

Upland Regional Cotton Variety Test at the Maricopa Agricultural Center, 1993

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Abstract

Thirty-six upland cotton varieties were grown in a replicated trial at the Maricopa Agricultural Center as part of the National Cotton Variety Testing Program. Lint yield, boll size, lint percent, gin turnout percent, plant population and fiber property data are presented in this report.

Introduction

An upland staple cotton variety trial was conducted as part of the National Cotton Variety Testing Program. This program allows varieties from many sources to be evaluated at various locations across the cotton belt. Included in the trial were four national and sixteen regional standard varieties.

Materials and Methods

The trial was located in a level basin field with 850 ft. runs and was arranged in a randomized complete block design replicated 5 times. Plots were 43 ft. long and 4.40 inch rows wide. The field was preirrigated on 20 March and seed was planted in moist soil on 9 April. Additional irrigations were on 4 May, 2 June, 19 June, 2 July, 16 July, 30 July and 16 August. The planting was defoliated on 15 and 26 October and the center 2 rows of each plot were machine harvested on 29 November. The late harvest date was due to heavy rains in early November. Heat units for the growing season were 4258 and rain accumulation was 2.64 inches for the time frame 9 April to 15 October.

Twenty-five hand picked boll samples taken out of 2 reps were used to determine lint % and boll size. The same samples were ginned and 20 grams of lint from each sample was analyzed for fiber quality (HVI). Samples were taken at the time of machine harvest to determine gin turnout %.

Results and Discussion

Results of the trial are shown in Table 1. Yields ranged from 701 to 1952 lbs. lint/acre. Two year averages of varieties grown in 1992 and 1993 are listed in Table 2. Although whitefly populations started to build early in the year, pesticide applications and an earlier irrigation termination date kept populations lower in September and October and no premature defoliation resulted. Fiber property data for the varieties are listed in Table 3.

Table 1. Lint yield, boll size, lint percent, gin turnout percent and plant population for upland varieties in the regional variety test at Maricopa Agricultural Center, 1993.

Variety	Lint Yield (lbs/acre)	Boll Size (g/boll)	Lint Percent	Gin Turnout Percent	Population (pl/acre)
DPL 5415	1952a	5.10b	40.6ab	37.1	28493a
CB 232	1875AB	5.70ab	36.6fgh	32.6	31107a
HS 44	1861abc	5.67ab	39.1a-g	35.4	36073a
JSX 110-51	1860abc	5.14b	39.5a-e	35.3	33198a
OA 8	1807abcd	5.20b	38.6a-g	34.0	28754a
ST LA 887	1770a-e	6.49a	41.3a	37.0	33721a
DPL 5816	1762a-e	5.30b	40.4abc	37.0	31368a
DPL 5690	1751a-f	5.26b	39.5a-e	36.4	24833a
AGC 1185	1747a-f	5.34b	40.0abcd	35.7	33459a
DPL 50	1714b-g	5.86ab	36.8efgh	32.2	27976a
CB 1233	1706b-g	5.34b	39.8abcd	36.6	30584a
AGC 2006	1693b-g	5.97ab	38.6a-g	34.9	40256a
GS 9033	1693b-g	5.58ab	38.8a-g	35.0	27970a
ST KC 311	1691b-g	5.44b	39.2a-g	36.1	27970a
HX 1244	1689b-g	5.31b	39.2a-g	35.7	31368a
OA 6	1685b-g	5.51b	39.0a-g	36.4	30061a
CB 333	1681b-g	5.80ab	38.4b-g	33.9	29800a
JSX 246	1673b-g	5.40b	38.1b-h	35.8	29277a
SG 1001	1671b-g	5.42b	39.2a-f	36.6	33721a
HBX 93-172	1656b-g	5.55b	37.7c-h	33.4	31629a
AZB 247	1639b-h	5.73ab	38.5b-g	34.8	34243a
DPL 5461	1625c-h	5.98ab	37.3d-h	35.3	27970a
HX 1220	1623c-h	5.39b	39.6a-e	34.9	33982a
DPL 90	1622c-h	5.47b	39.1a-g	36.6	29015a
HX 1400	1609d-h	5.82ab	38.7a-g	33.7	27447a
CB 1135	1586d-h	5.89ab	38.4b-g	33.7	29015a
ALTXMX 9	1580d-h	5.18b	38.8a-g	36.2	28492a
AGC 3050	1551e-i	5.64ab	36.8efgh	32.9	30061a
HS 46	1545e-i	5.61ab	38.7a-g	35.2	29538a
HY 39	1513fghi	5.33b	37.7c-h	34.8	34505a
HX 1215	1499ghi	5.36b	39.0a-g	34.3	26924a
HX 1380	1484ghi	5.39b	39.8abcd	36.1	31368a
HX 1330	1429hi	5.76ab	38.1b-h	34.2	32414a
HS 26	1361i	5.78ab	36.3gh	32.6	31629a
1517-88	1216j	5.75b	36.8efgh	34.2	34243a
SS 9301	701k	5.58ab	35.6h	31.1	30943a
Average	1626	5.56	38.6	34.9	30943
CV Percent	6.4	6.6	-----	----	25.3

Table 2. Two year lint yield averages for 11 varieties in the regional cotton variety test at Maricopa Agricultural Center, 1992 and 1993.

Variety	Lint yield (lbs/acre)
DPL 5415	1820
DPL 5690	1694
ST KC 311	1583
CB 1233	1569
ALL-TEX MAX 9	1547
DPL 90	1480
DPL 50	1476
CB 333	1434
CB 1135	1381
PM HS 26	1096
1517-88	1049

Table 3. Fiber properties data (HIV) for upland varieties in the regional cotton variety test at Maricopa Agricultural Center, 1993.

Variety	Length	UR	Strength	e1	MIC	RD	b
HBX 93172	1.15	80.7	24.3	9.5	4.9	78.6	8.0
AGC 3050	1.20	81.3	31.6	10.0	5.1	78.5	8.2
DPL 5816	1.15	80.7	28.3	9.9	5.0	80.4	7.5
CB 333	1.14	81.3	25.5	9.7	4.6	77.7	8.2
CB 232	1.15	81.3	23.4	9.6	5.1	79.9	7.5
AZB 247	1.13	82.2	31.5	10.0	5.0	78.8	8.1
OA 7	1.14	81.0	24.3	9.8	5.1	78.9	7.4
HX 1215	1.14	81.7	28.7	10.0	5.2	80.0	7.5
HX 1220	1.13	83.3	26.3	11.0	5.4	78.6	8.0
HX 1244	1.12	83.7	28.9	10.0	5.0	78.9	8.0
HX 1330	1.12	81.3	26.2	9.8	5.1	76.8	8.0
HX 1380	1.18	82.5	24.6	10.0	4.8	78.4	7.8
HX 1400	1.16	82.9	31.6	10.0	5.1	78.5	7.5
JSX 246	1.17	84.4	29.0	9.9	5.3	79.2	7.9
JSX 11051	1.09	80.4	31.5	10.0	5.4	79.4	8.0
SS 9301	1.18	81.9	24.8	9.2	4.9	78.7	7.8
DPL 5690	1.18	83.1	31.1	10.0	5.3	77.4	7.9
HS 46	1.16	82.9	31.2	10.0	5.1	75.2	8.3
AGC 1185	1.15	82.4	30.7	10.0	5.4	79.0	7.9
HY 39	1.20	82.9	30.0	10.0	4.8	76.3	7.9
CB 1233	1.14	82.4	29.2	10.0	5.4	77.3	8.5
DPL 5461	1.17	81.8	27.4	9.8	5.0	79.6	7.6
1517-88	1.21	83.6	31.4	10.0	4.8	75.5	7.7
OA 6	1.18	82.7	31.7	10.0	4.9	78.3	7.9
CB 1135	1.16	83.0	29.2	10.0	5.1	78.3	7.9
STKC 311	1.18	83.2	29.9	9.9	5.1	79.0	7.9
ALTXMX 9	1.15	82.7	30.3	10.0	5.2	77.3	8.3
DPL 5415	1.14	81.7	28.3	10.0	5.4	79.6	8.0
HS 44	1.14	81.4	30.6	10.0	5.6	78.3	8.0
DPL 90	1.16	82.4	29.5	10.0	5.2	77.7	8.1
AGC 2006	1.20	83.1	28.2	10.0	5.3	78.3	7.4
GS 9033	1.17	81.9	31.0	10.0	5.1	79.1	8.0
DPL 50	1.18	83.5	25.9	10.0	5.1	78.9	7.6
HS 26	1.08	82.6	31.1	11.0	5.2	77.4	8.1
SG 1001	1.15	81.7	32.1	10.0	5.1	77.9	7.8
STLA 887	1.15	82.3	30.3	11.0	5.2	76.2	9.2