

United States Department of Agriculture, University of Arkansas, and County Governments Cooperating

Cotton Comments

Cotton Yield, Quality, and Gross Returns: 2005 Arkansas Cotton Variety Test

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Gross revenue in cotton production is a function of lint yield and lint price. Lint price will be approximated by CCC loan rate. For cotton, CCC loan rate is government loan price adjusted for fiber quality. Gross revenue is then the product of CCC loan rate and per acre lint yield.

The results of this publication are for one year only. The 2005 cotton variety trial data was acquired from Dr. F.M. Bourland, cotton breeder, University of Arkansas Division of Agriculture. These data include yield by variety for each of six different tests, four sites (3 irrigated and 1 non-irrigated) in northern Arkansas (Tables 1, 2, 3, and 4) and two sites (irrigated) in southern Arkansas (Tables 5 and 6). Table 7 is a summary of variety tests across the state. The summary table does not make a distinction of either test site or irrigated—non-irrigated management regime. The data includes respective micronaire, staple length, uniformity, and fiber strength for each variety. Using the 2005 CCC loan value table (Anonymous, 2005), a loan value was calculated for each of the varieties in each test. A color grade of 41 and a leaf grade of 4 were assumed for all varieties. Micronaire, staple length, uniformity, and fiber strength measurements of each variety were used to determine premium and discount values for each variety for each test. It was further assumed that all price data was taken from the

Greenwood, MS station. The CCC loan values were then ranked to determine which variety yielded the greatest price per pound adjusted for fiber quality characteristics. Using these calculated loan values, gross revenue per acre of each variety from each test was computed. These gross revenues were then ranked to determine the variety that yielded the greatest revenue inclusive of all fiber quality premiums and discounts for that variety.

Calculated CCC loan values and gross revenues for all varieties are displayed in Tables 1—7. In two cases, Tables 2 and 5, the irrigated Tunica silty clay soil trial at Keiser and irrigated Calloway silt loam soil test at Marianna, ranking varieties by gross revenue is the same as ranking by lint yield. In Table 1, the irrigated trial at Manila on Routon-Dundee-Crevasse complex soil, the top three varieties are shuffled due to variety advantages in various fiber qualities. A twenty pound increase in lint from the highest yielding variety is offset by a 2.3¢ per pound increase in loan value in the second highest yielding variety due to better fiber quality leading to greater gross revenue. Table 3, non-irrigated trial at Keiser, the 2nd and 3rd highest yielding varieties were penalized due to high micronaire discounts in loan value. In Table 4, the irrigated trial at Judd Hill on Dundee silt loam, the top yielding variety DP432RR with 1355 pounds of lint is placed second in gross revenue as

PHY 310R (the top gross revenue contender) has 0.35¢ per pound better loan value due to better fiber quality (micronaire premium) generating more revenue than the seven pound increase in lint yield. Table 6, the irrigated Desha silt loam trial at Rohwer, confirmed the highest yielding variety DP432RR as the variety also providing highest gross revenue. The second highest yielding variety at Rohwer ST5303R dropped to 7th place in gross revenue due to high micronaire discount and smaller premium for staple length than did the 6th place high yielding variety DP393 which placed 2nd overall in gross revenue. Varieties with the 3rd through the 5th highest yields, ST4892BR, DX25105N, and DP445BG/RR, were separated in gross revenue by a total of \$6.69 per acre between all three, due to slight differences in uniformity and strength premiums. Similarly in Table 7, state summary, the highest yielding variety PHY 310R is placed behind DP 393 (second highest yielder) where

a 5 pound yield advantage is outranked by better fiber premiums. Gross revenue allows for more equal comparison of varieties through the combination of lint yield and fiber quality. Micronaire, staple length, uniformity, and fiber strength are the dominant factors influenced in varying degrees through genetics that affect fiber quality. Equality across varieties for color grade and leaf grade was assumed as these parameters are most often influenced by management as opposed to genetics. This may bias the study with respect to hairy leaf cultivars.

Production costs will vary across different genetic traits. Production budgets for cotton in various regions of the state, tillage strategies, and genetic traits utilized may be obtained from the following site <http://www.aragriculture.org/crops/cotton/budgets/default.htm>.

References

Anonymous, 2005 CCC Loan Values at Greenwood, MS and equivalent Locations, Courtesy of Staplcotn.

Table 1. 2005 Arkansas Cotton Variety Test Results - Irrigated Roton-Dundee-Crevasse complex soil at Manila, AR.

Variety	Lint Yield ^a lbs/acre (<i>r</i>)	Micronaire ^b	Length ^{bc} in.	Uniformity ^{bc} %	Strength ^b g/tex	CCC Loan Value ^a ¢/lb (<i>r</i>)	Gross Revenue ^a \$/acre (<i>r</i>)
DP 445 BG/RR	1289 (2)	4.80 (0.00)	1.16 (1.95)	84.30 (0.35)	32.80 (0.50)	55.15 (3)	710.88 (1)
DP 434 RR	1287 (3)	4.90 (0.00)	1.13 (1.95)	83.30 (0.25)	29.90 (0.25)	54.80 (8)	705.28 (2)
PHY 310 R	1309 (1)	4.80 (0.00)	1.07 (0.00)	82.50 (0.25)	30.40 (0.25)	52.85 (17)	691.81 (3)
DP 393	1203 (5)	4.90 (0.00)	1.12 (1.40)	83.40 (0.25)	33.20 (0.50)	54.50 (11)	655.64 (4)
DX 25105N	1243 (4)	5.10 (-3.05)	1.15 (1.95)	83.60 (0.35)	32.10 (0.45)	52.05 (19)	646.98 (5)
DP 455 BG/RR	1142 (6)	4.70 (0.00)	1.16 (1.95)	83.70 (0.35)	33.30 (0.50)	55.15 (3)	629.81 (6)
ST 4686 R	1128 (8)	4.80 (0.00)	1.12 (1.40)	83.30 (0.25)	32.30 (0.45)	54.45 (12)	614.20 (7)
CS 38	1095 (10)	4.90 (0.00)	1.16 (1.95)	84.50 (0.45)	33.30 (0.50)	55.25 (1)	604.99 (8)
DP 432 RR	1103 (9)	5.10 (-3.05)	1.12 (1.40)	83.30 (0.25)	32.20 (0.45)	51.40 (21)	566.94 (9)
ST 4892 BR	1141 (7)	5.30 (-3.90)	1.09 (0.00)	83.30 (0.25)	30.30 (0.25)	48.95 (26)	558.52 (10)
DP 424 BGII/RR	1011 (14)	4.80 (0.00)	1.14 (1.95)	84.40 (0.35)	30.30 (0.25)	54.90 (7)	555.04 (11)
ST 4575 BR	1067 (11)	5.20 (-3.05)	1.12 (1.40)	83.90 (0.35)	33.20 (0.50)	51.55 (20)	550.04 (12)
ST 5242 BR	1009 (15)	4.80 (0.00)	1.10 (1.40)	84.00 (0.35)	29.80 (0.25)	54.35 (14)	548.39 (13)
ST 5303 R	1031 (12)	4.90 (0.00)	1.09 (0.00)	84.30 (0.35)	31.90 (0.45)	53.15 (15)	547.98 (14)
PHY 410 R	973 (17)	4.90 (0.00)	1.14 (1.95)	84.80 (0.45)	31.60 (0.45)	55.20 (2)	537.10 (15)
FM 960 RR	975 (16)	4.50 (0.00)	1.11 (1.40)	82.50 (0.25)	31.60 (0.45)	54.45 (12)	530.89 (16)
DP 444 BG/RR	959 (18)	4.60 (0.00)	1.11 (1.40)	84.10 (0.35)	30.80 (0.45)	54.55 (10)	523.13 (17)
CS 37	897 (20)	4.80 (0.00)	1.13 (1.95)	82.90 (0.25)	31.60 (0.45)	55.00 (6)	493.35 (18)
PM 1218 BR	1013 (13)	5.30 (-3.90)	1.07 (0.00)	82.70 (0.25)	28.30 (0.00)	48.70 (27)	493.33 (19)
FM 966 LL	869 (23)	4.50 (0.00)	1.09 (0.00)	83.10 (0.25)	32.00 (0.45)	53.05 (16)	461.00 (20)
ST 5599 BR	924 (19)	5.00 (-3.05)	1.07 (0.00)	82.20 (0.00)	29.40 (0.00)	49.30 (25)	455.53 (21)
DP 543 BGII/RR	874 (22)	5.20 (-3.05)	1.17 (1.95)	84.00 (0.35)	33.30 (0.50)	52.10 (18)	455.35 (22)
ST 6636 BR	883 (21)	5.30 (-3.90)	1.13 (1.95)	83.90 (0.35)	31.40 (0.45)	51.20 (23)	452.10 (23)
FM 958 LL	781 (25)	4.80 (0.00)	1.12 (1.40)	84.30 (0.35)	33.20 (0.50)	54.60 (9)	426.43 (24)
FM 960 B2R	756 (26)	4.90 (0.00)	1.15 (1.95)	84.30 (0.35)	32.40 (0.45)	55.10 (5)	416.56 (25)
FM 960 BR	821 (24)	5.10 (-3.05)	1.09 (0.00)	82.90 (0.25)	32.50 (0.50)	50.05 (24)	410.91 (26)
ST 6848 R	702 (27)	5.40 (-3.90)	1.17 (1.95)	84.80 (0.45)	35.90 (0.50)	51.35 (22)	360.48 (27)

^a The numbers in parenthesis and italics represent that variety's rank in that characteristic.

^b The numbers in parenthesis represent premium (positive number), no change (0.00), or discount (negative number) given the value of that fiber trait for that variety.

^c Measurements of fiber length and length uniformity may be exaggerated since samples were processed on a small laboratory gin with no lint cleaning. Although values are exaggerated, comparisons among varieties for these parameters are generally valid, but may be biased against hairy leaf varieties since smooth leaf varieties tend to require less lint cleaning than hairy leaf varieties.

Table 2. 2005 Arkansas Cotton Variety Test Results - Irrigated Tunica Silty Clay Soil at Keiser, AR.

Variety	Lint Yield ^a lbs/acre (<i>r</i>)	Micronaire ^b	Length ^{bc} in.	Uniformity ^{bc} %	Strength ^b g/tex	CCC Loan Value ^a ¢/lb (<i>r</i>)	Gross Revenue ^a \$/acre (<i>r</i>)
ST 4575 BR	1168 (<i>1</i>)	4.20 (0.25)	1.15 (1.95)	82.70 (0.25)	31.60 (0.45)	55.25 (<i>6</i>)	645.32 (<i>1</i>)
PHY 310 R	1137 (<i>2</i>)	4.50 (0.00)	1.13 (1.95)	83.80 (0.35)	31.60 (0.45)	55.10 (<i>15</i>)	626.49 (<i>2</i>)
ST 4892 BR	1133 (<i>3</i>)	4.50 (0.00)	1.15 (1.95)	83.80 (0.35)	30.40 (0.25)	54.90 (<i>21</i>)	622.02 (<i>3</i>)
ST 5599 BR	1119 (<i>4</i>)	4.20 (0.25)	1.15 (1.95)	82.80 (0.25)	29.50 (0.25)	55.05 (<i>17</i>)	616.01 (<i>4</i>)
ST 4686 R	1115 (<i>5</i>)	4.30 (0.00)	1.14 (1.95)	83.10 (0.25)	33.40 (0.50)	55.05 (<i>17</i>)	613.81 (<i>5</i>)
DP 393	1090 (<i>6</i>)	4.50 (0.00)	1.21 (1.95)	83.80 (0.35)	33.00 (0.50)	55.15 (<i>11</i>)	601.14 (<i>6</i>)
DP 444 BG/RR	1083 (<i>8</i>)	4.10 (0.25)	1.15 (1.95)	83.40 (0.25)	29.70 (0.25)	55.05 (<i>17</i>)	596.19 (<i>7</i>)
ST 5242 BR	1083 (<i>7</i>)	4.10 (0.25)	1.12 (1.40)	83.10 (0.25)	28.50 (0.00)	54.25 (<i>26</i>)	587.53 (<i>8</i>)
DX 25105N	1067 (<i>9</i>)	4.30 (0.00)	1.15 (1.95)	82.90 (0.25)	29.70 (0.25)	54.80 (<i>25</i>)	584.72 (<i>9</i>)
DP 455 BG/RR	1056 (<i>10</i>)	4.00 (0.25)	1.19 (1.95)	83.60 (0.35)	31.30 (0.45)	55.35 (<i>4</i>)	584.50 (<i>10</i>)
DP 445 BG/RR	1038 (<i>11</i>)	4.20 (0.25)	1.17 (1.95)	83.90 (0.35)	33.00 (0.50)	55.40 (<i>2</i>)	575.05 (<i>11</i>)
DP 432 RR	1035 (<i>12</i>)	4.30 (0.00)	1.17 (1.95)	84.80 (0.45)	32.50 (0.50)	55.25 (<i>6</i>)	571.84 (<i>12</i>)
DP 434 RR	1030 (<i>13</i>)	3.90 (0.25)	1.19 (1.95)	83.80 (0.35)	28.60 (0.00)	54.90 (<i>21</i>)	565.47 (<i>13</i>)
ST 6636 BR	997 (<i>14</i>)	4.50 (0.00)	1.20 (1.95)	84.20 (0.35)	33.00 (0.50)	55.15 (<i>11</i>)	549.85 (<i>14</i>)
ST 5303 R	988 (<i>15</i>)	4.10 (0.25)	1.17 (1.95)	83.90 (0.35)	33.10 (0.50)	55.40 (<i>2</i>)	547.35 (<i>15</i>)
FM 960 B2R	978 (<i>16</i>)	4.30 (0.00)	1.17 (1.95)	82.90 (0.25)	31.60 (0.45)	55.00 (<i>20</i>)	537.90 (<i>16</i>)
DP 424 BGII/RR	976 (<i>17</i>)	4.30 (0.00)	1.14 (1.95)	84.10 (0.35)	30.00 (0.25)	54.90 (<i>21</i>)	535.82 (<i>17</i>)
PHY 410 R	953 (<i>18</i>)	4.50 (0.00)	1.15 (1.95)	84.20 (0.35)	31.90 (0.45)	55.10 (<i>15</i>)	525.10 (<i>18</i>)
FM 960 BR	927 (<i>19</i>)	4.20 (0.25)	1.17 (1.95)	84.80 (0.45)	33.90 (0.50)	55.50 (<i>1</i>)	514.49 (<i>19</i>)
FM 958 LL	905 (<i>20</i>)	4.40 (0.00)	1.16 (1.95)	84.40 (0.35)	32.50 (0.50)	55.15 (<i>11</i>)	499.11 (<i>20</i>)
FM 960 RR	891 (<i>22</i>)	3.80 (0.25)	1.18 (1.95)	83.50 (0.35)	31.10 (0.45)	55.35 (<i>4</i>)	493.17 (<i>21</i>)
CS 37	892 (<i>21</i>)	4.00 (0.25)	1.18 (1.95)	83.20 (0.25)	31.10 (0.45)	55.25 (<i>6</i>)	492.83 (<i>22</i>)
DP 543 BGII/RR	883 (<i>24</i>)	4.60 (0.00)	1.18 (1.95)	83.50 (0.35)	30.40 (0.25)	54.90 (<i>21</i>)	484.77 (<i>23</i>)
CS 38	858 (<i>25</i>)	4.60 (0.00)	1.22 (1.95)	83.70 (0.35)	32.50 (0.50)	55.15 (<i>11</i>)	473.19 (<i>24</i>)
PM 1218 BR	890 (<i>23</i>)	4.40 (0.00)	1.09 (0.00)	83.10 (0.25)	27.40 (0.00)	52.60 (<i>27</i>)	468.14 (<i>25</i>)
FM 966 LL	828 (<i>26</i>)	4.20 (0.25)	1.17 (1.95)	83.40 (0.25)	32.20 (0.45)	55.25 (<i>6</i>)	457.47 (<i>26</i>)
ST 6848 R	800 (<i>27</i>)	4.60 (0.00)	1.20 (1.95)	85.20 (0.45)	34.70 (0.50)	55.25 (<i>6</i>)	442.00 (<i>27</i>)

^a The numbers in parenthesis and italics represent that variety's rank in that characteristic.

^b The numbers in parenthesis represent premium (positive number), no change (0.00), or discount (negative number) given the value of that fiber trait for that variety.

^c Measurements of fiber length and length uniformity may be exaggerated since samples were processed on a small laboratory gin with no lint cleaning. Although values are exaggerated, comparisons among varieties for these parameters are generally valid, but may be biased against hairy leaf varieties since smooth leaf varieties tend to require less lint cleaning than hairy leaf varieties.

Table 3. 2005 Arkansas Cotton Variety Test Results - Non-irrigated Tunica Silty Clay at Keiser, AR.

Variety	Lint Yield ^a lbs/acre (<i>r</i>)	Micronaire ^b	Length ^{bc} in.	Uniformity ^{bc} %	Strength ^b g/tex	CCC Loan Value ^a ¢/lb (<i>r</i>)	Gross Revenue ^a \$/acre (<i>r</i>)
DP 393	1197 (<i>1</i>)	4.70 (0.00)	1.15 (1.95)	84.20 (0.35)	32.20 (0.45)	55.10 (<i>4</i>)	659.55 (<i>1</i>)
ST 6636 BR	1099 (<i>4</i>)	4.90 (0.00)	1.17 (1.95)	84.50 (0.45)	30.70 (0.45)	55.20 (<i>1</i>)	606.65 (<i>2</i>)
ST 4686 R	1094 (<i>5</i>)	4.60 (0.00)	1.11 (1.40)	83.80 (0.35)	32.80 (0.50)	54.60 (<i>13</i>)	597.32 (<i>3</i>)
PHY 310 R	1185 (<i>2</i>)	5.00 (-3.05)	1.07 (0.00)	83.10 (0.25)	31.20 (0.45)	50.00 (<i>27</i>)	592.50 (<i>4</i>)
DP 434 RR	1053 (<i>6</i>)	4.50 (0.00)	1.16 (1.95)	83.90 (0.35)	27.90 (0.00)	54.65 (<i>12</i>)	575.46 (<i>5</i>)
ST 5599 BR	1125 (<i>3</i>)	5.00 (-3.05)	1.10 (1.40)	83.20 (0.25)	29.40 (0.00)	50.95 (<i>25</i>)	573.19 (<i>6</i>)
DP 455 BG/RR	1037 (<i>7</i>)	4.50 (0.00)	1.15 (1.95)	83.30 (0.25)	30.80 (0.45)	55.00 (<i>8</i>)	570.35 (<i>7</i>)
DP 432 RR	1011 (<i>9</i>)	4.90 (0.00)	1.13 (1.95)	84.20 (0.35)	31.40 (0.45)	55.10 (<i>4</i>)	557.06 (<i>8</i>)
DP 444 BG/RR	1024 (<i>8</i>)	4.30 (0.00)	1.10 (1.40)	83.20 (0.25)	29.60 (0.25)	54.25 (<i>18</i>)	555.52 (<i>9</i>)
FM 960 B2R	1006 (<i>10</i>)	4.80 (0.00)	1.15 (1.95)	82.60 (0.25)	30.40 (0.25)	54.80 (<i>10</i>)	551.29 (<i>10</i>)
DP 445 BG/RR	971 (<i>13</i>)	4.70 (0.00)	1.14 (1.95)	84.30 (0.35)	32.90 (0.50)	55.15 (<i>2</i>)	535.51 (<i>11</i>)
ST 4575 BR	1002 (<i>11</i>)	4.40 (0.00)	1.09 (0.00)	82.60 (0.25)	31.60 (0.45)	53.05 (<i>22</i>)	531.56 (<i>12</i>)
PM 1218 BR	987 (<i>12</i>)	4.90 (0.00)	1.07 (0.00)	82.60 (0.25)	27.50 (0.00)	52.60 (<i>23</i>)	519.16 (<i>13</i>)
ST 4892 BR	927 (<i>14</i>)	4.70 (0.00)	1.13 (1.95)	83.60 (0.35)	30.90 (0.45)	55.10 (<i>4</i>)	510.78 (<i>14</i>)
FM 958 LL	863 (<i>17</i>)	4.60 (0.00)	1.15 (1.95)	84.30 (0.35)	31.30 (0.45)	55.10 (<i>4</i>)	475.51 (<i>15</i>)
CS 37	846 (<i>18</i>)	4.60 (0.00)	1.16 (1.95)	83.80 (0.35)	32.90 (0.50)	55.15 (<i>2</i>)	466.57 (<i>16</i>)
ST 6848 R	884 (<i>16</i>)	5.10 (-3.05)	1.18 (1.95)	85.10 (0.45)	35.40 (0.50)	52.20 (<i>24</i>)	461.45 (<i>17</i>)
ST 5242 BR	896 (<i>15</i>)	4.70 (0.00)	1.06 (-1.70)	82.60 (0.25)	27.80 (0.00)	50.90 (<i>26</i>)	456.06 (<i>18</i>)
DX 25105N	830 (<i>20</i>)	4.70 (0.00)	1.13 (1.95)	83.40 (0.25)	29.30 (0.00)	54.55 (<i>16</i>)	452.77 (<i>19</i>)
PHY 410 R	826 (<i>21</i>)	4.90 (0.00)	1.10 (1.40)	84.30 (0.35)	33.10 (0.50)	54.60 (<i>13</i>)	451.00 (<i>20</i>)
ST 5303 R	840 (<i>19</i>)	4.90 (0.00)	1.08 (0.00)	84.10 (0.35)	33.00 (0.50)	53.20 (<i>21</i>)	446.88 (<i>21</i>)
DP 424 BGII/RR	800 (<i>22</i>)	4.80 (0.00)	1.11 (1.40)	84.50 (0.45)	30.50 (0.45)	54.65 (<i>11</i>)	437.20 (<i>22</i>)
FM 966 LL	794 (<i>23</i>)	4.40 (0.00)	1.12 (1.40)	84.10 (0.35)	32.60 (0.50)	54.60 (<i>13</i>)	433.52 (<i>23</i>)
FM 960 RR	785 (<i>24</i>)	4.80 (0.00)	1.10 (1.40)	82.40 (0.00)	30.20 (0.25)	54.00 (<i>20</i>)	423.90 (<i>24</i>)
FM 960 BR	744 (<i>25</i>)	4.90 (0.00)	1.11 (1.40)	82.80 (0.25)	31.60 (0.45)	54.45 (<i>17</i>)	405.11 (<i>25</i>)
CS 38	734 (<i>26</i>)	4.90 (0.00)	1.15 (1.95)	83.10 (0.25)	31.80 (0.45)	55.00 (<i>8</i>)	403.70 (<i>26</i>)
DP 543 BGII/RR	719 (<i>27</i>)	4.80 (0.00)	1.11 (1.40)	83.20 (0.25)	30.20 (0.25)	54.25 (<i>18</i>)	390.06 (<i>27</i>)

^a The numbers in parenthesis and italics represent that variety's rank in that characteristic.

^b The numbers in parenthesis represent premium (positive number), no change (0.00), or discount (negative number) given the value of that fiber trait for that variety.

^c Measurements of fiber length and length uniformity may be exaggerated since samples were processed on a small laboratory gin with no lint cleaning. Although values are exaggerated, comparisons among varieties for these parameters are generally valid, but may be biased against hairy leaf varieties since smooth leaf varieties tend to require less lint cleaning than hairy leaf varieties.

Table 4. 2005 Arkansas Cotton Variety Test Results - Irrigated Dundee Silt Loam at Judd Hill, AR.

Variety	Lint Yield ^a lbs/acre (<i>r</i>)	Micronaire ^b	Length ^{bc} in.	Uniformity ^{bc} %	Strength ^b g/tex	CCC Loan Value ^a ¢/lb (<i>r</i>)	Gross Revenue ^a \$/acre (<i>r</i>)
PHY 310 R	1348 (2)	4.20 (0.25)	1.14 (1.95)	84.70 (0.45)	31.20 (0.45)	55.45 (1)	747.47 (1)
DP 432 RR	1355 (1)	4.30 (0.00)	1.14 (1.95)	84.10 (0.35)	30.90 (0.45)	55.10 (14)	746.61 (2)
ST 4575 BR	1321 (3)	3.90 (0.25)	1.14 (1.95)	83.90 (0.35)	31.40 (0.45)	55.35 (3)	731.17 (3)
ST 4892 BR	1306 (4)	4.50 (0.00)	1.14 (1.95)	84.70 (0.45)	31.50 (0.45)	55.20 (10)	720.91 (4)
DP 393	1290 (5)	4.20 (0.25)	1.16 (1.95)	83.90 (0.35)	31.40 (0.45)	55.35 (3)	714.02 (5)
DP 445 BG/RR	1259 (6)	3.80 (0.25)	1.18 (1.95)	84.20 (0.35)	31.90 (0.45)	55.35 (3)	696.86 (6)
ST 5303 R	1238 (7)	4.40 (0.00)	1.10 (1.40)	83.60 (0.35)	31.20 (0.45)	54.55 (23)	675.33 (7)
ST 4686 R	1208 (8)	4.20 (0.25)	1.13 (1.95)	82.60 (0.25)	31.90 (0.45)	55.25 (8)	667.42 (8)
DP 444 BG/RR	1194 (10)	3.80 (0.25)	1.14 (1.95)	83.90 (0.35)	29.60 (0.25)	55.15 (11)	658.49 (9)
DX 25105N	1201 (9)	4.00 (0.25)	1.20 (1.95)	83.30 (0.25)	28.80 (0.00)	54.80 (21)	658.15 (10)
DP 434 RR	1174 (11)	3.80 (0.25)	1.17 (1.95)	83.70 (0.35)	27.80 (0.00)	54.90 (20)	644.53 (11)
FM 960 BR	1158 (13)	3.50 (0.00)	1.14 (1.95)	82.80 (0.25)	31.10 (0.45)	55.00 (17)	636.90 (12)
ST 5242 BR	1164 (12)	4.10 (0.25)	1.12 (1.40)	83.70 (0.35)	28.10 (0.00)	54.35 (24)	632.63 (13)
ST 6636 BR	1134 (17)	4.50 (0.00)	1.19 (1.95)	83.70 (0.35)	31.30 (0.45)	55.10 (14)	624.83 (14)
DP 543 BGII/RR	1139 (14)	4.40 (0.00)	1.15 (1.95)	83.40 (0.25)	29.70 (0.25)	54.80 (21)	624.17 (15)
ST 5599 BR	1125 (19)	4.10 (0.25)	1.16 (1.95)	84.00 (0.35)	30.40 (0.25)	55.15 (11)	620.44 (16)
PHY 410 R	1126 (18)	4.30 (0.00)	1.13 (1.95)	83.30 (0.25)	31.30 (0.45)	55.00 (17)	619.30 (17)
DP 424 BGII/RR	1135 (16)	4.20 (0.25)	1.10 (1.40)	82.70 (0.25)	28.50 (0.00)	54.25 (25)	615.74 (18)
FM 960 RR	1137 (15)	3.40 (-1.90)	1.18 (1.95)	83.00 (0.25)	29.90 (0.25)	52.90 (27)	601.47 (19)
ST 6848 R	1086 (21)	4.50 (0.00)	1.15 (1.95)	84.80 (0.45)	34.90 (0.50)	55.25 (8)	600.02 (20)
PM 1218 BR	1092 (20)	4.70 (0.00)	1.10 (1.40)	83.10 (0.25)	27.50 (0.00)	54.00 (26)	589.68 (21)
FM 958 LL	1043 (22)	4.20 (0.25)	1.19 (1.95)	84.40 (0.35)	31.70 (0.45)	55.35 (3)	577.30 (22)
DP 455 BG/RR	1023 (23)	3.70 (0.25)	1.17 (1.95)	82.60 (0.25)	29.60 (0.25)	55.05 (16)	563.16 (23)
FM 966 LL	1012 (24)	4.20 (0.25)	1.15 (1.95)	84.30 (0.35)	32.70 (0.50)	55.40 (2)	560.65 (24)
FM 960 B2R	992 (25)	3.80 (0.25)	1.19 (1.95)	83.50 (0.35)	30.00 (0.25)	55.15 (11)	547.09 (25)
CS 37	978 (26)	4.10 (0.25)	1.18 (1.95)	83.70 (0.35)	31.20 (0.45)	55.35 (3)	541.32 (26)
CS 38	963 (27)	3.60 (0.00)	1.19 (1.95)	82.70 (0.25)	30.50 (0.45)	55.00 (17)	529.65 (27)

^a The numbers in parenthesis and italics represent that variety's rank in that characteristic.

^b The numbers in parenthesis represent premium (positive number), no change (0.00), or discount (negative number) given the value of that fiber trait for that variety.

^c Measurements of fiber length and length uniformity may be exaggerated since samples were processed on a small laboratory gin with no lint cleaning. Although values are exaggerated, comparisons among varieties for these parameters are generally valid, but may be biased against hairy leaf varieties since smooth leaf varieties tend to require less lint cleaning than hairy leaf varieties.

Table 5. 2005 Arkansas Cotton Variety Test Results - Irrigated Calloway Silt Loam at Marianna, AR.

Variety	Lint Yield ^a lbs/acre (<i>r</i>)	Micronaire ^b	Length ^{bc} in.	Uniformity ^{bc} %	Strength ^b g/tex	CCC Loan Value ^a ¢/lb (<i>r</i>)	Gross Revenue ^a \$/acre (<i>r</i>)
ST 5599 BR	1506 (<i>1</i>)	4.50 (0.00)	1.12 (1.40)	83.00 (0.25)	27.50 (0.00)	54.00 (<i>16</i>)	813.24 (<i>1</i>)
DP 393	1490 (<i>2</i>)	4.50 (0.00)	1.11 (1.40)	82.80 (0.25)	31.10 (0.45)	54.45 (<i>10</i>)	811.31 (<i>2</i>)
DP 434 RR	1469 (<i>3</i>)	4.00 (0.25)	1.15 (1.95)	82.70 (0.25)	27.10 (0.00)	54.80 (<i>8</i>)	805.01 (<i>3</i>)
DP 445 BG/RR	1448 (<i>4</i>)	4.20 (0.25)	1.14 (1.95)	83.50 (0.35)	30.80 (0.45)	55.35 (<i>1</i>)	801.47 (<i>4</i>)
PHY 310 R	1419 (<i>5</i>)	4.20 (0.25)	1.07 (0.00)	82.80 (0.25)	28.50 (0.00)	52.85 (<i>26</i>)	749.94 (<i>5</i>)
DP 432 RR	1416 (<i>6</i>)	4.50 (0.00)	1.09 (0.00)	83.50 (0.35)	29.90 (0.25)	52.95 (<i>24</i>)	749.77 (<i>6</i>)
DP 455 BG/RR	1384 (<i>7</i>)	3.70 (0.25)	1.11 (1.40)	81.50 (0.00)	28.70 (0.00)	54.00 (<i>16</i>)	747.36 (<i>7</i>)
DP 444 BG/RR	1356 (<i>8</i>)	4.00 (0.25)	1.13 (1.95)	84.20 (0.35)	28.80 (0.00)	54.90 (<i>6</i>)	744.44 (<i>8</i>)
ST 6848 R	1349 (<i>9</i>)	4.60 (0.00)	1.13 (1.95)	84.20 (0.35)	31.70 (0.45)	55.10 (<i>2</i>)	743.30 (<i>9</i>)
FM 958 LL	1344 (<i>10</i>)	4.30 (0.00)	1.12 (1.40)	83.30 (0.25)	31.60 (0.45)	54.45 (<i>10</i>)	731.81 (<i>10</i>)
ST 6636 BR	1322 (<i>13</i>)	4.50 (0.00)	1.16 (1.95)	83.90 (0.35)	30.70 (0.45)	55.10 (<i>2</i>)	728.42 (<i>11</i>)
ST 4892 BR	1326 (<i>11</i>)	4.40 (0.00)	1.10 (1.40)	82.80 (0.25)	28.90 (0.00)	54.00 (<i>16</i>)	716.04 (<i>12</i>)
DX 25105N	1325 (<i>12</i>)	4.40 (0.00)	1.12 (1.40)	82.90 (0.25)	28.60 (0.00)	54.00 (<i>16</i>)	715.50 (<i>13</i>)
ST 5242 BR	1307 (<i>15</i>)	4.00 (0.25)	1.10 (1.40)	83.30 (0.25)	27.80 (0.00)	54.25 (<i>14</i>)	709.05 (<i>14</i>)
ST 4686 R	1320 (<i>14</i>)	4.20 (0.25)	1.08 (0.00)	82.50 (0.25)	29.70 (0.25)	53.10 (<i>22</i>)	700.92 (<i>15</i>)
ST 4575 BR	1277 (<i>18</i>)	4.40 (0.00)	1.11 (1.40)	82.80 (0.25)	30.50 (0.45)	54.45 (<i>10</i>)	695.33 (<i>16</i>)
CS 37	1262 (<i>20</i>)	4.30 (0.00)	1.15 (1.95)	82.90 (0.25)	30.60 (0.45)	55.00 (<i>5</i>)	694.10 (<i>17</i>)
FM 966 LL	1302 (<i>16</i>)	4.30 (0.00)	1.09 (0.00)	83.10 (0.25)	30.80 (0.45)	53.05 (<i>23</i>)	690.71 (<i>18</i>)
ST 5303 R	1296 (<i>17</i>)	4.40 (0.00)	1.09 (0.00)	84.10 (0.35)	29.70 (0.25)	52.95 (<i>24</i>)	686.23 (<i>19</i>)
PHY 410 R	1238 (<i>21</i>)	4.40 (0.00)	1.10 (1.40)	83.50 (0.35)	29.70 (0.25)	54.35 (<i>13</i>)	672.85 (<i>20</i>)
PM 1218 BR	1266 (<i>19</i>)	4.50 (0.00)	1.09 (0.00)	82.80 (0.25)	26.70 (0.00)	52.60 (<i>27</i>)	665.92 (<i>21</i>)
DP 424 BGII/RR	1228 (<i>22</i>)	4.30 (0.00)	1.10 (1.40)	83.90 (0.35)	27.90 (0.00)	54.10 (<i>15</i>)	664.35 (<i>22</i>)
DP 543 BGII/RR	1224 (<i>23</i>)	4.40 (0.00)	1.10 (1.40)	82.80 (0.25)	28.40 (0.00)	54.00 (<i>16</i>)	660.96 (<i>23</i>)
FM 960 B2R	1166 (<i>25</i>)	4.40 (0.00)	1.14 (1.95)	82.70 (0.25)	29.00 (0.00)	54.55 (<i>9</i>)	636.05 (<i>24</i>)
FM 960 RR	1146 (<i>26</i>)	3.70 (0.25)	1.13 (1.95)	83.60 (0.35)	28.20 (0.00)	54.90 (<i>6</i>)	629.15 (<i>25</i>)
FM 960 BR	1169 (<i>24</i>)	4.20 (0.25)	1.09 (0.00)	83.20 (0.25)	30.50 (0.45)	53.30 (<i>21</i>)	623.08 (<i>26</i>)
CS 38	1076 (<i>27</i>)	4.40 (0.00)	1.16 (1.95)	83.90 (0.35)	30.90 (0.45)	55.10 (<i>2</i>)	592.88 (<i>27</i>)

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^c Measurements of fiber length and length uniformity may be exaggerated since samples were processed on a small laboratory gin with no lint cleaning. Although values are exaggerated, comparisons among varieties for these parameters are generally valid, but may be biased against hairy leaf varieties since smooth leaf varieties tend to require less lint cleaning than hairy leaf varieties.

Table 6. 2005 Arkansas Cotton Variety Test Results - Irrigated Desha Silt Loam at Rohwer, AR.

Variety	Lint Yield ^a lbs/acre (<i>r</i>)	Micronaire ^b	Length ^{bc} in.	Uniformity ^{bc} %	Strength ^b g/tex	CCC Loan Value ^a ¢/lb (<i>r</i>)	Gross Revenue ^a \$/acre (<i>r</i>)
DP 432 RR	1958 (1)	4.80 (0.00)	1.13 (1.95)	84.10 (0.35)	30.30 (0.25)	54.90 (8)	1074.94 (1)
DP 393	1812 (6)	4.80 (0.00)	1.17 (1.95)	84.60 (0.45)	30.50 (0.45)	55.20 (1)	1000.22 (2)
DP 445 BG/RR	1812 (5)	4.50 (0.00)	1.15 (1.95)	83.60 (0.35)	30.80 (0.45)	55.10 (3)	998.41 (3)
ST 4892 BR	1820 (3)	4.90 (0.00)	1.13 (1.95)	84.10 (0.35)	28.80 (0.00)	54.65 (11)	994.63 (4)
DX 25105N	1818 (4)	4.70 (0.00)	1.13 (1.95)	83.10 (0.25)	27.70 (0.00)	54.55 (14)	991.72 (5)
DP 455 BG/RR	1796 (7)	4.60 (0.00)	1.14 (1.95)	82.90 (0.25)	29.80 (0.25)	54.80 (9)	984.21 (6)
ST 5303 R	1851 (2)	5.00 (-3.05)	1.10 (1.40)	84.10 (0.35)	30.90 (0.45)	51.50 (24)	953.27 (7)
CS 38	1726 (8)	4.70 (0.00)	1.18 (1.95)	84.00 (0.35)	31.10 (0.45)	55.10 (3)	951.03 (8)
PHY 310 R	1712 (9)	4.90 (0.00)	1.11 (1.40)	83.40 (0.25)	31.30 (0.45)	54.45 (17)	932.18 (9)
CS 37	1641 (12)	4.60 (0.00)	1.19 (1.95)	84.80 (0.45)	32.10 (0.45)	55.20 (1)	905.83 (10)
FM 960 BR	1655 (11)	4.50 (0.00)	1.12 (1.40)	84.10 (0.35)	29.70 (0.25)	54.35 (18)	899.49 (11)
DP 434 RR	1640 (13)	4.40 (0.00)	1.16 (1.95)	83.60 (0.35)	26.90 (0.00)	54.65 (11)	896.26 (12)
ST 5242 BR	1605 (14)	4.50 (0.00)	1.10 (1.40)	83.60 (0.35)	27.00 (0.00)	54.10 (19)	868.31 (13)
ST 5599 BR	1683 (10)	5.00 (-3.05)	1.13 (1.95)	83.30 (0.25)	27.90 (0.00)	51.50 (26)	866.75 (14)
DP 424 BGII/RR	1578 (18)	4.90 (0.00)	1.12 (1.40)	84.20 (0.35)	29.10 (0.00)	54.10 (19)	853.70 (15)
PHY 410 R	1592 (16)	4.90 (0.00)	1.09 (0.00)	84.60 (0.45)	31.80 (0.45)	53.25 (21)	847.74 (16)
ST 4686 R	1537 (21)	4.90 (0.00)	1.15 (1.95)	83.70 (0.35)	31.50 (0.45)	55.10 (3)	846.89 (17)
FM 960 B2R	1549 (19)	4.80 (0.00)	1.16 (1.95)	83.00 (0.25)	29.10 (0.00)	54.55 (14)	844.98 (18)
ST 4575 BR	1605 (15)	5.00 (-3.05)	1.12 (1.40)	83.50 (0.35)	31.80 (0.45)	51.50 (24)	826.58 (19)
ST 6636 BR	1579 (17)	5.00 (-3.05)	1.15 (1.95)	83.80 (0.35)	31.20 (0.45)	52.05 (23)	821.87 (20)
FM 958 LL	1444 (23)	4.60 (0.00)	1.15 (1.95)	84.30 (0.35)	31.80 (0.45)	55.10 (3)	795.64 (21)
DP 543 BGII/RR	1457 (22)	4.90 (0.00)	1.14 (1.95)	82.70 (0.25)	29.00 (0.00)	54.55 (14)	794.79 (22)
DP 444 BG/RR	1441 (24)	4.40 (0.00)	1.16 (1.95)	84.10 (0.35)	28.90 (0.00)	54.65 (11)	787.51 (23)
FM 960 RR	1405 (25)	4.40 (0.00)	1.16 (1.95)	83.00 (0.25)	29.60 (0.25)	54.80 (9)	769.94 (24)
FM 966 LL	1395 (27)	4.40 (0.00)	1.15 (1.95)	84.10 (0.35)	31.70 (0.45)	55.10 (3)	768.65 (25)
PM 1218 BR	1547 (20)	5.30 (-3.90)	1.07 (0.00)	82.70 (0.25)	28.90 (0.00)	48.70 (27)	753.39 (26)
ST 6848 R	1395 (26)	5.00 (-3.05)	1.15 (1.95)	85.00 (0.45)	33.60 (0.50)	52.20 (22)	728.19 (27)

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^c Measurements of fiber length and length uniformity may be exaggerated since samples were processed on a small laboratory gin with no lint cleaning. Although values are exaggerated, comparisons among varieties for these parameters are generally valid, but may be biased against hairy leaf varieties since smooth leaf varieties tend to require less lint cleaning than hairy leaf varieties.

Table 7. 2005 Arkansas Cotton Variety Test Results - Means Across Six Arkansas Test Sites.

Variety	Lint Yield ^a lbs/acre (<i>r</i>)	Micronaire ^b	Length ^{bc} in.	Uniformity ^{bc} %	Strength ^b g/tex	CCC Loan Value ^a ¢/lb (<i>r</i>)	Gross Revenue ^a \$/acre (<i>r</i>)
DP 393	1347 (2)	4.60 (0.00)	1.15 (1.95)	83.80 (0.35)	31.90 (0.45)	55.10 (4)	742.20 (1)
PHY 310 R	1352 (1)	4.60 (0.00)	1.10 (1.40)	83.40 (0.25)	30.70 (0.45)	54.45 (19)	736.16 (2)
DP 432 RR	1313 (3)	4.60 (0.00)	1.13 (1.95)	84.00 (0.35)	31.20 (0.45)	55.10 (4)	723.46 (3)
DP 445 BG/RR	1303 (4)	4.30 (0.00)	1.16 (1.95)	83.90 (0.35)	32.00 (0.45)	55.10 (4)	717.95 (4)
DP 434 RR	1276 (5)	4.20 (0.25)	1.16 (1.95)	83.50 (0.35)	28.00 (0.00)	54.90 (13)	700.52 (5)
ST 4892 BR	1276 (6)	4.70 (0.00)	1.12 (1.40)	83.70 (0.35)	30.10 (0.25)	54.35 (23)	693.51 (6)
DP 455 BG/RR	1240 (9)	4.20 (0.25)	1.15 (1.95)	82.90 (0.25)	30.60 (0.45)	55.25 (1)	685.10 (7)
DX 25105N	1247 (7)	4.50 (0.00)	1.14 (1.95)	83.20 (0.25)	29.40 (0.00)	54.55 (18)	680.24 (8)
ST 4575 BR	1240 (8)	4.50 (0.00)	1.12 (1.40)	83.20 (0.25)	31.70 (0.45)	54.45 (19)	675.18 (9)
ST 4686 R	1233 (10)	4.50 (0.00)	1.12 (1.40)	83.10 (0.25)	31.90 (0.45)	54.45 (19)	671.37 (10)
ST 5599 BR	1228 (11)	4.60 (0.00)	1.12 (1.40)	83.00 (0.25)	29.00 (0.00)	54.00 (25)	663.12 (11)
DP 444 BG/RR	1176 (13)	4.20 (0.25)	1.13 (1.95)	83.80 (0.35)	29.50 (0.25)	55.15 (3)	648.56 (12)
ST 6636 BR	1169 (14)	4.80 (0.00)	1.17 (1.95)	84.00 (0.35)	31.40 (0.45)	55.10 (4)	644.12 (13)
ST 5303 R	1179 (12)	4.60 (0.00)	1.10 (1.40)	84.00 (0.35)	31.60 (0.45)	54.55 (16)	643.14 (14)
ST 5242 BR	1159 (15)	4.40 (0.00)	1.10 (1.40)	83.40 (0.25)	28.10 (0.00)	54.00 (25)	625.86 (15)
PHY 410 R	1118 (18)	4.60 (0.00)	1.12 (1.40)	84.10 (0.35)	31.50 (0.45)	54.55 (16)	609.87 (16)
DP 424 BGII/RR	1121 (17)	4.50 (0.00)	1.12 (1.40)	83.90 (0.35)	29.40 (0.00)	54.10 (24)	606.46 (17)
CS 37	1086 (19)	4.40 (0.00)	1.16 (1.95)	83.50 (0.35)	31.60 (0.45)	55.10 (4)	598.39 (18)
PM 1218 BR	1132 (16)	4.80 (0.00)	1.08 (0.00)	82.80 (0.25)	27.70 (0.00)	52.60 (27)	595.43 (19)
CS 38	1075 (20)	4.50 (0.00)	1.17 (1.95)	83.60 (0.35)	31.70 (0.45)	55.10 (4)	592.33 (20)
FM 958 LL	1064 (21)	4.50 (0.00)	1.15 (1.95)	84.20 (0.35)	32.00 (0.45)	55.10 (4)	586.26 (21)
FM 960 RR	1057 (22)	4.10 (0.25)	1.14 (1.95)	83.00 (0.25)	30.10 (0.25)	55.05 (12)	581.88 (22)
FM 960 B2R	1054 (24)	4.50 (0.00)	1.16 (1.95)	83.10 (0.25)	30.40 (0.25)	54.80 (14)	577.59 (23)
DP 543 BGII/RR	1049 (25)	4.70 (0.00)	1.14 (1.95)	83.30 (0.25)	30.20 (0.25)	54.80 (14)	574.85 (24)
FM 960 BR	1054 (23)	4.40 (0.00)	1.12 (1.40)	83.40 (0.25)	31.50 (0.45)	54.45 (19)	573.90 (25)
ST 6848 R	1036 (26)	4.80 (0.00)	1.16 (1.95)	84.80 (0.45)	34.30 (0.50)	55.25 (1)	572.39 (26)
FM 966 LL	1033 (27)	4.30 (0.00)	1.13 (1.95)	83.60 (0.35)	31.90 (0.45)	55.10 (4)	569.18 (27)

^a The numbers in parenthesis and italics represent that variety's rank in that characteristic.

^b The numbers in parenthesis represent premium (positive number), no change (0.00), or discount (negative number) given the value of that fiber trait for that variety.

^c Measurements of fiber length and length uniformity may be exaggerated since samples were processed on a small laboratory gin with no lint cleaning. Although values are exaggerated, comparisons among varieties for these parameters are generally valid, but may be biased against hairy leaf varieties since smooth leaf varieties tend to require less lint cleaning than hairy leaf varieties.

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