Upland Regional Cotton Variety Test at The Maricopa Agricultural Center, 1994

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Abstract

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

Introduction

An upland cotton variety trial was conducted as part of the National Cotton Variety Testing Program. This program allows varieties form 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

This trial was located in a level basin field with 850 ft. runs and was arranged in a randomized complete block design replicated five times. Plots were 4 rows wide, 43 ft. long, with 40 inch row spacing. The field was preirrigated on 22 March and seed was planted in moist soil on 8 April. Additional irrigations were on 9 May, 6 June, 21 June, 1 July, 25 July, 5 August and 20 August. The planting was defoliated on 5 October and 20 October and the center two rows of each plot were machine harvested on 1 November. Heat units (threshold 86/55°F) for the growing season were 4273 and rainfall during that period (8 April to 5 October) was 3.16 inches.

Twenty-five hand picked boll samples taken out of 2 reps were used to determine lint percent and boll size. The same sample was ginned and 20 grams of lint was analyzed for fiber properties (HVI).

Results and Discussion

Results of the trial are shown in Table 1. Yields ranged from 1151 to 1985 lbs. lint/acre. The nighttime temperatures in the summer were the highest at Maricopa in over 20 years which might have resulted in lower yields. Two and three year averages of lint yield are represented in Tables 2 and 3, respectively. Fiber properties (HVI) are listed in Table 4.

Table 1. Lint yield, boll size, lint percent and plant population for upland varieties in the regional variety test at the Maricopa Agricultural Center, 1994.

Variety	Lint Yield (lbs/acre)	Boll Size (g/boll)	Lint Percent	Population (pl/acre)
STV 474	1985a*	4.86a-d	39.88a	25094a
DPL 5816	1826b	4.07d	39.73ab	24310a
HS 44	1753bc	4.76a-d	36.46a-e	23787a
OA 36	1736bc	5.68a	37.76a-d	20651a
DPL 5415	1735bc	4.59a-d	36.54a-e	19605a
STV LA 887	1734bc	5.49abc	37.75a-d	26401a
MYCO 2006	1710bc	4.96a-d	36.76a-e	25356a
DPL 50	1707bc	5.30abc	36.81a-e	18298a
STV KC 311	1705bc	5.05a-d	37.22a-e	20651a
DPL 5690	1700bc	4.84a-d	37.50a-e	15945a
SG 501	1685bcd	4.67a-d	37.22a-e	21431a
SG 125	1669bcd	4.67a-d	38.80abc	20651a
DPL 90	1645b-e	4.52a-d	37.04a-e	21958a
HS 46	1604b-f	4.78a-d	36.52a-e	24572a
HY 39	1599b-f	4.49bcd	35.84c-f	21435a
DPL 5409	1596b-f	4.44cd	37.28a-e	25617a
CB 1233	1588b-f	4.75a-d	36.95a-e	18298a
GC 9033	1587b-f	4.73a-d	36.11b-f	21958a
CB 232	1583b-f	5.24abc	33.95ef	25879a
HZ 1220	1537c-f	4.99a-d	36.58a-e	22219a
HZ 1244	1466d-g	4.74a-d	36.49a-e	20651a
MYCO 1185	1400fgh	4.80a-d	35.22c-f	24310a
OA 9	1309ghi	5.63ab	35.32c-f	19866a
GC 9229	1243hi	4.61a-d	34.93def	20651a
1517-88	1230hi	4.69a-d	34.32def	24049a
HS 26	1115i	5.32abc	33.06f	23526a
Average	1589	4.90	36.66	22248
CV	6.8	10.0	---	24.3

* Means followed by the the same letter are not significantly different at the 0.05 probability level.

Table 2. Two year lint yield average of 19 varieties in the regional variety test at the Maricopa Agricultural Center, 1994.

Variety	Lint Yield (lb/acre)
DPL 5415	1844
HS 44	1807
DPL 5816	1794
STV LA 887	1752
CB 232	1729
DPL 5690	1726
DPL 50	1711
MYCO 2006	1702
ST KC 311	1698
CB 1233	1647
GC 9033	1640
DPL 90	1634
HZ 1220	1580
HZ 1244	1578
HS 46	1575
MYCO 1185	1574
HY 39	1556
HS 26	1258
1517-88	1223

Table 3. Three year lint yield average of 8 varieties in the regional variety test at the Maricopa Agricultural Center, 1994.

Variety	Lint Yield (lb/acre)
DPL 5415	1791
DPL 5690	1696
STV KC 311	1623
CB 1233	1575
DPL 50	1550
DPL 90	1535
HS 26	1224
1517-88	1109

Table 4. Fiber properties data (HVI) for upland varieties in the regional cotton variety test at the Maricopa Agricultural Center, 1994.

Variety	Length	UR	Strength	El	MIC	RD	b
HS 26	1.07	83.2	31.6	10.0	4.9	76.2	7.1
DPL 50	1.12	83.8	23.9	9.5	5.1	77.2	6.2
DPL 90	1.13	83.8	30.2	9.4	5.0	75.9	7.4
1517-88	1.14	83.7	32.4	9.5	4.5	73.1	7.1
HZ 1220	1.14	85.4	28.3	9.9	4.8	75.4	7.1
HZ 1244	1.12	84.2	28.5	9.9	4.5	75.2	7.5
HS 46	1.13	82.2	30.2	9.4	5.1	71.8	7.9
HS 44	1.12	81.5	29.8	9.3	5.6	72.1	7.9
CB 232	1.15	84.5	24.3	9.6	5.3	71.2	6.9
CB 1233	1.13	83.2	32.0	9.7	5.1	75.4	7.9
MYCO 2006	1.15	82.3	28.6	9.2	4.9	77.7	6.8
MYCO 1185	1.19	84.2	30.9	9.5	5.2	75.0	7.4
GC 9033	1.13	83.4	31.9	9.6	5.0	76.8	7.6
GC 9229	1.19	85.3	31.4	10.0	4.5	73.4	6.9
SG 501	1.15	85.1	33.1	10.0	5.2	70.7	7.8
SG 125	1.14	84.5	25.2	9.8	5.1	72.1	7.9
OA 9	1.16	83.4	31.8	9.4	5.0	74.8	7.2
OA 36	1.13	82.8	29.0	10.0	5.5	76.6	7.3
STV 311	1.13	82.9	30.3	9.4	5.3	72.5	7.9
STV LA 887	1.15	83.7	31.5	10.0	5.2	77.2	7.7
DPL 5415	1.17	83.7	30.8	9.8	5.3	75.3	7.1
DPL 5690	1.12	83.8	30.9	9.2	5.1	76.2	7.4
DPL 5409	1.15	84.2	29.2	9.7	5.1	74.8	6.9
DPL 5816	1.12	83.7	28.6	9.6	5.2	72.7	8.2
STV 474	1.11	82.4	28.2	9.7	5.7	72.7	7.7
HY 39	1.19	84.2	29.9	9.3	4.8	76.4	6.8