

2004 Cotton Variety Trial

Hiler Farm - Texas Agricultural Experiment Station

Weslaco, Texas

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Summary

Forty-two cotton varieties were evaluated for earliness, yield and fiber quality in a replicated small plot at the Hiler Farm in Weslaco, Texas. Twenty-one varieties were in each test - to attempt to separate the mid to late varieties from the early to mid season or maturity varieties.

Objective

Evaluate the cotton varieties presently on the market and selected experimental cultivars from seed companies.

Materials and Methods

The Special Projects Group at the Texas Agricultural Experiment Station in Weslaco conducted the test under the supervision of Charles Stichler, Extension Agronomist. The following is a list of the cultural practices and timing of production and harvest inputs.

The varieties were planted in the same field, and actually in the same rows, one beginning at the head of the rows, the other beginning in the middle of the field to the end. There were border areas all around the field, so there was no "edge" effect. All production practices were the same - so in essence, the two tests could be treated as one. We were expecting greater maturity differences among varieties between the "early" and "medium - late" season" test trials, but the differences were actually very small. This agrees with the data in previous years when the test was managed by Mr. John Norman. It is the cultural practices that significantly either extend or shorten the growing season of a particular field.



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The following are the cultural practices for the test plots.

<u>Date</u>	<u>Activity</u>
12- - 03 2004	Disc, chisel, disc, and bed the field on 40 " rows.
1 - 27	Fertilize with knife injection rig with 11-37-0 @ 6 gal/Ac
1 - 27	Treflan @ 1 qt/Ac applied and incorporated
2 - 29	Rolled beds
3 - 1	Planted - John Deere Max-emerge planter

<u>Date</u>	<u>Activity</u>
3 - 24	Cultivate weeds and make up rows
4 - 13	Vydate CLV application @ 17 oz/Ac - overwintering boll weevil
4 - 15	Cultivate
4 - 19	Hoe weeds
4 - 22	Vydate CLV application @ 17 oz/Ac - overwintering boll weevil
4 - 28	Sidedress 51 lbs N32/Ac and cultivate
4 - 29	Vydate CLV application @ 17 oz/Ac + Intruder @ 4 oz/A - aphids
5 - 6	Tracer @ 2 oz/Ac - boll worms
5 - 14	Irrigation
5 - 24	Vydate CLV application @ 17 oz/Ac
5 - 28	Karate @ 4 oz/Ac for boll worms + weevils
5 - 31	Vydate CLV application @ 17 oz/Ac
6 - 1	Irrigation
6 - 13	Baythroid @ 2.6 fl. oz./Ac Boll Weevil - Aerial application + Kelthane @ 1 pt/Ac - spider mites
6 - 18	Kelthane @ 1 pt/Ac + Vydate CLV @ 17 oz/Ac
6 - 21	Hand pull weeds
6 - 30	Baythroid @ 2.6 fl. oz/Ac
7 - 6	Measured plant heights - mark plots for picking
7 - 12 & 13	Hand harvest 1 st pick
7 - 14	Weighed samples
7 - 15	Defoliated plots Dropp @ 0.2 lbs/Ac + Finish @ 6 oz/Ac
7 - 22 & 23	Hand harvest 2 nd pick and weigh samples
7 - 24	Hand harvest 3 rd pick and weigh samples
8 - 5	Machine pick plots
8 - 6	Shred and destroy stalks

Results and Discussion

All plot samples were harvested, ginned and fiber quality analyzed separately.

Table 1. “Early Maturity” Cultivar Yield

Cultivar	Yield/Acre	Plant Ht. Inches	Percent Turn Out	Percent 1st Harvest	Percent 2nd Harvest	Percent 3rd Harvest
SDX 25105N	1701.01 a	36.75 abc	41.9 ab	51.0 ab	45.8 ef	2.6 ef
SDX 24706	1603.90 ab	34.75 bcd	39.7 abc	39.6 b-f	55.3 b-e	5.0 c-f
SDX 24119	1594.69 ab	41.50 ab	41.0 ab	19.3 g	68.8 a	12.0 a
FM 960 RR	1552.90 abc	37.25 abc	39.2 a-d	37.9 c-f	58.2 a-d	3.9 c-f
DP 444 BR	1517.30 abc	40.00 abc	40.6 abc	42.3 b-e	53.4 b-e	4.4 c-f
SDX 99197	1485.15 abc	32.75 cd	38.3 a-d	41.1 b-f	56.3 b-e	2.6 ef
DPLX 01W93BR	1479.68 abc	38.00 abc	41.9 ab	32.4 def	59.3 abc	8.2 abc
Cultivar	Yield/Acre	Plant Ht. Inches	Percent Turn Out	Percent 1st Harvest	Percent 2nd Harvest	Percent 3rd Harvest
xBCG P0104	1464.80 abc	39.75 abc	38.2 a-d	32.3 ef	63.9 ab	3.8 c-f
FM 958 LL	1444.08 abc	33.50 cd	38.6 a-d	4.05 b-f	56.2 b-e	3.3 def
FM 819	1411.20 abc	37.50 abc	40.7 abc	44.2 bcd	54.9 b-e	0.9 abc
CT 110	1405.04 abc	35.75 a-d	39.0 a-d	34.3 c-f	57.9 a-d	7.7 a-d
DPLX 02T57R	1403.40 abc	34.50 bcd	39.7 abc	44.7 bc	49.5 c-f	5.8 cde
ST 5242 BR	1401.49 abc	36.50 abc	38.9 a-d	38.3 c-f	56.7 b-e	5.1 c-f
xBCG P0204	1357.59 a-d	29.25 d	36.0 cd	39.8 b-f	53.9 b-e	6.3 cde
FM 960 B2R	1293.13 bcd	34.50 bcd	36.4 cd	37.8 c-f	53.7 b-e	8.5 abc
DP 434 R	1293.09 bcd	42.25 a	34.3 d	36.7 c-f	56.4 b-e	6.9 b-e
DPLX 02X39BR	1289.67 bcd	37.25 abc	43.4 a	42.1 b-e	46.7 def	11.2 ab
DP 432 R	1283.43 bcd	37.00 abc	37.9 bcd	41.6 b-f	54.9 b-e	3.4 def
BCG 50 R	1276.99 abc	34.00 cd	36.3 cd	45.1 bc	52.8 b-e	2.2 ef
DP 424 BG2/RR	1180.96 cd	38.50 abc	37.0 bcd	30.2 f	62.0 ab	7.8 a-d
NexGen 2448 R	1018.52 d	33.25 cd	36.2 cd	56.6 a	39.1 f	4.3 c-f
LSD (P=.05)	6.107	306.847	0.044	0.098	0.099	0.010
Standard	4.318	216.974	0.031	0.070	0.070	0.028
Deviation	11.86	15.42	8.08	17.65	12.68	51.09
CV						

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)
Mean comparison performed only when AOV Treatment P (F) is significant at mean comparison OSL.

Table 2. “Early Maturity” Cultivar Fiber Quality Data

Cultivar	Mic	Length	Staple	Strength	Uniformity	Elongation	Rd
SDX 25105N	4.65 b-e	1.160 b-e	37	29.25 de	84.80 a-f	5.05 efg	81.90 f
SDX 24706	4.83 abc	1.128 d-h	36	29.95 cd	85.13 a-e	5.03 efg	81.85 f
SDX 24119	4.23 ef	1.198 ef	38	28.93 de	84.28 b-f	6.00 b	82.20 f
FM 960 RR	4.05 f	1.168 bcd	37	33.50 a	84.38 a-f	3.23 j	82.00 f
DP 444 BR	4.30 def	1.108 fgh	36	28.475 ef	84.90 a-f	4.68 gh	84.20 a-e
SDX 99197	5.075 a	1.090 h	35	32.88 a	83.68 f	3.63 i	83.05 c-f
DPLX 01W93BR	4.93 ab	1.158 b-e	37	28.325 ef	85.60 abc	6.38 a	83.60 b-f
Cultivar	Mic	Length	Staple	Strength	Uniformity	Elongation	Rd
xBCG P0104	4.28 def	1.150 cde	37	31.25 b	84.25 cf	3.85 i	85.40 ab
FM 958 LL	4.83 abc	1.158 b-e	37	32.70 a	85.73 a	3.68 i	84.20 a-e
FM 819	4.48 c-f	1.148 def	37	31.10 bc	84.83 a-f	4.33 h	84.40 a-e
CT 110	4.68 a-d	1.153 cde	37	29.95 cd	83.63 f	4.46 g	84.75 abc
DPLX 02T57R	4.25 def	1.095 gh	35	28.85 de	84.60 a-f	5.50 cd	84.18 a-e
ST 5242 BR	4.58 b-e	1.135 d-g	37	26.88 g	85.33 a-d	5.33 de	84.25 a-e
xBCG P0204	4.43 c-f	1.123 e-h	36	29.425 de	84.08 def	4.95 efg	84.55 a-d
FM 960 B2R	4.60 b-e	1.223 a	39	33.00 a	85.65 a	2.95 j	84.45 a-e
DP 434 R	4.23 ef	1.190 abc	38	28.13 ef	84.78 a-f	5.18 def	85.68 a
DPLX 02X39BR	4.23 ef	1.155 cde	37	30.90 bc	83.85 ef	3.73 i	84.70 abc
DP 432 R	4.58 b-e	1.13 d-h	36	29.93 cd	85.00 a-f	5.23 de	82.58 ef
BCG 50 R	4.48 c-f	1.12 e-h	36	28.75 def	84.05 def	4.80 fg	82.78 def
DP 424 BG2/RR	4.45 c-f	1.14 def	37	27.55 fg	85.60 abc	5.875 bc	85.15 ab
NexGen 2448 R	4.13 f	1.150 cde	37	30.90 bc	85.60 abc	4.93 abc	83.650 b-f

Table 3. “Late Maturity Cultivar Yield

Cultivar	Yield/Acre	Plant Ht. Inches	Percent Turn Out	Percent 1st Harvest	Percent 2nd Harvest	Percent 3rd Harvest
FM 832 LL	1617.83 a	34.00 c	39.6 g-k	44.7 a	53.5 ghi	1.8 g
SDX 241203	1583.08 ab	40.25 bc	41.5 def	26.5 e-h	67.5 bcd	6.1 b-e
xBCG P0604	1561.72 ab	35.25 c	39.6 h-k	44.4 a	52.5 hi	3.2 fg
xBCG P0404	1491.10 abc	34.00 c	43.3 bc	31.9 c-f	57.7 e-i	10.5 a
CT 212	1481.51 a-d	39.75 bc	41.3 efg	20.9 h	75.7 a	3.4 fg
FM 800 RR	1460.38 a-d	43.50 ab	40.5 f-i	34.8 cd	62.4 c-f	2.8 fg
FM 989 B2R	1459.44 a-d	37.75 bc	38.4 kl	42.6 ab	53.9 ghi	3.6 efg
DP 555 BR	1446.52 a-e	40.00 bc	45.7 a	34.2 cde	58.3 e-i	7.5 bc
xBCG P0304	1437.86 a-e	41.25 bc	37.6 l	32.4 c-f	60.5 c-g	7.2 bcd
FM 800 B2R	1425.49 b-e	40.00 bc	39.5 h-k	24.7 fgh	70.7 ab	4.7 def
DP 494 R	1401.85 b-f	41.25 bc	42.8 bcd	31.4 c-f	64.0 b-f	4.6 def
DP 491	1359.10 c-g	40.25 bc	44.0 b	25.4 fgh	67.5 bcd	7.1 bcd
DP 488 BR	1345.88 c-g	35.25 c	42.2 cde	29.6 c-g	65.1 b-e	5.4 c-f
FM 989 RR	1306.46 c-g	38.50 bc	40.5 fi	36.2 bc	56.8 f-i	7.0 bcd
Cultivar	Yield/Acre	Plant Ht. Inches	Percent Turn Out	Percent 1st Harvest	Percent 2nd Harvest	Percent 3rd Harvest
STX 6636 BR	1293.27 d-g	50.00 a	38.8 jkl	22.1 gh	67.9 bc	10.0 a
BCG 245	1265.41 efg	39.25 bc	39.1 i-l	27.7 d-h	67.5 bcd	4.9 def
ST 5599 BR	1235.41 fg	48.50 a	41.1 e-h	29.3 c-g	62.4 c-f	8.3 ab
Dow PSC 410 R	1210.47 g	41.00 bc	39.7 g-k	45.3 a	51.7 i	3.0 fg
STX 6848 R	1207.37 g	44.25 ab	40.0 f-k	24.7 fgh	66.7 bcd	7.6 bc
xBCG P0504	1198.67 g	38.25 bc	39.4 ijk	35.6 bcd	59.8 d-h	4.6 def
DP 449 BR	1173.73 g	39.50 bc	40.4 f-j	32.0 c-f	62.9 b-f	5.1 c-f
LSD (P=Various)	6.82	162.125	0.014	0.068	0.068	0.022
Standard Deviation	4.300	114.640	0.010	0.048	0.048	0.016
CV	10.73	8.31	2.46	14.9	7.69	27.82
<p>Means followed by same letter do not significantly differ (P=.05, Duncan’s New MRT) Mean comparison performed only when AOV Treatment P (F) is significant at mean comparison OSL.</p>						

Table 4. “Medium-Late Maturity” Cultivar Fiber Quality Data

Cultivar	Mic	Length	Staple	Strength	Uniformity	Elongation	Rd
FM 832 LL	3.95 cd	1.225 ab	39	32.60 a-d	86.23 bc	3.60 eg	78.63 cd
SDX 241203	4.15 bc	1.208 bc	39	30.23 fg	85.13 b-e	4.60 bc	79.48 a-d
xBCG P0604	4.55 a	1.188 cde	38	30.35 efg	84.35 ef	3.75 ef	80.33 a-d
xBCG P0404	4.35 ab	1.148 fgh	37	29.65 fg	84.38 ef	3.80 ef	79.83 a-d
CT 212	4.43 ab	1.143 gf	37	29.55 fg	83.63 fg	4.53 bc	81.20 a
FM 800 RR	4.48 ab	1.193 bcd	38	32.65 abc	87.70 a	4.48 bc	79.50 a-d
FM 989 B2R	4.13 bc	1.188 cde	38	33.43 a	84.63 def	3.25 g	78.93 b-e
DP 555 BR	4.63 a	1.128 h	36	29.38 g	82.93 g	3.28 g	81.18 ab
xBCG P0304	4.13 bc	1.155 e-h	37	27.90 h	83.95 efg	3.55 fg	81.30 a
FM 800 B2R	4.18 bc	1.243 a	40	31.95 a-e	86.30 b	3.90 def	79.08 a-d
DP 494 R	4.63 a	1.200 bcd	38	30.95 d-g	85.13 b-e	4.30 cd	78.53 cde
DP 491	4.48 ab	1.225 ab	39	31.03 cg	84.28 ef	3.53 fg	79.73 a-d
DP 488 BR	4.58 a	1.223 ab	39	30.50 efg	85.05 b-e	3.98 def	79.83 a-d
FM 989 RR	3.68 d	1.183 cde	38	33.45 a	84.90 c-f	3.85 ef	79.28 a-d
STX 6636 BR	4.48 ab	1.185 cde	38	32.05 a-e	84.93 b-f	3.78 ef	76.85 e
BCG 245	3.98 cd	1.210 bc	39	32.78 ab	85.25 b-e	3.63 efg	80.25 a-d
ST 5599 BR	4.40 ab	1.178 c-f	38	30.43 efg	85.23 b-e	3.95 def	79.98 a-d
Dow PSC 410 R	4.48 ab	1.150 fgh	37	29.73 fg	86.05 bc	5.65 a	78.13 de
Cultivar	Mic	Length	Staple	Strength	Uniformity	Elongation	Rd
STX 6848 R	4.68 a	1.173 d-g	37	33.20 a	85.95 bcd	3.78 ef	78.33 cde
xBCG P0504	3.85 cd	1.178 c-f	38	30.50 efg	84.55 ef	4.78 b	80.50 abc
DP 449 BR	4.35 ab	1.148 fgh	37	31.28 b-f	84.60 def	4.03 de	81.25 a

“Early” Cultivars

“Late” Cultivars

Cultivar	Yield/Acre	Price/Lb	Value/Acre	Cultivar	Yield/Acre	Price/Lb	Value/Acre
SDX 25105N	1701.01 a	.5725	\$ 793.83	FM 832 LL	1617.83 a	.5830	\$ 943.19
SDX 24706	1603.90 ab	.5750	922.24	SDX 241203	1583.08 ab	.5810	919.77
SDX 24119	1594.69 ab	.5750	916.95	xBCG P0604	1561.72 ab	.5755	898.77
FM 960 RR	1552.90 abc	.5810	902.23	xBCG P0404	1491.10 abc	.5755	858.13
DP 444 BR	1517.30 abc	.5710	866.38	CT 212	1481.51 a-d	.5745	851.13
SDX 99197	1485.15 abc	.5320	790.10	FM 800 RR	1460.38 a-d	.5805	847.75
DPLX 01W93BR	1479.68 abc	.5735	848.60	FM 989 B2R	1459.44 a-d	.5810	847.93
xBCG P0104	1464.80 abc	.5800	849.58	DP 555 BR	1446.52 a-e	.5675	820.90
FM 958 LL	1444.08 abc	.5795	836.84	xBCG P0304	1437.86 a-e	.5740	825.33
FM 819	1411.20 abc	.5775	814.97	FM 800 B2R	1425.49 b-e	.5820	829.64
CT 110	1405.04 abc	.5745	807.20	DP 494 R	1401.85 b-f	.5785	810.97
DPLX 02T57R	1403.40 abc	.5660	794.32	DP 491	1359.10 c-g	.5775	784.88
ST 5242 BR	1401.49 abc	.5735	803.75	DP 488 BR	1345.88 c-g	.5785	778.59
xBCG P0204	1357.59 a-d	.5710	775.18	FM 989 RR	1306.46 c-g	.5785	755.79
FM 960 B2R	1293.13 bcd	.5795	749.37	STX 6636 BR	1293.27 d-g	.5775	746.86
DP 434 R	1293.09 bcd	.5750	743.53	BCG 245	1265.41 efg	.5820	736.47
DPLX 02X39BR	1289.67 bcd	.5790	746.72	ST 5599 BR	1235.41 fg	.5765	712.21
DP 432 R	1283.43 bcd	.5750	737.97	Dow PSC 410R	1210.47 g	.5775	699.05
BCG 50 R	1276.99 abc	.5710	729.16	STX 6848 R	1207.37 g	.5795	699.67
DP 424 BG2/RR	1180.96 cd	.5735	677.28	xBCG P0504	1198.67 g	.5800	695.23
NexGen 2448 R	1018.52 d	.5810	591.76	DP 449 BR	1173.73 g	.5775	677.83

Early Varieties had an average Color Grade of 11-1 with a leaf grade of 1
 Medium-Late Varieties had an average Color Grade of 21-2 with a leaf grade of 2
 Base loan rate is \$0.5200 per pound

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