890	43.8	33.7	1.10	35	83.0	5.2	27.5	5.3
FM 960 B2R	1875	42.5	32.5	1.13	36	82.9	4.9	31.0	4.4
DP 445 BG/RR	1860	44.4	34.1	1.10	35	83.3	5.0	30.2	8.0
DG 2242 B2RF	1852	41.8	30.8	1.16	37	83.5	4.7	27.2	6.6
CG 4020 B2RF	1839	42.0	31.0	1.14	37	82.7	4.5	26.5	6.8
ST 4664 RF	1837	43.6	33.3	1.10	35	82.8	4.6	28.3	8.0
CG 3020 B2RF	1827	41.7	31.8	1.10	35	83.0	4.7	24.7	6.4
DP 117 B2RF	1823	43.4	32.9	1.09	35	82.6	5.0	32.1	5.7
DG 2520 B2RF	1823	41.6	30.8	1.10	35	82.3	4.7	25.0	6.8
DG 2100 B2RF	1819	41.7	31.4	1.07	34	83.5	4.6	26.1	7.2
ST 4554 B2RF	1812	42.1	32.1	1.10	35	83.1	5.0	30.2	8.5
DP 555 BG/RR	1801	46.2	35.5	1.08	35	82.0	5.0	29.1	5.2
DP 444 BG/RR	1798	43.7	33.1	1.08	35	82.5	4.5	27.7	6.2
CG 3520 B2RF	1781	41.2	31.1	1.15	37	83.9	4.8	27.7	7.6
PHY 370 WR	1780	43.1	32.5	1.13	36	84.1	4.7	32.0	6.5
DP 143 B2RF	1756	41.7	32.0	1.18	38	82.4	4.5	28.3	5.7
PHY 485 WRF	1753	42.6	31.5	1.10	35	84.4	5.0	31.5	7.6
ST 4357 B2RF	1745	40.7	30.0	1.17	37	83.5	4.3	26.4	6.5
ST 6611 B2RF	1734	43.1	33.5	1.10	35	83.4	5.1	28.1	5.3
FM 958 LL	1724	41.6	31.6	1.16	37	83.2	5.0	31.4	4.9
All-Tex 55066 B2/RF	1714	40.0	29.7	1.13	36	83.5	4.3	27.6	7.0
DP 164 B2RF	1677	41.5	31.3	1.18	38	82.4	4.5	30.2	5.7
FM 958	1655	41.0	31.3	1.16	37	85.0	4.9	32.6	4.7
BCG 24R	1607	40.9	31.8	1.09	35	83.3	4.8	28.3	7.2
NG 3550 RF	1566	39.6	30.4	1.14	37	83.2	4.8	31.0	6.6
PM 2167 RR	1546	40.3	31.2	1.03	33	83.4	5.2	29.1	6.3
PM 2266 RR	1523	38.3	29.5	1.09	35	84.7	5.2	32.6	6.9
NG 3969 R	1523	39.7	30.4	1.16	37	85.3	4.3	31.4	6.8
FM 5044 RR	1499	38.0	29.4	1.13	36	83.1	4.7	26.1	7.8
All-Tex 45039 B2/RF	1437	37.8	28.9	1.14	37	80.2	4.7	29.1	5.7
NG 2448 R	1409	39.6	29.9	1.12	36	84.3	4.8	33.6	6.1
AFD 3511 RR	1408	37.1	28.8	1.08	35	83.1	5.1	28.6	6.4
PM 2326 RR	1386	39.7	30.6	1.07	34	84.6	5.4	31.2	6.7
PHY 72	1384	39.9	30.0	1.18	38	84.4	4.6	36.5	6.4
All-Tex Atlas RR	1328	37.8	28.6	1.08	35	82.8	4.7	29.1	6.4
All-Tex Excess RR	1310	36.8	26.9	1.13	36	84.1	4.6	33.5	6.5
Experimental Average	1699	41.5	31.6	1.12	36	83.2	4.8	29.4	6.4

* LSD (0.05) = 137 lbs.; LSD (0.01) = 181 lbs.

Table 7. Irrigated Cotton Variety Test Results near Altus, 2004-2006.

Variety	Lint Yield (lbs./A)	Lint Percentage Picked	Lint Percentage Pulled	Fiber Length	Uniformity 32's	Uniformity Ratio	Micronaire	Fiber Strength	Elongation
ST 4892 BR	1969*	44.8	34.2	1.07	34	83.7	5.2	27.7	6.6
ST 5599 BR	1938	42.0	33.8	1.10	35	82.4	5.2	28.7	4.8
DP 455 BG/RR	1913	46.4	36.0	1.12	36	82.1	4.5	29.8	5.4
DP 445 BG/RR	1838	44.6	34.1	1.10	35	83.9	4.8	29.6	7.7
DP 444 BG/RR	1779	43.7	33.2	1.09	35	83.2	4.5	27.7	5.8
DP 555 BG/RR	1776	45.9	35.4	1.09	35	82.0	4.8	28.7	5.1
FM 958 LL	1684	41.3	31.4	1.16	37	83.6	4.9	31.3	4.6
BCG 24R	1644	41.6	32.3	1.10	35	84.0	4.8	28.5	7.0
FM 958	1640	41.4	31.3	1.16	37	85.4	4.8	32.2	4.4
PM 2266 RR	1500	38.9	29.4	1.08	35	84.2	4.9	31.9	6.4
PM 2167 RR	1482	40.2	30.7	1.03	33	83.4	5.2	28.8	6.1
NG 3969 R	1447	38.8	29.7	1.16	37	85.9	4.3	30.8	6.8
NG 2448 R	1412	39.4	29.9	1.13	36	84.6	4.8	32.5	6.0
PM 2326 RR	1371	39.6	30.0	1.07	34	84.4	5.3	31.1	6.4
All-Tex Atlas RR	1321	38.2	28.9	1.06	34	82.8	4.8	29.7	6.0
Experimental Average	1648	41.8	32.0	1.10	35	83.7	4.9	29.9	5.9

* LSD (0.05) = 126 lbs.; LSD (0.01) = 166 lbs.

Table 8. Irrigated Picker-Harvested Cotton Variety Test Results near Altus, 2005-2006.

Variety	Lint Yield (lbs./A)	Lint Percentage Picked	Lint Percentage Pulled	Fiber Length	Uniformity 32's	Uniformity Ratio	Micronaire	Fiber Strength	Elongation
ST 5599 BR	1678*	42.1	33.5	1.09	35	81.6	5.2	28.1	5.1
ST 4554 B2RF	1659	43.8	34.1	1.08	35	82.8	5.2	29.0	8.6
BW-4630 B2F	1593	40.9	30.3	1.15	37	82.5	4.5	27.3	6.6
DG 2242 B2RF	1587	41.6	31.0	1.16	37	82.3	4.3	27.2	7.2
DP 445 BG/RR	1571	44.1	33.6	1.09	35	84.2	4.9	31.3	8.2
CG 4020 B2RF	1539	41.8	31.1	1.15	37	82.4	4.3	26.7	6.7
CG 3520 B2RF	1530	40.8	30.8	1.18	38	84.8	4.7	27.1	7.7
DP 117 B2RF	1530	43.0	33.0	1.11	36	83.1	5.0	31.4	6.9
BW-3255 B2F	1524	41.2	31.3	1.09	35	83.7	4.8	26.5	6.9
BW-2038 B2F	1521	40.1	29.7	1.16	37	83.2	4.3	25.3	7.7
ST 4357 B2RF	1513	41.4	30.6	1.14	37	81.3	4.4	26.5	6.5
PHY 370 WR	1509	43.3	32.8	1.09	35	82.1	5.0	31.4	6.9
DP 455 BG/RR	1507	44.1	34.6	1.12	36	82.3	4.7	31.9	5.4
BW-9775 B2F	1502	38.4	28.1	1.19	38	84.4	4.5	28.9	6.6
CG 3020 B2RF	1501	41.0	31.1	1.09	35	82.9	4.6	26.3	7.0
DP 164 B2RF	1492	40.7	31.4	1.17	37	82.4	4.6	30.3	5.1
DG 2520 B2RF	1483	40.8	30.8	1.15	37	84.2	4.5	26.7	6.9
PHY 485 WRF	1479	42.4	31.8	1.09	35	84.6	5.0	28.6	8.5
DP 143 B2RF	1472	41.6	31.6	1.18	38	82.1	4.6	28.1	6.2
FM 960 B2R	1457	41.1	31.6	1.12	36	82.3	4.8	31.9	4.5
DG 2100 B2RF	1456	40.6	30.7	1.09	35	84.4	4.4	26.4	7.0
ST 6611 B2RF	1433	41.7	32.0	1.11	36	83.0	5.0	27.9	5.5
PHY 310 R	1415	44.3	33.9	1.05	34	83.7	5.2	28.5	7.2
Experimental Average	1520	41.8	31.7	1.12	36	83.1	4.7	28.4	6.7

* LSD (0.05) = 142 lbs.; LSD (0.01) = 188 lbs.

Table 9. Irrigated Picker-Harvested Cotton Variety Test Results near Altus, 2004-2006.

Variety	Lint Yield (lbs./A)	Lint Percentage		Fiber Length	Uniformity			Fiber Strength	Elongation
		Picked	Pulled		32's	Ratio	Micronaire		
ST 5599 BR	1749*	42.4	33.6	1.09	35	81.9	5.0	28.2	4.8
FM 960 B2R	1617	41.4	31.7	1.13	36	82.3	4.7	31.5	4.0
Experimental Average	1683	41.9	32.7	1.11	36	82.1	4.9	29.9	4.4

* Lint yield differences among varieties were not significant at the 0.05 or 0.01 probability levels.

Dryland Test Results over Years

Table 10. Dryland Cotton Variety Test Results near Chickasha, 2004-2005.[1]

Variety	Lint Yield (lbs./A)	Lint Percentage		Fiber Length	Uniformity			Fiber Strength	Elongation
		Picked	Pulled		32's	Ratio	Micronaire		
PM 2167 RR	601*	37.5	29.1	1.04	33	84.4	4.3	27.6	5.9
FM 958	563	38.8	29.1	1.15	37	82.9	3.9	29.8	3.7
All-Tex Atlas	549	36.0	26.8	1.07	34	82.7	4.1	27.2	6.1
All-Tex Atlas RR	534	36.6	27.4	1.05	34	82.1	3.9	27.8	5.6
All-Tex Excess RR	518	33.9	25.6	1.09	35	83.1	3.7	28.8	5.9
PM 2266 RR	492	36.3	26.9	1.05	34	82.8	4.0	29.3	5.8
ST 4892 BR	490	39.4	29.5	1.08	35	82.0	3.9	26.9	5.0
PM 2326 RR	457	36.0	26.6	1.07	34	82.7	4.1	27.0	5.6
PHY 410 R	407	37.5	27.5	1.12	36	84.0	3.9	27.6	5.7
Experimental Average	512	36.9	27.6	1.08	35	83.0	4.0	28.0	5.5

* LSD (0.05) = 139 lbs.; LSD (0.01) = 184 lbs.
[1] This test was not harvested in 2006 due to a severe drought.

Table 11. Dryland Cotton Variety Test Results near Tipton, 2004-2005.[1]

Variety	Lint Yield (lbs./A)	Lint Percentage		Fiber Length	Uniformity			Fiber Strength	Elongation
		Picked	Pulled		32's	Ratio	Micronaire		
ST 4892 BR	639*	44.5	34.3	1.01	32	82.2	5.5	28.0	5.0
BCG 24R	633	42.1	33.2	1.01	32	82.7	5.2	29.8	5.8
PM 2266 RR	619	39.9	30.7	1.02	33	81.2	4.9	29.8	5.1
FM 958	617	42.6	31.9	1.05	34	82.5	4.7	29.4	3.1
DP 494 RR	614	44.9	35.1	1.07	34	83.1	5.3	30.7	4.8
ST 4686 R	605	42.3	32.9	1.01	32	81.0	5.0	28.4	6.6
PM 2167 RR	596	39.2	30.8	0.93	30	80.3	4.9	25.8	4.3
ST 5599 BR	588	42.2	33.4	0.97	31	81.0	5.1	26.7	4.9
NG 1553 R	581	36.1	28.7	1.08	35	82.9	3.9	30.3	6.2
PM 2326 RR	575	38.9	30.5	0.98	31	83.4	5.2	30.0	4.9
All-Tex Atlas RR	560	37.3	29.2	1.01	32	82.8	4.9	30.2	5.8
ST 3664 R	557	40.0	31.2	0.98	31	81.7	4.7	28.3	5.4
All-Tex Excess RR	555	36.9	28.4	1.03	33	82.9	4.5	32.0	6.0
ST 5303 R	542	39.8	30.6	1.02	33	82.7	5.2	31.2	4.7
NG 2448 R	531	38.9	30.6	1.04	33	82.2	4.6	31.8	5.9
NG 3969 R	530	39.2	29.8	1.03	33	83.6	4.3	31.3	6.1
ST 6848 R	441	41.6	32.5	1.06	34	83.8	5.2	32.8	4.5
Experimental Average	575	40.4	31.4	1.01	32	82.3	4.9	29.8	5.2

* LSD (0.05) = 81 lbs.; LSD (0.01) = 107 lbs.
[1] This test was not harvested in 2006 due to a severe drought.

Table 12. Dryland Cotton Variety Test Results near Perkins, 2004-2006.[1]

Variety	Lint Yield (lbs./A)	Lint Percentage		Fiber Length	Uniformity		Micronaire	Fiber Strength	Elongation
		Picked	Pulled		32's	Ratio			
PM 2167 RR	516*	39.7	30.9	1.00	32	82.6	4.7	28.1	5.7
PM 2266 RR	492	37.8	29.2	1.05	34	83.3	4.6	29.6	6.6
PM 2326 BG/RR	447	37.9	29.6	1.03	33	83.6	4.8	29.1	7.2
All-Tex Atlas RR	438	38.1	29.6	1.02	33	82.6	4.7	29.8	6.5
Tamcot Luxor	407	39.7	29.6	1.05	34	83.1	4.5	28.8	5.8
PM 2326 RR	397	38.3	29.4	1.05	34	82.7	4.8	30.4	6.3
FM 5013	388	38.5	28.9	1.05	34	83.5	4.7	30.3	6.2
Experimental Average	441	38.6	29.6	1.04	33	83.1	4.7	29.4	6.3

* LSD (0.05) = 87 lbs.; LSD (0.01) = 117 lbs.

[1] The 2005-2006 results for this test were not presented separately because no additional varieties would have been included.

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