

## **GINNING REGIONAL COTTON CULTIVARS AT STONEVILLE**

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### **Abstract**

Cleaning, drying and ginning of cotton cultivars on conventional ginning equipment produces commercially useful information for comparative purposes. Evaluation of numerous cultivars grown near Stoneville, MS, on two soil types indicated substantial differences between the cultivars in terms of monetary returns to the farmer and fiber properties important to the textile industry. Gross monetary returns ranged from \$227 to \$590.94 per acre. Classers' color was generally Middling grade but leaf ranged from 1.3 to 3.3. The number of neps ranged from 190 to 396 per gram of lint. The number of seed coat fragments ranged from 34 to 120 per 3 grams of lint. The short fiber content by weight ranged from 4.9% to 12.5%. Unfortunately, the "best" characteristics were not all present in the cultivars that yielded the highest monetary return. These results indicate the potential for improving cotton fiber quality parameters.

### **Introduction**

Improvement of cotton fiber quality involves a number of complex interactions that reach beyond the normal technical aspects of genetics, cultural practices, harvesting, ginning, mill processing, etc. It also involves social, political and governmental factors. Cultivar selection is one of the first and among the most important decisions that a cotton producer makes. Cultivar selection is influenced by past experiences, reputation of cultivars, knowledge of the performance of cultivars, and other available technical information. Much of the technical information is available from private breeders and governmental agencies. One of the drawbacks to some of the data is that the cotton samples are ginned on laboratory-type gins that may not fully represent the rigorous processing that cotton receives at commercial gins. For example, Regional Cotton Variety Tests (Rayburn, 1994) clearly evaluate several common cotton cultivars that are grown across the cotton belt; however, the cotton samples are ginned on dissimilar laboratory machines. Cultivars are adequately compared by common fiber test procedures but other tests demonstrate that substantial differences

occur in conventional processing (Anthony, 1993 and Anthony, 1994). The purpose of this study was to quantify yield, grade, and fiber quality for regional cotton cultivars grown near Stoneville, MS, and ginned on commercial style equipment. Results should allow plant breeders to consider improvements in cotton cultivars that are in response to ginning conditions that more nearly reflect commercial ginning practices.

### **Materials and Methods**

Cultivars submitted for testing in 1994 were divided into two groups based on maturity classifications determined by the companies submitting each cultivar (Calhoun, et al., 1995). The Early Maturing Cotton Cultivar Test was comprised of 32 cultivars in the Mississippi Delta. The Mid-Season Cotton Cultivar Test was comprised of 17 cultivars. Stoneville LA887 and Deltapine 50 were used as check cultivars in tests of both maturity groups. Both the Early Maturing and Mid-Season Cultivar Tests were conducted at two locations: Stoneville (Bosket very fine sandy loam soil, Fields 11 and 12) and Elizabeth (Sharkey clay soil, Fields 14 and 24).

In both tests, seed of each cultivar was supplied by the company that submitted the cultivar for testing. Abbreviations for cultivars used in the tests are in Table 1. Recommended management practices were followed in each test. The cooperators decided planting dates, fertilizer rates, amount of supplemental irrigation, defoliation date, insect and weed control strategies, and harvest date. These tests do not encompass all growing and environmental conditions in the state, but they provide a guide to producers in selecting cultivars.

All tests were planted solid in 40-inch rows. Each cultivar was replicated six times at each location. Yield determinations were based on the weight of seed cotton mechanically harvested from two-row plots that ranged from 40 to 50 feet in length. These samples were used to determine commercial gin turnout, and fiber samples were evaluated at the Agricultural Marketing Service office in Dumas, AR for classer's grade and HVI fiber properties. From this information, premiums and gross returns per acre (based on USDA loan schedule, which may not accurately reflect differences in final market values) were calculated for each cultivar.

The harvested seed cotton was stored at the USDA Cotton Ginning Laboratory, Stoneville, MS, until ginning in the microgin during October 1994. The microgin is a climatically controlled, small-scale ginning system constructed by reducing commercial machinery to 12-15 inches in width. The seed cotton was conditioned for 48 hours at 75° F and 55% relative humidity before ginning through the following commercially recommended machine sequence: Dryer, cylinder cleaner, stick machine, dryer, cylinder cleaner, extractor-feeder/gin stand, and two lint

cleaners. Samples were taken before processing for moisture and foreign matter determinations. Since insufficient seed cotton was available in individual replications for ginning in the microgin, reps 1 and 2, reps 3 and 4, and reps 5 and 6 were combined as reps 1, 2, and 3 within each field. Samples were taken at the feeder apron after all seed cotton cleaning for moisture and foreign matter analyses. Ginned lint samples were taken after the battery condenser for numerous fiber analyses to include High Volume Instrument (HVI) classification, neps, seed-coat fragments, and fiber length distribution.

Collected samples in the field and at the gin were analyzed for the following factors: 1) seed cotton moisture in the field and at the wagon and feeder apron with the oven method (ASTM, 1973), 2) lint moisture at the battery condenser, 3) seed cotton foreign matter at the wagon and feeder apron by the fractionation method (Shepherd, 1972), 4) lint foreign matter at the battery condenser by the Shirley Analyser method (ASTM, 1978) which assesses both the visible and total foreign matter, 5) HVI and manual classing factors at the battery condenser, 6) seed coat fragments (number and weight in 3 grams of lint)(ASTM, 1985), 7) motes (number and weight in 3 grams lint) (ASTM, 1985), 8) funiculi per 3 grams lint (ASTM, 1985), 9) fiber length distribution by the Peyer AL 101 method, and 10) neps by the Zellweger Uster AFIS method. Lint turnout data were not corrected for differences in foreign matter between the varieties before and after cleaning.

Statistical analyses were done with the SAS General Linear Models procedure for each test and field separately. Summary statistics (least significant difference (LSD), mean and coefficient of variability (CV)) that are important in interpreting the test results are presented in each table. The letters "NS" in place of an LSD value indicate that there was no statistical difference among varieties in that trial for the trait in question. The CV is a measure of relative precision of a given trial and is generally considered to be an estimate of the amount of unexplained variation in that trial. In general, the higher the CV, the less precise is a given trial.

**Results and Discussion**  
**Early Maturing Cultivar Test**  
**Bosket very fine sandy loam, Field 11**

Most measured factors (except the number of motes and funiculi and their weight) were significantly different (analyses of variance not shown).

**Seed cotton foreign matter**

Initial total foreign matter averaged 5.1% and ranged from 4.1% for OA-50 to 6.0% for HS-23 (Table 2a). Total foreign matter after seed cotton cleaning averaged 1.7% and ranged from 1.2% for OA-50 to 2.5% for DES-119. Note that OA-50 has a leaf hair score of 2 whereas HS-23 and DES-119 have a leaf hair score of 5 (Table 1). This

suggests that the leaf hairiness causes plant parts to be more likely to attach to the fiber and to remain attached during cleaning at the gin.

**Lint foreign matter**

After all seed cotton and lint cleaning, the total foreign matter remaining in the ginned lint averaged 2.18% and ranged from 1.57% for HZ-1220 to 2.95% for Terra-366 (Table 2a). The visible foreign matter followed the same pattern generally with a mean of 0.99% and values ranging from 0.61% for SG-125 to 1.54% for HS-23. Again, leaf hairiness played a major role in foreign matter removal.

**Lint turnout**

Lint turnout averaged 34.1% and ranged from 31.5% for Terra-292 to 36.9% for STV-132 and HZ-1215 (Table 2b).

**Agricultural Marketing Service (AMS) Classification**

Classers' leaf grade averaged 2.2 and ranged from 1.3 for OA-50 to 3.6 for STV-453. Color grade index averaged 99.4 and ranged from 96.7 for SG-404 to 100.4 for DPL-5409 (Table 2c). Trash area averaged 1.61 and ranged from 0.78 for OA-50 to 3.44 for DES-119 and generally followed the same order as the lint foreign matter as determined by the Shirley Analyser. Uniformity averaged 82.3 and ranged from 81.3 for DPL-5409 to 83.9 for HZ-1215 (Table 2b). Length averaged 1.094 inches and ranged from 1.06 inches for DPL-90, STV-474, DPL-20, Terra C-40 and 1.14 inches for HZ-1215 and ACA-151788. Strength averaged 28.3 g/tex and ranged from 26.7 for DPL-51 to 31.8 g/tex for ACA-151788.

**Value**

Gross returns per acre which reflect all premiums and discounts ranged from \$453.23 for ACA-151788 to \$590.94 for HZ-1220 (Table 2b), and averaged \$516.80 with an LSD of \$39.73. Lint yield was highest for HZ-1220.

**Fiber length distribution**

Short fiber content (SFC) or fibers less than ½ inch long by number averaged 14.1% and ranged from 10% for SS-9301 to 21.9% for DPL-5409 (Table 2d). By weight, these values ranged from 4.9% to 11.5% and averaged 7.4%.

**Neps**

The number of neps per gram averaged 290 and ranged from 205.3 for SG-404 to 396.0 for HZ-1380 (Table 2e). Nep size averaged 0.75 mm and ranged from 0.73 mm to 0.78 mm for SG-125 and ACA-151788, respectively.

**Seed coat fragments per 3 grams**

Seed coat fragments averaged 65 per three grams and ranged from 46.3 for STV-132 to 119.7 for HZ-1220. Seed coat fragment weight averaged 22.9 mg and ranged from 14.1 mg for SS-9301 to 35.2 mg for HZ-1220.

### **Sharkey clay soil, Field 14**

All measured factors were significantly different (analyses of variance not shown).

#### **Seed cotton foreign matter**

Initial total foreign matter averaged 4.7% and ranged from 3.6% for DPL-50 to 6.2% for STV-474 (Table 3a). Total foreign matter after seed cotton cleaning averaged 1.83% and ranged from 1.4% for HZ-1220 to 2.5% for HS-23. Again, leaf hairiness played an important role.

#### **Lint foreign matter**

After all seed cotton and lint cleaning, the total foreign matter remaining in the ginned lint averaged 2.08% and ranged from 1.59% for OA-50 to 2.89% for HZ-1215. The visible foreign matter followed the same pattern generally with a mean of 0.99% and values ranging from 0.65% for SG-125 to 1.54% for HS-23. SureGrow 125 is a relatively smooth-leaf cotton whereas HS-23 is a hairy-leaf cotton.

#### **Lint turnout**

Lint turnout averaged 35.2% and ranged from 33.3% for Terra-292 and MY-3055 to 37.4% for STV-132 and STV-474 (Table 3b).

#### **Agricultural Marketing Service Classification**

Classers' leaf grade averaged 2.2 and ranged from 1.5 for GC-9042 to 3.3 for STV-453 (Table 3b). Color grade index averaged 99.9 and ranged from 97.8 for STV-LA887 to 102.7 for HZ-1220 (Table 3c). Trash area averaged 1.82 and ranged from 0.50 for OA-44 to 3.83 for HS-23 and generally followed the same order as the lint foreign matter as determined by the Shirley Analyser. Uniformity averaged 82.1 and ranged from 81.0 for DPL-5409 to 83.5 for HZ-1220 (Table 3b). Length averaged 1.077 inches and ranged from 1.05 inches for DPL-20 to 1.12 inches for SS-9301. Strength averaged 28.1 g/tex and ranged from 26.3 for STV-453 to 30.0 g/tex for OA-44 and CB-830.

#### **Value**

Gross returns per acre averaged \$325.32 and ranged from \$227.00 for SS-9301 to \$391.06 per acre for HZ-1215 (Table 3b). Lint yield average 630 pounds and ranged from 439 pounds for SS-9301 to 950 pounds for HZ-1215.

#### **Fiber length distribution**

Short fiber content by number averaged 15.8% and ranged from 10% for SG-501 to 20.5% for Terra C-40 (Table 3d). By weight, these values ranged from 5.2% to 11.2% and averaged 8.4%.

### **Neps**

The number of neps per gram averaged 269.1 and ranged from 189.5 for OA-44 to 341 for HZ-1380 (Table 3e). Nep size averaged 0.74 mm and ranged from 0.70 mm to 0.76 mm for SG-223 and STV-453, respectively.

#### **Seed coat fragments per 3 grams**

The number of seed coat fragments averaged 60.1 and ranged from 41 for SG-125 to 120 for HZ-1215, weight averaged 17.9 mg and ranged from 9.2 mg for SG-125 to 37.4 mg for HZ-1215.

### **Mid-season Cotton Cultivar Test Basket very fine sandy loam soil, Field 21**

Most measured factors (except color, uniformity, length coefficient of variability by number and weight, seed coat fragment weight, and the number and weight of both motes and funiculi) were significantly different (analyses of variance not shown).

#### **Seed cotton foreign matter**

Initial total foreign matter averaged 5.3% and ranged from 4.6% for DPL-5415 to 6.0 for OA-8 (Table 4a). Total foreign matter after seed cotton cleaning averaged 1.8% and ranged from 1.57% for DPL-50 and DPL-5415 to 2.3% for OA-8.

#### **Lint foreign matter**

After all seed cotton and lint cleaning, the total foreign matter remaining in the ginned lint averaged 2.3% and ranged from 1.98% for MD 51 ne to 2.74% for MY-2009. The visible foreign matter followed the same pattern generally with a mean of 1.07% and values ranging from 0.84% for DPL-50 to 1.45% for MY-2009.

#### **Lint turnout**

Lint turnout averaged 34.1% and ranged from 32.6% for DPL-50 to 36.6% for DPL-5415 (Table 4b).

#### **Agricultural Marketing Service Classification**

Classers' leaf grade averaged 2.5 and ranged from 1.8 for DPL-5415 to 3.3 for OA-8 (Table 4b). Color grade index averaged 99.0 and ranged from 97.7 for STV-LA887 to 100.0 (Table 4c). Trash area averaged 2.0% and ranged from 1.22% for HS-44 to 3.11 for HX-1560 and generally followed the same order as the lint foreign matter as determined by the Shirley Analyser. Uniformity averaged 81.8 and ranged from 81.1 for HS-44 to 82.3 for HX-1560 (Table 4b). Length averaged 1.086 inches and ranged from 1.07 inches for GC-9033, SS-9202 and DPL-5415 to 1.11 inches for OA-13 and MY-1185. Strength averaged 28.9

g/tex and ranged from 26.5 for DPL-50 to 30.6 g/tex for MD 51ne.

#### **Value**

Monetary return per acre averaged \$526.33 and ranged from \$478.14 for MY-2009 to \$581.80 for HX-1560.

#### **Fiber length distribution**

Short fiber content by number averaged 16.0% and ranged from 12.0% for MY-1185 to 19.2% for DPL-5415 (Table 4d). By weight, these values ranged from 6.0% to 10.1% and averaged 8.3%.

#### **Neps**

The number of neps per gram averaged 304.7 and ranged from 246 for MD 51 ne to 358 for MY-1185 (Table 4e). Nep size averaged 0.76 mm and ranged from 0.74 mm to 0.78 mm for DPL-5415 and MY-1185, respectively.

#### **Seed coat fragments per 3 grams**

The number of seed coat fragments averaged 55.3 and ranged from 45 for MY-3076 to 72 for MY-2009; weights ranged from 11.8 mg for SS-9202 to 42.8 mg for HS-44 and averaged 19.6 mg.

### **Sharkey clay soil, Field 24**

Most of the measured factors (except color, HVI trash percent area, micronaire, staple length, number and weight of seed coat fragments, motes and funiculi, and nep count and weight (analyses of variance not shown).

#### **Seed cotton foreign matter**

Initial total foreign matter averaged 4.4% and ranged from 3.2% for DPL-5415 to 6.1% for GC-9033 (Table 5a). Total foreign matter after seed cotton cleaning averaged 1.9% and ranged from 1.4% for DPL-50 to 2.3% for HS-46.

#### **Lint foreign matter**

After all seed cotton and lint cleaning, the total foreign matter remaining in the ginned lint averaged 2.82% and ranged from 2.19% for DPL-5415 to 3.40% for MY-1185. The visible foreign matter followed the same pattern generally with a mean of 1.04% and values ranging from 0.80% for DPL-50 to 1.43% for MY-1185.

#### **Lint turnout**

Lint turnout averaged 33.8% and ranged from 32.3% for MY-1185 to 35.8% for HX-1560 (Table 5b).

#### **Agricultural Marketing Service Classification**

Classers' leaf grade averaged 2.2 and ranged from 1.5 for DPL-5415 to 3.0 for OA-13 (Table 5b). Color grade index averaged 99.1 and ranged from 95.5 for CB-1233 to 100.0 for several varieties (Table 5c). Trash area averaged 1.9% and ranged from 1.0% for DPL-50 and MY-3076 to 3.00 for OA-8 and MY-1185 and generally followed the same order as the lint foreign matter as determined by the Shirley Analyser. Uniformity averaged 81.7 and ranged from 80.5 for HS-44 to 83.0 for HX-1560 (Table 5b). Length averaged 1.078 inches and ranged from 1.05 inches for DPL-5415 to 1.11 inches for MY-1185. Strength averaged 29.1 g/tex and ranged from 26.6 for DPL 50 to 31.3 g/tex for MY-1185.

#### **Value**

Monetary returns per acre averaged \$300.14 and ranged from \$256.88 for MY-2009 to \$363.80 for OA-13.

#### **Fiber length distribution**

Fibers less than ½ inch long short fiber content by number averaged 17.3% and ranged from 13.6% for MY-2009 to 23.7% for HS-44 (Table 5d). By weight, these values ranged from 7.0% to 12.5% and averaged 9.0%.

#### **Neps**

The number of neps per gram averaged 299 and ranged from 258 for SS-9202 to 356 for CB-1233 and MY-1185 (Table 5e). Nep size averaged 0.75 mm and ranged from 0.73 mm to 0.77 mm for OA-8 and MY-1185, respectively.

#### **Seed coat fragments per 3 grams**

The number of seed coat fragments averaged 48.2 and were not significant for varieties. Seed coat fragment weight averaged 15.0 mg and ranged from 11.0 for HS-46 to 19.9 mg for MY-3076.

#### **Analysis**

The cultivars with the highest gross monetary returns per acre are given in Table 6 along with negative aspects such as short fiber content, neps, and seed coat fragments. For Bosket very fine sandy loam soil in Field 11, one of the most profitable varieties also had the best values for SFC, neps and seed coat fragments. This trend was not true for the Sharkey clay soil in Field 14 but was partially true for the Bosket very fine sandy loam soil in Field 21 and the Sharkey clay soil in Field 24. In summary, considerable variation occurs between cultivars and fields but substantial opportunities exist for genetic improvements in terms of seed coat fragments, neps, and SFC reduction.

### Disclaimer

Mention of a trade name, propriety product or specific equipment does not constitute a guarantee or warranty by the U.S. Department of Agriculture and does not imply approval of a product to the exclusion of others that may be suitable.

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Table 1. Cultivars and cultivar abbreviations and leaf hair score for Early Maturing Cotton Cultivar Trials and Mid-season Cotton Cultivar Tests.

Cultivar	Abbreviation	Leaf hair score <sup>1</sup>
Acala 151788	ACA-151788	-
Chembred 232	CB-232	2-5
Chembred 333	CB-333	4-5
Chembred 830	CB-830	3-5
Chembred 1233	CB-1233	-
Deltapine 20	DPL-20	2
Deltapine 50	DPL-50	2
Deltapine 51	DPL-51	2
Deltapine 90	DPL-90	-
Deltapine 5409	DPL-5409	-
Delta pine 5415	DPL-5415	1
DPL/SG DES 119	DES-119	5
Germain's GC 9033	GC-9033	-
Germain's GC 9042	GC-9042	2
Hartz H1215	HZ-1215	3
Hartz H1220	HZ-1220	3
Hartz H1244	HZ-1244	3
Hartz H1330	HZ-1330	4-5
Hartz H1380	HZ-1380	4-5
Hartz HX 1560	HX-1560	-
Hyperformer HS 23	HS-23	5
Hyperformer HS 44	HS-44	-
Hyperformer HS 46	HS-46	-
Hyperformer HY 39	HY-39	-
MD 51 ne	-	-
Mycogen 1185	MY-1185	-
Mycogen 2009	MY-2009	-
Mycogen 3055	MY-3055	1-5
Mycogen 3076	MY-3076	-
Mycogen 3077	MY-3077	-
Olvey & Assoc. OA 8 OA-8	-	-
Olvey & Assoc. OA 13	OA-13	-
Olvey & Assoc. OA 44	OA-44	2
Olvey & Assoc. OA 50	OA-50	2
Paymaster HS 26	PM-26	-
Seed Source 9202	SS-9202	-
Seed Source 9301	SS-9301	1-5
Stoneville 132	STV-132	3-4
Stoneville 453	STV-453	5
Stoneville 474	STV-474	4
Stoneville LA887	STV-LA887	5
Stoneville X94332	STV-94332	2
Suregrow 125	SG-125	1
Suregrow 223	SG-223	5
Suregrow 404	SG-404	2
Suregrow 501	SG-501	3-4
Terra 292	-	0-2
Terra 302	-	0-2
Terra 366	-	3-5
Terra C-40	-	2

<sup>1</sup>0 = glabrous, 1 = smooth leaf (similar to DP-50), 5 = hairy (similar to DES-119).

Table 2a. Foreign matter content, %, before and after cleaning for Bosket very fine sandy loam, Field 11.

Cultivar	Seed cotton		Lint	
	Wagon	Feeder	Visible	Total
ACA-151788	5.93	1.97	1.33	2.63
CB-1233	5.53	1.53	0.96	2.09
CB-232	5.20	1.77	1.03	2.25
CB-333	5.37	2.00	1.18	2.42
CB-830	5.07	1.50	1.28	2.36
DES-119	5.33	2.47	1.41	2.66
DPL-5415	4.80	1.57	0.78	2.08
DPL-20	4.87	1.47	0.74	2.11
DPL-50	4.47	1.47	0.92	1.88
DPL-51	4.50	1.30	0.83	2.07
DPL-5409	5.03	1.37	0.73	2.09
DPL-90	5.20	1.53	0.92	2.14
GC-9042	5.33	1.63	0.81	1.74
HS-23	6.03	2.43	1.54	2.75
HZ-1215	4.70	1.43	0.69	1.61
HZ-1220	4.27	1.30	0.64	1.57
HZ-1244	4.23	1.30	0.63	1.71
HZ-1330	4.80	1.97	1.13	2.14
HZ-1380	5.70	1.90	1.39	2.66
MY-3055	5.30	1.50	1.03	2.30
OA-44	5.67	1.63	0.79	1.88
OA-50	4.13	1.20	0.88	2.13
PM-26	5.37	1.60	1.18	2.43
SG-125	5.37	1.47	0.61	1.60
SG-223	5.63	2.10	1.20	2.42
SG-404	5.20	1.73	0.86	2.02
SG-501	5.27	1.60	0.91	2.10
SS-9301	5.20	1.40	0.89	2.09
STV-132	4.97	1.37	0.72	1.94
STV-453	5.90	2.03	1.43	2.61
STV-474	5.07	1.80	1.10	2.26
STV-94332	5.23	1.53	0.88	2.20
STV-LA887	4.87	1.77	1.02	2.26
TERRA C-40	5.37	1.63	0.85	2.10
TERRA-292	5.47	1.67	0.88	1.93
TERRA-302	5.33	1.57	1.09	2.54
TERRA-366	5.47	1.63	1.25	2.95
Grand mean	5.12	1.65	0.99	2.18
LSD	1.35	0.23	0.16	0.35
CV(%)	11.53	9.33	10.92	10.29

Table 2b. Performance of 37 cultivars in the Early Maturing Cotton Cultivar Test grown on a Bosket very fine sandy loam soil at Stoneville, MS, in 1994 and ginned on the microgin<sup>1</sup> at the USDA-ARS Gin Lab (Field 11).<sup>2, 3</sup>

Cultivar	Gin									Gross <sup>4</sup> returns \$/A
	Lint yield lbs/A	turn-out %	Micro-naire	Length (UHM) in.	Unif. index %	Stren-gth g/tex	Leaf-grd	Color-grd		
HZ-1220	<b>1134</b>	36.3	4.50	1.13	83.7	28.2	2.0	31.0		<b>590.94</b>
HZ-1215	<b>1130</b>	36.9	4.53	1.14	83.9	28.6	2.0	31.0		<b>589.05</b>
STV-132	<b>1097</b>	36.9	4.48	1.08	82.7	28.1	1.9	31.0		<b>569.01</b>
STV-LA887	<b>1072</b>	35.0	4.27	1.10	82.4	29.4	2.6	31.0		<b>558.92</b>
SG-404	<b>1071</b>	33.3	4.70	1.09	82.3	29.3	2.0	34.3		<b>552.12</b>
DPL-5409	1066	34.7	4.26	1.08	81.3	27.4	2.0	31.0		550.73
CB-830	1060	33.0	4.89	1.08	82.8	29.4	2.4	31.0		545.83
HZ-1244	1059	36.3	4.36	1.10	82.8	27.8	1.7	31.0		549.67
SG-501	1056	35.1	4.49	1.10	82.9	30.0	2.1	31.0		552.20
OA 44	1054	33.7	4.80	1.10	82.7	29.9	1.4	31.0		546.14
SG-223	1048	36.4	4.58	1.10	82.3	29.7	3.0	37.7		542.21
STV-474	1034	36.3	4.87	1.06	82.7	27.8	2.3	31.0		522.49
SG-125	1032	35.1	4.59	1.10	82.7	26.9	1.9	31.0		534.64
CB-333	1025	33.6	4.39	1.08	82.3	27.8	2.9	34.3		527.45
CB-232	1011	32.5	4.26	1.11	81.9	28.4	2.3	31.0		524.51
MY-3055	1010	32.5	4.20	1.10	81.8	28.2	1.9	31.0		526.11
DPL-20	1000	33.7	4.27	1.06	81.7	27.4	1.4	34.3		513.39
HS 23	997	32.5	4.01	1.10	82.0	28.4	3.4	31.0		516.67
STV-94332	992	33.0	4.63	1.11	81.8	28.6	1.9	31.0		516.57
DPL-50	989	32.2	4.52	1.09	81.7	27.1	1.8	31.0		511.21
OA-50	989	33.6	4.34	1.13	82.1	28.7	1.3	31.0		516.42
CB-1233	986	32.7	4.14	1.09	82.0	28.4	2.2	31.0		513.68
STV-453	983	34.3	4.42	1.08	81.5	27.4	3.6	31.0		504.44
DES-119	981	34.1	4.54	1.09	83.0	28.3	3.2	34.3		505.37
SS-9301	967	33.8	4.08	1.13	82.0	28.5	2.0	31.0		504.62
HZ-1380	965	34.8	4.04	1.11	82.1	27.5	2.3	31.0		500.66
GC-9042	963	34.9	4.51	1.10	82.3	28.6	2.0	31.0		502.03
HZ-1330	958	33.1	4.17	1.10	82.7	29.1	3.0	31.0		500.70
PM-26	949	33.0	4.73	1.08	83.6	29.8	2.3	31.0		492.72
Terra-366	933	32.6	4.42	1.07	81.7	26.7	2.2	31.0		480.99
DPL-51	928	33.7	4.74	1.08	82.3	26.7	1.4	31.0		475.07
Terra-302	922	34.8	4.53	1.07	82.1	26.9	1.9	31.0		475.14
Terra-292	922	31.5	4.31	1.10	81.7	27.4	2.0	31.0		478.51
Terra C-40	897	34.2	4.38	1.06	81.8	26.9	1.8	31.0		461.41
DPL-90	895	33.5	4.52	1.06	81.7	29.3	1.9	31.0		462.57
DPL-5415	882	34.3	.81	1.08	82.0	28.1	1.7	31.0		454.23
ACA-151788	859	32.5	3.94	1.14	81.9	31.8	2.2	31.0		453.23
Grand mean	998	34.1	4.44	1.09	82.3	28.3	2.2	31.5		516.80
LSD (0.05)	64	0.7	0.17	0.01	0.5	0.7	0.4	5.4		39.73
CV(%)	4.1	1.4	2.5	0.7	0.4	1.7	13.0	6.7		4.9

<sup>1</sup>Gin sequence included tower dryer, cylinder cleaner, stick machine, tower dryer, cylinder cleaner, gin stand, and two lint cleaners.

<sup>2</sup>Data in this table reflect results from ginning all seed cotton from plots through a commercial gin sequence.

<sup>3</sup>Data in bold represents the best values for that variable and are not significantly different.

<sup>4</sup>Base price of \$0.50/lb; premiums based on fiber data shown; does not reflect actual price differences in cash market.

Table 2c. High volume instrument classification for Bosket very fine sandy loam, Field 11.

Cultivar	HVI			Trash, % area
	color	RD	Plus b	
ACA-151788	100.00	75.00	8.69	2.11
CB-1233	100.00	76.33	8.56	1.56
CB-232	98.67	75.11	8.70	2.44
CB-333	98.00	74.78	8.83	2.33
CB-830	98.00	75.22	8.28	2.33
DES-119	97.33	73.67	8.93	3.44
DPL-5415	99.33	76.44	8.59	1.00
DPL-20	99.33	75.78	8.53	0.89
DPL-50	100.22	77.33	8.41	1.22
DPL-51	99.33	76.11	8.44	1.44
DPL-5409	100.44	77.78	8.40	1.11
DPL-90	100.00	76.00	8.41	1.22
GC-9042	100.00	76.33	8.46	1.22
HS-23	99.33	76.00	8.17	3.33
HZ-1215	99.33	76.44	8.36	1.56
HZ-1220	100.00	77.67	8.28	1.22
HZ-1244	100.00	76.78	8.43	1.00
HZ-1330	99.33	76.00	8.18	2.44
HZ-1380	99.33	76.33	8.16	1.56
MY-3055	100.00	76.56	8.49	1.33
OA-44	99.33	75.44	8.82	0.89
OA-50	100.00	76.11	8.73	0.78
PM-26	100.00	76.78	8.02	2.11
SG-125	100.00	75.44	8.93	1.00
SG-223	97.33	73.78	8.91	2.00
SG-404	96.67	73.56	8.69	1.44
SG-501	99.33	74.67	8.87	1.11
SS-9301	100.00	77.22	8.22	1.22
STV-132	100.00	77.67	7.99	1.11
STV-453	100.00	75.61	8.68	2.44
STV-474	99.00	74.44	9.18	1.89
STV-9433	99.78	76.11	8.81	1.11
STV-LA887	99.00	73.89	9.26	2.56
TERRA C-40	100.00	77.11	8.37	1.33
TERRA-292	100.00	77.00	8.34	1.22
TERRA-302	100.00	75.33	8.86	1.00
TERRA-366	100.00	77.00	8.32	1.44
Grand mean	99.42	75.91	8.55	1.61
LSD	2.99	1.28	0.19	0.55
CV(%)	1.23	1.07	1.51	22.56

Table 2d. Length distribution for Bosket very fine sandy loam, Field 11<sup>1</sup>.

Cultivar	By number				By weight			
	Mean		Length, Mean		Mean		Length,	
	length,	CVN,	SFC,	1%	length.	CVN	SFC	25%
	in.	% <sup>2</sup>	% <sup>3</sup>	level	in.	% <sup>2</sup>	% <sup>3</sup>	level
ACA-151788	0.82	30.27	<b>12.73</b>	1.32	0.89	25.80	<b>6.27</b>	1.06
CB-1233	0.78	29.97	<b>14.07</b>	1.28	0.85	25.90	7.30	1.01
CB-232	0.78	30.60	15.07	1.27	0.85	26.43	7.87	1.02
CB-333	0.77	29.07	<b>14.10</b>	1.24	0.84	25.53	7.63	0.99
CB-830	0.78	28.67	<b>13.40</b>	1.24	0.84	24.80	<b>7.07</b>	0.99
DES-119	0.78	29.53	<b>14.17</b>	1.26	0.84	25.77	7.53	1.00
DPL-20	0.75	29.50	15.93	1.21	0.81	25.77	8.70	0.96
DPL-50	0.77	29.80	14.50	1.25	0.84	25.73	7.57	1.00
DPL-51	0.77	29.63	14.47	1.25	0.84	25.80	7.77	0.99
DPL-5409	0.73	31.33	21.90	1.26	0.82	29.07	11.50	1.00
DPL-5415	0.73	31.80	19.73	1.21	0.80	27.00	10.63	0.96
DPL-90	0.75	31.57	17.70	1.25	0.83	26.83	9.30	0.99
GC-9042	0.78	28.37	<b>12.77</b>	1.25	0.84	25.03	<b>6.87</b>	0.99
HS-23	0.79	29.23	<b>13.30</b>	1.27	0.86	25.40	<b>6.97</b>	1.01
HZ-1215	0.83	27.87	<b>10.73</b>	1.29	0.89	23.90	<b>5.40</b>	1.05
HZ-1220	0.82	28.23	<b>11.20</b>	1.29	0.89	24.13	<b>5.53</b>	1.04
HZ-1244	0.80	29.13	<b>13.17</b>	1.27	0.86	24.87	<b>6.70</b>	1.02
HZ-1330	0.80	28.50	<b>11.87</b>	1.27	0.87	24.80	<b>6.13</b>	1.02
HZ-1380	0.78	30.33	14.97	1.27	0.85	26.23	7.83	1.01
MY-3055	0.79	29.73	<b>13.77</b>	1.28	0.85	25.77	7.17	1.01
OA-44	0.79	28.43	<b>12.37</b>	1.26	0.85	24.77	<b>6.50</b>	1.00
OA-50	0.81	29.97	<b>12.33</b>	1.33	0.89	25.93	<b>6.23</b>	1.05
PM-26	0.77	28.30	<b>13.30</b>	1.23	0.84	24.47	<b>7.07</b>	0.98
SG-125	0.78	28.33	<b>12.57</b>	1.26	0.85	24.97	<b>6.70</b>	1.00
SG-223	0.79	27.60	<b>11.90</b>	1.24	0.85	24.23	<b>6.33</b>	0.99
SG-404	0.80	27.60	<b>10.93</b>	1.26	0.86	24.33	<b>5.77</b>	1.02
SG-501	0.80	26.87	<b>10.40</b>	1.25	0.86	23.73	<b>5.53</b>	1.00
SS-9301	0.84	28.40	<b>9.97</b>	1.33	0.91	24.70	<b>4.93</b>	1.07
STV-132	0.78	31.33	16.20	1.27	0.86	26.07	8.07	1.01
STV-453	0.77	28.57	<b>13.97</b>	1.23	0.83	25.20	7.63	0.98
STV-474	0.76	27.93	<b>13.70</b>	1.22	0.82	24.60	7.53	0.97
STV-94332	0.78	30.20	<b>14.40</b>	1.28	0.86	26.03	7.47	1.02
STV-LA887	0.79	29.70	<b>13.40</b>	1.28	0.86	25.73	<b>6.93</b>	1.02
TERRA C40	0.73	32.60	20.63	1.20	0.80	27.87	11.20	0.96
TERRA-292	0.77	31.13	16.37	1.23	0.84	26.63	8.57	1.01
TERRA-302	0.75	28.27	14.63	1.27	0.81	24.77	8.03	0.95
TERRA-366	0.76	29.47	14.60	1.23	0.82	25.63	7.93	0.98
Grand mean	0.78	29.40	14.09	1.26	0.85	25.52	7.41	1.00
LSD	0.03	4.44	4.47	0.03	0.02	1.99	2.22	0.03
CV(%)	2.24	6.18	18.04	1.54	1.70	4.32	17.69	1.71

<sup>1</sup>Data in bold represents the best values for that variable and are not significantly different.

<sup>2</sup>Coefficient variability, %

<sup>3</sup>Short fiber content, %

Table 2e. Neps and seed coat fragment means for Bosket very fine sandy loam, Field 11<sup>1</sup>.

Cultivar	Neps		Seed coat fragment					
	Mean size,mm	No.	Motes,			Funiculi		
			No	Wt., g	No	Wt., g	No.	Wt., g
ACA-151788	0.78	380.67	87.67	35.13	3.33	5.43	6.67	1.23
CB-1233	0.77	330.33	<b>54.00</b>	18.57	3.00	6.03	6.00	1.43
CB-232	0.77	323.00	<b>56.50</b>	19.35	3.50	7.45	7.00	1.30
CB-333	0.75	289.00	<b>56.00</b>	21.93	3.00	5.73	6.67	1.20
CB-830	0.74	<b>209.00</b>	78.67	32.63	4.00	5.83	7.00	1.07
DES-119	0.74	264.33	71.00	23.43	4.67	6.47	7.00	1.57
DPL-20	0.74	330.67	<b>63.67</b>	20.13	4.00	5.73	6.00	1.30
DPL-50	0.75	293.67	<b>56.00</b>	19.97	3.67	5.90	7.00	1.60
DPL-51	0.75	351.33	<b>54.67</b>	26.07	3.67	7.30	7.33	1.23
DPL-5409	0.77	349.00	<b>60.00</b>	22.67	3.67	6.30	7.67	1.33
DPL-5415	0.74	268.67	<b>50.00</b>	22.83	4.33	10.83	7.33	1.43
DPL-90	0.76	281.00	<b>61.33</b>	26.03	4.33	5.87	6.33	1.10
GC-9042	0.75	270.00	<b>61.00</b>	22.07	3.00	4.77	7.00	1.20
HS-23	0.76	314.33	<b>54.00</b>	17.40	2.67	3.27	6.67	1.63
HZ-1215	0.75	259.33	108.00	31.07	3.33	5.60	7.00	1.17
HZ-1220	0.75	268.00	119.67	35.20	4.33	5.93	6.67	1.60
HZ-1244	0.74	257.67	116.00	30.90	3.33	8.17	6.00	1.67
HZ-1330	0.76	292.33	<b>61.00</b>	20.00	2.67	4.47	7.67	1.20
HZ-1380	0.77	396.00	65.33	34.60	3.33	4.60	7.33	1.57
MY-3055	0.76	319.67	<b>51.00</b>	16.77	2.67	5.20	5.33	1.40
OA-44	0.74	<b>236.67</b>	65.33	22.27	3.00	5.50	6.67	1.50
OA-50	0.76	290.00	73.33	27.87	4.33	7.33	6.67	0.97
PM-26	0.75	251.67	70.00	26.87	3.00	6.27	6.00	0.97
SG-125	0.73	266.33	<b>49.67</b>	14.33	3.00	3.47	7.00	1.53
SG-223	0.75	<b>244.33</b>	<b>54.33</b>	16.40	3.33	3.30	8.67	1.43
SG-404	0.74	<b>205.33</b>	<b>63.00</b>	22.97	3.67	7.10	5.00	1.07
SG-501	0.74	<b>225.33</b>	<b>61.33</b>	17.27	3.67	4.40	5.67	1.20
SS-9301	0.76	303.33	<b>54.00</b>	14.13	3.33	4.97	7.00	1.07
STV-132	0.75	258.33	<b>46.33</b>	14.60	2.33	3.67	5.00	0.80
STV-453	0.76	298.67	<b>54.67</b>	21.40	3.00	5.97	9.00	1.67
STV-474	0.74	<b>224.67</b>	72.33	30.07	3.33	6.10	5.67	0.90
STV-94332	0.76	259.67	<b>61.33</b>	20.07	3.33	0.97	6.00	0.93
STV-LA887	0.75	316.67	<b>49.33</b>	15.17	3.00	5.27	6.67	1.03
TERRA C40	0.76	343.00	<b>62.00</b>	18.60	4.50	0.25	10.50	1.75
TERRA-292	0.76	331.00	<b>53.67</b>	20.50	2.67	4.77	5.67	0.90
TERRA-302	0.74	295.67	71.67	26.70	4.33	8.17	6.67	0.90
TERRA-366	0.77	355.33	<b>52.67</b>	18.23	3.00	4.57	5.00	0.87
Grand mean	0.75	289.87	64.98	22.89	3.43	5.97	6.68	1.26
LSD	0.02	45.46	18.33	12.70	2.93	10.93	7.29	1.60
CV(%)	1.58	9.99	17.80	28.83	27.61	52.41	28.90	36.71

<sup>1</sup>Data in bold represents the best values for that variable and are not significantly different.

Table 3a. Foreign matter content, %, before and after cleaning for Sharkey clay soil, Field 14.

Cultivar	Seed cotton		Lint	
	Wagon	Feeder	Visible	Total
CB-232	4.70	1.75	1.03	1.81
CB-333	4.90	2.00	1.20	1.61
CB-830	4.45	2.05	1.38	2.35
DES-119	4.25	2.30	1.37	2.27
DPL-20	3.80	1.55	0.88	2.64
DPL-50	3.65	1.45	0.83	2.06
DPL-51	4.20	1.45	0.73	2.05
DPL-5409	4.15	1.60	0.87	1.88
GC-9042	4.50	1.75	0.81	2.28
HS-23	5.10	2.50	1.54	1.86
HZ-1215	4.10	1.60	0.89	2.89
HZ-1220	5.00	1.40	0.72	1.88
HZ-1244	5.00	1.80	0.90	1.70
HZ-1330	4.90	2.10	1.07	1.93
HZ-1380	4.95	2.10	1.28	1.68
MY-3055	5.40	1.65	1.00	2.37
OA-44	4.80	1.70	0.75	2.21
OA-50	4.85	1.70	0.90	1.59
SG-125	3.85	1.50	0.65	2.08
SG-223	5.55	2.40	1.06	1.94
SG-404	4.10	1.75	0.91	2.08
SG-501	5.40	1.95	0.98	2.07
SS-9301	4.90	1.85	1.12	2.42
STV-132	4.70	1.90	0.82	1.86
STV-453	5.15	2.30	1.34	2.34
STV-474	6.15	2.10	1.19	2.34
STV-94332	4.60	1.70	0.77	1.82
STV-LA887	4.80	1.85	0.90	2.11
TERRA C-40	3.95	1.65	0.88	2.14
TERRA-292	4.60	1.50	1.01	2.09
TERRA-302	5.10	1.85	1.10	2.08
TERRA-366	5.20	1.95	0.94	2.17
Grand mean	4.71	1.83	0.99	2.08
LSD	1.38	0.37	0.20	0.66
CV(%)	11.32	9.83	10.41	12.61



Table 3b. Performance of 32 cultivars in the Early Maturing Cotton Cultivar Test grown on a Sharkey clay soil at Elizabeth, MS, in 1994 and ginned on the microgin<sup>1</sup> at the USDA-ARS Ginning Laboratory (Field 14).<sup>2,3</sup>

Cultivar	Gin										Gross <sup>4</sup> returns
	Lint yield	turn-out	Micro-inaire	Length (UHM)	Unif. index	Stren- <sub>g</sub>	Leaf <sub>grd</sub>	Color <sub>grd</sub>			
	lbs/A	%		in.	%	g/tex			\$/A		
HZ-1215	<b>750</b>	36.8	4.10	1.10	82.8	28.6	2.2	31.0	<b>391.06</b>		
STV-474	<b>722</b>	37.4	4.42	1.05	82.2	27.3	2.7	36.0	<b>363.53</b>		
SG-404	<b>710</b>	34.6	4.55	1.07	82.5	29.0	1.8	31.5	<b>366.35</b>		
HS 23	680	34.0	3.97	1.07	82.0	27.9	3.2	31.0	349.64		
SG-223	680	36.2	4.77	1.08	82.5	29.1	3.0	31.5	345.74		
STV-453	672	35.9	4.17	1.06	81.3	26.3	3.3	31.0	338.57		
HZ-1244	666	36.4	3.80	1.09	83.0	28.4	2.0	31.0	346.71		
SG-125	665	36.5	4.40	1.08	82.7	27.4	1.7	31.0	343.93		
HZ-1220	664	37.2	4.17	1.09	83.5	28.9	2.0	26.0	346.91		
STV-LA887	661	35.8	4.15	1.08	81.8	28.9	2.2	32.0	338.02		
STV-132	660	37.4	4.07	1.07	82.0	28.0	2.0	31.0	340.95		
CB-830	655	34.0	4.38	1.06	82.5	30.0	2.7	31.0	339.32		
DPL-5409	654	35.7	4.08	1.07	81.0	27.3	2.0	31.0	337.98		
DPL-51	652	36.0	4.38	1.07	81.8	26.7	1.7	31.0	335.27		
MY-3055	643	33.3	4.00	1.10	81.5	28.3	2.3	31.0	334.80		
Terra-366	637	33.7	4.22	1.06	81.7	26.9	2.0	31.0	327.97		
SG-501	637	36.2	4.52	1.09	83.2	29.8	2.0	31.0	331.71		
DPL-50	637	33.4	4.35	1.08	81.3	27.0	1.7	31.0	329.06		
CB-232	637	33.4	4.22	1.09	81.7	27.8	2.7	31.0	330.74		
OA-50	634	34.9	4.17	1.10	82.0	28.9	1.7	31.0	330.66		
HZ-1330	630	34.6	4.25	1.09	82.8	29.5	2.3	31.0	329.13		
STV-94332	623	35.0	4.30	1.08	81.7	27.9	2.0	31.0	322.27		
DPL-20	619	35.0	4.05	1.05	81.5	27.3	1.8	31.0	318.33		
DES-119	612	34.8	4.40	1.07	82.8	28.5	2.5	31.0	314.34		
Terra -292	592	33.3	4.30	1.08	81.3	26.7	2.0	31.0	305.35		
GC 9042	589	36.7	4.10	1.08	81.8	28.2	1.5	31.0	305.96		
OA 44	580	34.5	4.73	1.08	83.0	30.0	1.7	31.0	303.10		
Terra C-40	558	35.0	4.18	1.06	81.5	27.1	1.8	31.0	286.43		
HZ-1380	558	35.4	4.00	1.11	81.8	27.6	2.3	31.0	289.63		
CB-333	551	34.1	4.12	1.07	81.8	28.0	2.8	31.0	285.17		
Terra- 302	507	35.1	4.33	1.06	81.7	27.1	1.8	31.5	255.66		
SS-9301	439	33.6	3.77	1.12	82.2	28.3	2.2	31.0	227.00		
Mean	630	35.2	4.23	1.08	82.1	28.1	2.2	31.1	325.32		
LSD (0.05)	53	0.8	0.22	0.02	0.7	1	0.5	NS	29.42		
CV(%)	4.3	1.3	2.7	0.8	0.4	1.8	10.7	5.6	4.7		

<sup>1</sup>Gin sequence included tower dryer, cylinder cleaner, stick machine, tower dryer, cylinder cleaner, gin stand, and two lint cleaners.

<sup>2</sup>Data in this table reflect results from ginning all seed cotton from plots through a commercial gin sequence.

<sup>3</sup>Data in bold represents the best values for that variable and are not significantly different.

<sup>4</sup>Base price of \$0.50/lb; premiums based on fiber data shown; does not reflect actual price differences in cash market.

Table 3c. High volume instrument classification for Sharkey clay soil, Field 14.

Cultivar	HVI color	RD	Plus b	Trash, % area
CB-232	100.00	75.17	9.25	1.83
CB-333	100.00	74.50	9.32	2.17
CB-830	100.00	75.67	8.92	2.00
DES-119	98.50	73.00	9.45	2.50
DPL-20	101.33	76.50	9.05	1.17
DPL-50	100.67	75.83	9.05	1.17
DPL-51	100.67	76.17	9.20	1.17
DPL-5409	100.00	75.17	9.23	1.67
GC-9042	100.67	75.33	9.33	0.83
HS-23	100.00	74.67	9.00	3.83
HZ-1215	100.67	76.33	9.10	2.00
HZ-1220	102.67	77.17	9.05	1.17
HZ-1244	101.33	76.67	9.08	1.33
HZ-1330	100.00	75.00	9.07	2.50
HZ-1380	100.00	75.67	8.77	2.00
MY-3055	100.00	76.00	8.90	2.33
OA-44	99.50	75.00	9.40	0.50
OA-50	100.00	74.83	9.32	1.17
SG-125	100.00	74.50	9.45	1.17
SG-223	98.00	73.50	9.35	2.33
SG-404	99.00	74.00	9.57	1.50
SG-501	98.50	74.00	9.47	1.83
SS-9301	100.67	76.67	9.03	2.50
STV-132	100.00	76.50	8.63	1.33
STV-453	99.50	74.33	9.20	3.33
STV-474	98.00	73.33	9.55	2.67
STV-94332	100.00	75.50	9.38	1.50
STV-LA887	97.83	73.50	10.03	2.33
TERRA C-40	100.00	76.17	9.15	1.83
TERRA-292	100.00	75.67	8.98	1.33
TERRA-302	98.50	74.17	9.63	1.67
TERRA-366	100.00	76.33	8.83	1.67
Grand mean	99.88	75.21	9.21	1.82
LSD	1.47	0.81	0.32	0.85
CV(%)	0.70	0.57	1.74	22.93

Table 3d. Length distribution for Sharkey clay soil, Field 14<sup>1</sup>.

Cultivar	By number				By weight					
	Mean	Length,	Mean	Length,	Mean	Length,	Mean	Length,		
	length, CVN, SFC,	1% level	length, CVN	SFC	25%	length,	CVN	SFC	25%	
in.	% <sup>2</sup>	% <sup>3</sup>	in.	% <sup>2</sup>	% <sup>3</sup>	in.	% <sup>2</sup>	% <sup>3</sup>	in.	
CB-232	0.79	27.55	<b>12.25</b>	1.24	0.84	24.05	<b>6.60</b>	0.99		
CB-333	0.75	29.50	16.15	1.20	0.81	25.40	8.65	0.95		
CB-830	0.76	29.30	<b>15.85</b>	1.20	0.81	25.00	<b>8.40</b>	0.96		
DES-119	0.79	27.35	<b>11.50</b>	1.25	0.85	24.00	<b>6.20</b>	1.00		
DPL-20	0.72	31.10	19.75	1.18	0.79	26.60	10.80	0.93		
DPL-50	0.74	31.90	19.40	1.23	0.80	27.10	10.35	0.96		
DPL-51	0.74	31.25	18.70	1.22	0.81	26.80	10.15	0.97		
DPL-5409	0.75	32.10	18.40	1.25	0.83	27.10	9.65	0.99		
GC-9042	0.76	29.25	<b>15.30</b>	1.21	0.82	25.35	<b>8.30</b>	0.96		
HS-23	0.77	30.15	<b>15.55</b>	1.25	0.83	25.95	<b>8.30</b>	0.98		
HZ-1215	0.80	28.95	<b>13.25</b>	1.25	0.86	24.25	<b>6.60</b>	1.01		
HZ-1220	0.78	30.20	<b>15.55</b>	1.25	0.85	25.25	<b>7.90</b>	1.00		
HZ-1244	0.77	32.35	18.15	1.25	0.84	26.65	9.05	1.00		
HZ-1330	0.81	27.80	<b>11.45</b>	1.26	0.87	24.00	<b>5.90</b>	1.02		
HZ-1380	0.78	29.25	<b>14.05</b>	1.25	0.84	25.30	<b>7.40</b>	0.99		
MY-3055	0.75	33.00	20.10	1.24	0.82	27.60	10.55	0.99		
OA-44	0.80	28.10	<b>12.40</b>	1.24	0.86	24.20	<b>6.45</b>	1.01		
OA-50	0.80	29.80	<b>13.55</b>	1.28	0.86	25.75	<b>7.00</b>	1.02		
SG-125	0.77	28.70	<b>14.40</b>	1.21	0.83	24.75	<b>7.70</b>	0.98		
SG-223	0.76	28.80	<b>14.70</b>	1.21	0.82	24.85	<b>7.90</b>	0.97		
SG-404	0.78	28.10	<b>13.45</b>	1.22	0.83	24.25	<b>7.15</b>	0.97		
SG-501	0.81	26.25	<b>9.95</b>	1.24	0.86	23.00	<b>5.20</b>	1.00		
SS-9301	0.82	30.45	<b>12.45</b>	1.34	0.90	25.85	<b>6.00</b>	1.06		
STV-132	0.76	30.55	16.80	1.22	0.83	25.60	8.65	0.98		
STV-453	0.73	30.10	17.75	1.21	0.79	26.30	9.95	0.94		
STV-474	0.74	29.55	17.05	1.18	0.79	25.50	9.30	0.94		
STV-94332	0.75	33.15	19.75	1.26	0.82	27.75	10.25	0.99		
STV-LA887	0.77	29.65	<b>15.40</b>	1.24	0.83	25.65	<b>8.25</b>	0.99		
TERRA C40	0.72	31.80	20.50	1.19	0.79	27.00	11.20	0.94		
TERRA-292	0.75	32.60	18.95	1.26	0.82	27.65	9.90	0.99		
TERRA-302	0.76	30.05	<b>15.55</b>	1.23	0.82	25.85	<b>8.20</b>	0.97		
TERRA-366	0.74	30.85	18.65	1.20	0.80	26.50	10.15	0.95		
Grand mean	0.76	29.98	15.83	1.24	0.83	25.65	8.38	0.98		
LSD	0.05	3.68	6.15	0.07	0.05	2.44	3.44	0.05		
CV(%)	2.91	5.04	16.00	2.18	2.45	4.02	16.96	2.12		

<sup>1</sup>Data in bold represents the best values for that variable and are not significantly different.

<sup>2</sup>Coefficient variability, %

<sup>3</sup>Short fiber content, %

Table 3e. Neps and seed coat fragment means for Sharkey clay soil, Field 14<sup>1</sup>.

Cultivar	Neps				Seed Coat Fragment			
	Mean	No.		Wt.,g	Motes,		Funiculi	
	size,mm	No.	No.	No.	Wt.,g	No.	Wt.,g	
CB-232	0.75	263.50	<b>57.50</b>	15.40	3.50	5.00	6.50	1.30
CB-333	0.74	269.00	<b>59.00</b>	17.90	5.50	9.70	10.00	1.75
CB-830	0.75	<b>235.50</b>	<b>55.00</b>	17.55	4.00	7.65	10.50	2.35
DES-119	0.72	<b>226.50</b>	75.50	18.55	6.00	9.65	12.50	2.20
DPL-20	0.75	321.50	<b>50.00</b>	12.25	4.50	10.50	10.00	1.35
DPL-50	0.74	281.00	<b>50.00</b>	13.70	2.50	5.80	8.00	1.50
DPL-51	0.73	294.00	<b>53.00</b>	16.25	2.50	6.65	10.00	1.65
DPL-5409	0.74	272.00	<b>53.50</b>	11.45	4.50	11.80	11.00	1.20
GC-9042	0.74	267.00	<b>50.50</b>	18.60	3.00	3.65	7.00	1.15
HS-23	0.74	273.50	<b>49.00</b>	17.55	3.50	8.80	8.00	1.55
HZ-1215	0.74	285.00	120.00	37.35	6.50	14.65	10.50	3.10
HZ-1220	0.72	<b>239.50</b>	110.00	30.30	5.00	10.10	7.50	2.10
HZ-1244	0.75	283.00	99.50	25.95	5.50	9.85	10.00	3.05
HZ-1330	0.74	<b>246.50</b>	<b>55.00</b>	10.75	2.00	2.40	9.50	1.30
HZ-1380	0.75	341.00	<b>48.00</b>	18.40	6.50	17.50	11.00	1.30
MY-3055	0.74	313.50	<b>55.00</b>	14.85	4.50	5.65	10.50	2.05
OA-44	0.73	<b>189.50</b>	<b>58.50</b>	19.85	4.00	7.15	8.50	1.70
OA-50	0.76	306.00	67.50	21.45	5.00	18.50	8.50	1.40
SG-125	0.73	<b>224.00</b>	<b>41.00</b>	9.25	3.00	5.75	8.50	2.25
SG-223	0.70	<b>210.00</b>	<b>54.50</b>	17.05	4.50	6.65	10.00	2.35
SG-404	0.75	<b>213.50</b>	<b>59.50</b>	22.65	5.00	8.80	10.00	1.35
SG-501	0.71	<b>217.50</b>	<b>57.50</b>	17.75	3.00	1.90	9.00	1.55
SS-9301	0.75	340.50	<b>57.00</b>	17.85	6.50	16.75	7.50	1.05
STV-132	0.73	317.50	<b>47.00</b>	12.10	4.50	12.80	7.50	1.50
STV-453	0.76	275.00	<b>53.00</b>	20.90	7.00	16.10	8.50	1.60
STV-474	0.74	<b>235.50</b>	<b>52.50</b>	14.95	2.50	3.85	13.00	1.85
STV-94332	0.74	265.50	<b>54.00</b>	13.80	4.50	14.35	8.00	1.85
STV-LA887	0.75	278.50	<b>48.50</b>	13.75	4.50	9.65	5.50	0.90
TERRA C40	0.74	327.50	<b>51.50</b>	13.25	4.50	14.20	8.50	1.45
TERRA-292	0.73	280.00	<b>61.00</b>	18.35	8.00	13.80	10.50	1.25
TERRA-302	0.72	<b>248.50</b>	64.50	26.05	4.50	10.40	9.50	1.90
TERRA-366	0.74	270.00	<b>56.00</b>	17.70	4.50	8.70	11.00	1.35
Grand mean	0.74	269.09	60.13	17.92	4.53	9.65	9.27	1.69
LSD	0.03	61.95	19.24	8.58	2.93	15.23	9.69	2.43
CV(%)	1.67	10.56	16.06	22.43	27.01	51.75	26.52	40.38

<sup>1</sup>Data in bold represents the best values for that variable and are not significantly different.

Table 4a. Foreign matter content, %, before and after cleaning for Bosket very fine sandy loam, Field 21.

Cultivar	Seed cotton		Lint	
	Wagon	Feeder	Visible	Total
CB-1233	5.27	1.77	1.17	2.54
DPL-50	5.00	1.57	0.84	2.20
DPL-5415	4.63	1.57	0.86	2.18
GC-9033	5.63	1.67	1.02	2.23
HS-44	4.93	1.63	0.86	2.22
HS-46	5.93	1.80	0.95	2.10
HX-1560	4.77	1.97	1.16	2.19
HY-39	5.57	1.97	1.17	2.29
MD 51 ne	5.47	1.77	0.86	1.98
MY-1185	5.13	1.83	1.39	2.61
MY-2006	5.47	1.73	0.87	2.13
MY-2009	5.30	2.07	1.45	2.74
MY-3076	5.00	1.63	0.95	2.14
MY-3077	5.17	1.83	0.98	2.24
OA-13	5.33	2.20	1.36	2.53
OA-8	6.03	2.30	1.30	2.61
SS-9202	5.70	1.60	0.91	2.19
STV-LA887	4.80	1.97	1.10	2.32
Grand mean	5.28	1.82	1.07	2.30
LSD	1.47	0.33	0.16	0.30
CV(%)	10.93	10.35	9.83	7.60

Table 4b. Performance of 17 cultivars in the Mid-season Cotton Cultivar Test grown on a Bosket very fine sandy loam at Stoneville, MS, in 1994 and ginned on the microgin<sup>1</sup> at the USDA-ARS Ginning Laboratory (Field 21).<sup>2,3</sup>

Cultivar	Gin								Gross <sup>4</sup> returns
	Lint yield	turn-out	Micro-inaire	Length (UHM)	Unif. index	Stren- gth	Leaf grd	Color grd	
	%		in.	%	g/tex				\$/A
HX-1560	<b>1129</b>	35.2	4.44	1.09	82.3	28.4	3.2	34.3	<b>581.80</b>
STV-LA887	<b>1126</b>	36.0	4.33	1.10	81.9	28.9	3.0	31.3	<b>577.68</b>
OA-8	<b>1091</b>	33.9	4.17	1.08	81.8	27.8	3.3	31.0	<b>562.14</b>
CB-1233	<b>1069</b>	33.8	4.23	1.08	81.9	28.1	2.3	34.3	<b>552.63</b>
MY-3076	1061	34.3	4.51	1.08	81.6	29.9	1.9	34.3	<b>551.86</b>
OA-13	1028	33.7	4.00	1.11	81.6	28.6	3.2	31.0	533.59
DPL-5415	1026	36.6	4.77	1.07	81.7	27.7	1.8	31.0	525.45
MY-3077	1015	32.8	4.40	1.09	81.6	29.4	2.7	31.0	528.58
MY-2006	1002	34.2	4.48	1.10	81.6	28.8	2.0	31.0	521.84
DPL-50	1001	32.6	4.41	1.08	81.6	26.5	2.0	31.0	514.51
HY-39	996	33.5	4.26	1.09	82.2	29.3	2.7	31.0	519.00
HS-46	994	34.6	4.23	1.09	81.8	29.1	2.1	31.0	515.56
MD 51 ne	973	34.5	4.52	1.08	82.0	30.6	2.1	31.0	509.35
HS-44	971	33.9	4.71	1.08	81.1	28.7	1.9	31.0	504.87
GC-9033	966	33.9	4.40	1.07	81.6	29.0	2.0	31.0	501.86
MY-1185	964	32.8	3.88	1.11	81.6	30.3	3.0	34.3	502.96
SS-9202	948	33.7	4.46	1.07	81.9	29.3	2.3	31.0	492.19
MY-2009	921	33.0	4.33	1.09	82.2	29.5	3.2	34.3	478.14
Grand mean	1016	34.1	4.36	1.09	81.8	28.9	2.5	31.9	526.33
LSD (0.05)	66	0.6	0.19	0.01	1.25	0.7	0.3	NS	39.32
CV (%)	3.9	1.1	2.8	0.8	0.6	1.6	7.9	9.4	4.4

<sup>1</sup>Gin sequence included tower dryer, cylinder cleaner, stick machine, tower dryer, cylinder cleaner, gin stand, and two lint cleaners.

<sup>2</sup>Data in this table reflect results from ginning all seed cotton from plots through a commercial gin sequence.

<sup>3</sup>Data in bold represents the best values for that variable and are not significantly different.

<sup>4</sup>Base price of \$0.50/lb; premiums based on fiber data shown; does not reflect actual price differences in cash market.

Table 4c. High volume instrument classification for Bosket very fine sandy loam, Field 21.

Cultivar	HVI color	RD	Plus b	Trash, % area
CB-1233	98.00	74.89	8.51	2.22
DPL-50	100.00	75.22	8.58	1.44
DPL-5415	100.00	76.06	8.53	1.44
GC-9033	100.00	75.11	8.78	1.44
HS-44	99.33	75.33	8.81	1.22
HS-46	99.00	74.33	9.06	1.67
HX-1560	98.67	73.33	9.23	3.11
HY-39	98.67	74.89	8.64	2.33
MD 51 ne	98.11	73.89	9.11	1.56
MY-1185	99.33	74.78	8.67	2.33
MY-2006	99.33	75.89	8.52	1.56
MY-2009	98.00	74.56	8.64	2.33
MY-3076	98.67	74.33	8.98	1.44
MY-3077	99.67	73.67	9.18	1.89
OA-13	98.00	75.00	8.39	2.89
OA-8	99.33	75.56	8.34	2.78
SS-9202	100.00	74.56	8.98	2.00
STV-LA887	97.67	72.89	9.47	2.67
Grand mean	98.99	74.68	8.80	2.02
LSD	4.04	1.07	0.25	1.09
CV(%)	1.39	0.86	1.87	28.82

Table 4d. Length distribution for Bosket very fine sandy loam, Field 21<sup>1</sup>.

Cultivar	By number				By weight			
	Mean length, in.	CVN, % <sup>2</sup>	SFC, % <sup>3</sup>	Length, 1% level	Mean length, in.	CVN, % <sup>2</sup>	SFC, % <sup>3</sup>	Length, 25% level
CB-1233	0.76	30.80	<b>16.20</b>	1.26	0.84	26.47	8.53	0.99
DPL-50	0.75	31.27	17.10	1.24	0.83	26.73	9.00	0.99
DPL-5415	0.75	32.57	19.23	1.25	0.83	27.53	10.10	0.99
GC-9033	0.75	31.37	18.03	1.23	0.82	26.53	9.53	0.98
HS-44	0.75	31.90	18.47	1.24	0.83	27.00	9.73	0.99
HS-46	0.76	31.70	<b>16.97</b>	1.26	0.84	26.83	8.73	1.01
HX-1560	0.79	28.77	<b>13.07</b>	1.25	0.85	24.77	<b>6.73</b>	1.00
HY-39	0.77	31.00	<b>16.23</b>	1.26	0.84	26.40	<b>8.43</b>	1.00
MD 51 ne	0.76	30.53	<b>16.37</b>	1.24	0.83	26.10	8.63	0.99
MY-1185	0.81	29.00	<b>11.97</b>	1.30	0.87	25.03	<b>6.00</b>	1.03
MY-2006	0.78	30.73	<b>14.90</b>	1.28	0.86	26.40	<b>7.63</b>	1.02
MY-2009	0.77	30.53	<b>15.73</b>	1.25	0.83	26.07	<b>8.13</b>	0.99
MY-3076	0.76	31.33	17.17	1.25	0.83	26.63	8.93	0.99
MY-3077	0.78	30.43	<b>14.80</b>	1.28	0.85	26.20	<b>7.67</b>	1.02
OA-13	0.78	32.10	<b>16.13</b>	1.30	0.86	27.13	<b>8.13</b>	1.03
OA-8	0.78	29.33	<b>13.93</b>	1.25	0.84	25.40	<b>7.30</b>	1.00
SS-9202	0.76	30.27	<b>15.83</b>	1.24	0.84	25.83	<b>8.27</b>	0.99
STV-LA887	0.76	30.30	<b>16.03</b>	1.25	0.83	26.13	8.50	0.99
Grand mean	0.77	30.77	16.00	1.26	0.84	26.29	8.33	1.00
LSD	0.03	3.97	5.08	0.05	0.03	2.54	2.48	0.03
CV(%)	2.09	4.97	14.27	1.77	1.68	3.86	14.26	1.47

<sup>1</sup>Data in bold represents the best values for that variable and are not significantly different.

<sup>2</sup>Coefficient variability, %

<sup>3</sup>Short fiber content, %

Table 4e. Neeps and seed coat fragment means for Bosket very fine sandy loam, Field 21<sup>1</sup>.

Cultivar	Neeps		Seed Coat Fragment					
	Mean size, mm	No.	No.	Wt., g	Motes, No.	Funiculi, No.	Wt., g	
CB-1233	0.76	330.33	<b>57.33</b>	17.43	3.33	4.93	1.53	
DPL-50	0.75	306.67	<b>54.00</b>	18.73	3.33	3.77	1.30	
DPL-5415	0.74	297.00	<b>56.00</b>	22.53	2.33	4.83	1.33	
GC-9033	0.75	<b>277.67</b>	<b>55.67</b>	19.40	2.67	3.27	1.37	
HS-44	0.74	<b>284.67</b>	<b>59.00</b>	42.77	2.67	4.37	1.43	
HS-46	0.75	298.00	69.67	20.77	3.33	4.37	1.43	
HX-1560	0.74	302.67	<b>50.33</b>	16.07	3.00	4.90	1.60	
HY-39	0.76	313.00	<b>49.00</b>	20.23	2.33	4.83	2.10	
MD 51 ne	0.75	<b>246.33</b>	<b>51.33</b>	13.40	3.33	6.67	1.53	
MY-1185	0.78	358.00	67.67	22.93	3.33	4.30	1.17	
MY-2006	0.74	317.67	<b>49.00</b>	17.87	2.33	5.23	1.03	
MY-2009	0.77	320.00	71.67	29.47	3.00	3.70	1.13	
MY-3076	0.74	<b>284.67</b>	<b>44.67</b>	15.83	2.67	3.87	1.80	
MY-3077	0.76	<b>285.67</b>	<b>55.33</b>	15.50	2.33	3.83	1.43	
OA-13	0.77	348.00	<b>55.33</b>	16.00	3.67	6.57	1.53	
OA-8	0.77	322.67	<b>50.00</b>	14.97	2.33	2.30	1.97	
SS-9202	0.75	<b>269.33</b>	<b>50.00</b>	11.83	2.00	2.20	1.53	
STV-LA887	0.76	321.67	<b>49.00</b>	17.00	3.00	5.93	1.97	
Grand mean	0.75	304.67	55.28	19.60	2.83	4.44	6.61	1.51
LSD	0.03	49.76	15.80	26.63	1.41	5.92	1.48	
CV(%)	1.82	8.86	14.63	52.99	22.01	46.62	31.59	33.51

<sup>1</sup>Data in bold represents the best values for that variable and are not significantly different.

Table 5a. Foreign matter content, %, before and after cleaning for Sharkey clay soil, Field 24.

Cultivar	Seed cotton		Lint	
	Wagon	Feeder	Visible	Total
CB-1233	3.45	1.75	1.06	2.51
DPL-50	4.25	1.45	0.80	2.61
DPL-5415	3.15	1.50	0.88	2.19
GC-9033	6.10	2.20	0.95	2.52
HS-44	4.25	1.85	0.91	2.73
HS-46	4.45	2.30	0.87	2.84
HX-1560	3.55	1.85	1.27	3.33
HY-39	4.15	1.85	1.13	3.25
MY-1185	5.50	1.75	1.43	3.39
MY-2006	4.10	1.70	0.90	2.72
MY-2009	3.30	1.80	1.14	2.70
MY-3076	4.60	1.85	1.12	2.98
MY-3077	4.70	2.00	0.99	2.80
OA-13	4.80	2.25	1.16	2.57
OA-8	4.90	2.00	1.12	2.95
SS-9202	4.70	1.75	1.03	3.10
STV-LA887	4.05	2.00	0.94	2.78
Grand mean	4.35	1.87	1.04	2.82
LSD	2.84	0.88	0.26	0.41
CV(%)	21.21	15.22	10.89	6.70

Table 5b. Performance of 17 cultivars in the Mid-season Cotton Cultivar Test grown on a Sharkey clay soil in Elizabeth, MS, in 1994 and ginned on the microgin<sup>1</sup> at the USDA-ARS Ginning Laboratory (Field 24).<sup>2,3</sup>

Cultivar	Gin								Gross <sup>4</sup> returns	
	Lint yield	turn-out	Micro-naire (UHM) in.	Length (UHM) %	Unif. index %	Stren-g/tex	Leaf-grd	Color-grd		
OA-13	<b>696</b>	34.0	4.00	1.10	82.0	28.8	3.0	31.0	<b>363.80</b>	
OA-8	<b>695</b>	34.4	4.10	1.08	81.5	28.2	2.5	31.0	<b>360.08</b>	
DPL-50	<b>676</b>	33.4	4.25	1.06	81.5	26.6	2.0	31.5	<b>343.85</b>	
STV-LA887	<b>674</b>	33.9	4.20	1.09	81.0	28.9	2.5	32.0	<b>346.36</b>	
HX 1560	<b>616</b>	35.8	4.05	1.08	83.0	28.9	2.0	31.5	<b>316.66</b>	
CB-1233	597	33.8	4.15	1.08	81.0	28.3	2.0	36.5	<b>303.38</b>	
HS-46	577	35.1	3.95	1.09	82.0	29.8	2.0	31.5	<b>299.90</b>	
HY-39	565	33.1	4.00	1.10	82.0	29.6	2.5	31.0	296.16	
GC-9033	554	34.1	4.00	1.06	82.0	30.1	2.0	31.0	289.18	
DPL-5415	553	34.8	4.25	1.05	81.0	27.8	1.5	31.0	279.81	
HS-44	550	34.1	4.25	1.06	80.5	28.8	2.0	31.0	284.62	
MY-3076	542	33.4	3.90	1.08	82.0	30.8	2.0	31.5	281.08	
MY-1185	533	32.3	4.00	1.11	82.0	31.3	3.0	31.0	280.99	
SS-9202	528	33.5	4.00	1.05	82.0	29.5	2.0	31.5	271.50	
MY-2006	517	33.9	4.15	1.10	81.5	28.7	2.0	31.0	269.91	
MY-3077	505	32.6	4.15	1.09	82.5	29.2	2.0	32.0	258.19	
MY-2009	496	32.7	4.15	1.09	82.0	30.3	2.0	31.5	256.88	
Grand mean	581	33.8	4.09	1.08	81.7	29.1	2.2	31.6	300.14	
LSD (0.05)		88	3.1	0.50	0.04	2.2	1.5	0.9	N S	
CV(%)	64.22	6.8	3.1	3.7	1.5	0.5	2.4	5.8	5.1	8.9

<sup>1</sup>Gin sequence included tower dryer, cylinder cleaner, stick machine, tower dryer, cylinder cleaner, gin stand, and two lint cleaners.

<sup>2</sup>Data in this table reflect results from ginning all seed cotton from plots through a commercial gin sequence.

<sup>3</sup>Data in bold represents the best values for that variable and are not significantly different.

<sup>4</sup>Base price of \$0.50/lb; premiums based on fiber data shown; does not reflect actual price differences in cash market.

Table 5c. High volume instrument classification for Sharkey clay soil, Field 24.

Cultivar	HVI		Trash,	
	Color	RD	Plus b	% area
CB-1233	95.50	73.00	9.45	1.50
DPL-50	100.00	75.00	9.10	1.00
DPL-5415	100.00	76.00	8.75	1.50
GC-9033	100.00	74.50	9.10	2.00
HS-44	100.00	74.50	9.30	2.50
HS-46	98.50	74.00	9.60	1.50
HX-1560	98.50	74.00	9.65	2.00
HY-39	100.00	74.50	9.05	2.50
MY-1185	100.00	74.00	9.15	3.00
MY-2006	100.00	75.50	9.20	1.50
MY-2009	100.00	75.00	9.10	2.00
MY-3076	100.00	74.50	9.35	1.00
MY-3077	97.00	73.50	9.75	1.50
OA-13	100.00	76.00	8.65	2.00
OA-8	100.00	75.50	8.65	3.00
SS-9202	98.50	74.00	9.45	2.00
STV-LA887	97.00	72.50	10.05	2.00
Grand mean	99.12	74.47	9.56	1.91
LSD	2.51	2.25	0.37	1.90
CV(%)	1.07	1.17	1.94	34.01

Table 5d. Length distribution for Sharkey clay soil, Field 24<sup>1</sup>.

Cultivar	By number				By weight			
	Mean length, in.	CVN, % <sup>2</sup>	SFC, % <sup>3</sup>	Length 1% level	Mean length, in.	CVN, % <sup>2</sup>	SFC, % <sup>3</sup>	Length 25% level
CB-1233	0.76	28.70	<b>14.55</b>	1.22	0.82	24.95	<b>7.85</b>	0.97
DPL-50	0.72	32.00	19.95	1.21	0.80	27.10	10.70	0.96
DPL-5415	0.75	29.60	<b>16.05</b>	1.21	0.82	25.25	<b>8.50</b>	0.97
GC-9033	0.74	33.00	20.50	1.23	0.82	27.50	10.70	0.98
HS-44	0.71	34.90	23.70	1.22	0.80	28.85	12.50	0.97
HS-46	0.75	32.65	<b>18.50</b>	1.26	0.83	27.30	<b>9.45</b>	0.99
HX-1560	0.76	34.45	19.95	1.29	0.85	28.25	9.95	1.02
HY-39	0.74	31.20	<b>18.30</b>	1.21	0.81	26.40	<b>9.75</b>	0.97
MY-1185	0.78	29.95	<b>14.05</b>	1.28	0.86	25.50	<b>7.15</b>	1.01
MY-2006	0.76	31.60	<b>17.50</b>	1.24	0.83	26.60	<b>9.05</b>	1.00
MY-2009	0.78	29.20	<b>13.60</b>	1.26	0.85	24.95	<b>6.95</b>	1.01
MY-3076	0.77	31.55	<b>16.80</b>	1.25	0.84	26.40	<b>8.55</b>	1.00
MY-3077	0.77	29.45	<b>14.40</b>	1.25	0.84	25.30	<b>7.50</b>	0.99
OA-13	0.76	30.15	<b>15.75</b>	1.24	0.83	25.70	<b>8.20</b>	0.99
OA-8	0.74	30.05	<b>16.50</b>	1.21	0.81	25.85	<b>8.85</b>	0.96
SS-9202	0.76	29.45	<b>15.30</b>	1.22	0.83	25.05	<b>8.05</b>	0.98
STV-LA887	0.74	32.45	19.35	1.23	0.82	27.15	10.10	0.98
Grand mean	0.75	31.19	17.34	1.24	0.83	26.36	9.05	0.99
LSD	0.04	2.87	5.22	0.04	0.03	1.89	2.87	0.03
CV(%)	2.21	4.05	12.47	1.51	1.68	3.13	12.99	1.41

<sup>1</sup>Data in bold represents the best values for that variable and are not significantly different.

<sup>2</sup>Coefficient variability, %

<sup>3</sup>Short fiber content, %

Table 5e. Neps and seed coat fragment means for Sharkey clay soil, Field 24<sup>1</sup>.

Cultivar	Neps		Seed Coat Fragment					
	Mean size,mm	No.	No.	Wt., g	Motes.		Funiculi	
					No.	Wt., g	No.	Wt., g
CB-1233	0.75	356.00		11.60	3.50	5.70		1.65
DPL-50	0.75	<b>331.00</b>		12.95	3.00	4.70		1.40
DPL-5415	0.74	<b>277.00</b>		17.70	3.00	5.60		1.40
GC-9033	0.75	<b>278.50</b>		18.10	3.50	7.40		1.00
HS-44	0.74	<b>277.50</b>		13.95	2.00	2.85		1.00
HS-46	0.76	<b>292.50</b>		11.05	2.00	2.55		1.10
HX-1560	0.75	<b>328.00</b>		16.80	3.00	4.65		1.55
HY-39	0.76	<b>341.00</b>		17.55	1.50	2.35		0.95
MY-1185	0.77	356.00		16.25	3.00	4.15		1.90
MY-2006	0.75	<b>297.00</b>		11.90	1.50	2.00		1.80
MY-2009	0.73	<b>278.50</b>		16.45	2.50	2.25		1.75
MY-3076	0.74	<b>278.50</b>		19.85	3.00	7.75		2.35
MY-3077	0.76	<b>292.00</b>		15.10	2.50	7.15		2.25
OA-13	0.76	<b>270.50</b>		16.35	2.50	5.65		1.80
OA-8	0.73	<b>283.00</b>		13.00	2.00	4.60		1.80
SS-9202	0.74	<b>258.50</b>		13.60	2.50	3.30		1.10
STV-LA887	0.75	<b>282.50</b>		13.20	2.50	3.50		1.10
Grand mean	0.75	298.71	48.18	15.02	2.56	4.48	5.76	1.52
LSD	0.03	83.33		12.86	2.08	5.93		1.95
CV(%)	1.48	10.20	16.78	25.15	27.22	45.39	31.41	39.00

<sup>1</sup>Data in bold represents the best values for that variable and are not significantly different.

Table 6. Short fiber content, neps and seed coat fragments for the cultivars yielding the highest monetary returns for each field.

Cultivar	Short fiber content,	Neps	Seed coat	\$ per acre
	% by weight	per gram	fragments per 3 grams	
<u>Bosket very fine sandy loam, Field 11</u>				
HZ-1220	5.4	268	120	590.94
HZ-1215	5.5	259	108	589.05
STV-132	8.1	258	46	569.01
STV-LA887	6.9	317	49	558.92
SG-404	5.8	205	63	555.12
Mean	7.4	290	65	516.80
Best	5.4	205	46	590.94
<u>Sharkey clay soil, Field 14</u>				
HZ-1215	6.6	285	120	391.06
STV-474	9.3	236	52	363.53
SG-404	7.2	214	60	366.35
Mean	8.4	269	60	325.32
Best	5.2	190	41	391.06
<u>Bosket very fine sandy loam, Field 21</u>				
HX-1560	6.7	303	50	581.80
STV-LA887	8.5	322	49	577.68
OA-8	7.3	323	50	562.14
CB-1233	8.5	330	57	552.63
MY-3076	8.9	285	45	551.86
Mean	8.3	305	55	526.33
Best	6.7	246	45	581.80
<u>Sharkey clay soil, Field 24</u>				
OA-13	8.2	270	NS	363.80
OA-8	8.8	283	NS	360.08
DPL-50	10.7	331	NS	343.85
STV-LA887	10.1	282	NS	346.36
HZ-1560	10.0	378	NS	316.66
CB-1233	7.8	356	NS	303.38
Mean	9.0	299	48.2	300.14
Best	7.0	259	NS	363.80