

Upland Advanced Strains Cotton Variety Test at the Maricopa Agricultural Center, 1996

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Abstract

Twenty five upland advanced strains were grown in a replicated trial at the Maricopa Agricultural Center. Lint yield, boll size, plant population, plant height and fiber property are presented in this report.

Introduction

An advanced strains variety test was conducted at the Maricopa Agricultural Center. Experimental strains from breeders were included in this test. DPL 5415, NU 33B and HS 26 were used as standards.

Materials and Methods

This trial was located in a level basin field with 850 foot runs and was arranged in a randomized complete block design replicated five times. Plots were four rows wide, 43 feet long, with 40 inch spacing. The field was preirrigated on 12 March and seed was planted in moist soil on 10 April. Additional irrigations were on 8 May, 13 June, 1 July, 15 July, 29 July, 8 August and 30 August. The cotton received 150 lbs./acre of nitrogen during the season. The planting was defoliated on 3 October and 16 October and the center two rows of each plot were machine harvested on 4 November. Heat units (threshold 86/55 degrees F) for the growing season were 4156 and rainfall during the period (10 April to 3 October) was 1.62 inches. Fifty hand-picked boll samples taken out of two reps were used to determine lint percent and boll size. The same sample was ginned and twenty grams of lint was analyzed for fiber properties.

Results and Discussion

Results of the trial are shown in Table 1. Yields ranged from 489 to 1413 lbs. lint/acre. The 1996 cotton growing season was characterized by very warm night time temperatures in July and heavy Lygus infestations. Fiber properties (HVI) are listed in Table 2.

Table 1. Lint yield, boll size, lint percent, plant population and plant height for upland varieties in the advanced strains variety test at the Maricopa Agricultural Center, 1996.

Variety	Lint yield (lbs/acre)	Boll size (g/boll)	Lint percent	Population (plts/acre)	Height (in)
SGX 180	1413a*	4.61abc	36.51bcd	25034a	47.0bcd
SGX 821	1340ab	4.50a-e	37.86a	23034a	47.2bcd
HYX 4103	1288abc	4.18d-h	36.29bcd	21598a	47.2bcd
HYX 5201	1286abc	4.03f-i	36.42bcd	26401a	48.0bc
HYX 6201	1252a-d	4.25d-g	36.15cd	27447a	45.0cd
SGX 248	1244a-d	4.10fgh	37.49abc	23003a	52.4ab
NU 33B	1229bcd	4.24d-g	35.89de	26341a	50.2abc
SGX 2079	1183b-e	3.86hi	36.83a-d	25759a	46.8bcd
DPL 5415	1142c-f	4.02ghi	37.21a-d	24833a	45.2cd
GA 92-161	1122c-f	4.68ab	36.36bcd	24833a	48.4bc
HYX 5203	1101def	4.54a-d	33.68g	23265a	43.4cd
GA 91-227	1075def	4.34b-g	35.14ef	23526a	48.6bc
HX 5370	1068d-g	4.39b-f	37.09a-d	22490a	47.0bcd
HX 5170	1065d-g	4.49a-e	37.56ab	25819a	45.0cd
TER 101-1	1037efg	4.49a-e	32.65hi	24527a	44.2cd
OA 62	1019efg	4.07fgh	34.98ef	24773a	48.4bc
GCM 53	1014efg	4.14e-h	37.86a	26140a	45.0cd
HX 5470	980fg	4.28c-g	37.06a-d	25356a	46.6bcd
STLA 887	894gh	4.67ab	37.20a-d	24049a	40.2d
GA 90-89	822hi	4.77a	34.54fg	24552a	47.0bcd
TER 306-96	783hi	4.32b-g	33.38gh	24773a	43.4cd
GA 89-224	766hi	4.63abc	34.35fg	25617a	48.4bc
HS 26	727i	4.81a	34.44fg	25497a	45.0cd
GC 9306	610j	3.75i	34.87ef	23003a	36.0e
OA 64	489k	4.51a-d	32.33i	26543a	54.8a
Average	1038	4.35	35.62	24719	46.4
CV %	12.2	0.7	-----	4.0	21.3

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

Table 2. Fiber properties data (HVI) for varieties in the advanced strains test at the Maricopa Agricultural Center, 1996.

Variety	LEN	UR	STR	EI	MIC	Rd	b
HYX 6202	1.10	80.8	32.0	9.4	5.4	77.2	8.8
HYX 5203	1.10	81.6	28.3	9.8	5.2	75.3	8.7
HYX 5201	1.06	81.9	33.1	10.0	5.5	75.4	9.2
HYX 4103	1.12	81.8	31.2	9.9	5.6	77.5	8.7
OA 64	1.09	82.1	32.3	10.0	5.4	73.3	9.9
STLA 887	1.17	84.0	32.3	10.0	4.8	73.5	9.7
HS 26	1.04	82.1	31.4	10.0	4.9	74.9	8.8
DPL 5415	1.07	81.5	30.1	9.7	5.6	77.6	8.6
GA 89-224	1.08	81.6	31.1	9.1	5.2	73.7	9.6
GA 91-227	1.17	81.8	33.0	9.7	5.0	74.9	9.5
GA 92-161	1.14	82.3	33.2	9.7	5.2	75.4	9.2
GA 90-89	1.13	81.6	32.3	9.4	5.2	73.7	9.5
HX 5170	1.07	82.6	29.2	9.6	5.2	75.6	8.9
HX 5470	1.11	82.5	27.3	9.3	4.5	76.0	9.4
HX 5370	1.12	82.9	28.5	9.7	4.9	76.2	9.1
TERRA 101-1	1.14	81.8	26.6	9.7	5.2	77.1	9.0
TERRA 306-96	1.11	82.1	26.4	9.0	4.9	74.1	8.1
GC 9306	1.13	84.3	38.9	10.0	4.5	73.8	8.7
GC M53	1.18	83.8	33.0	10.0	5.1	74.4	9.3
SGX 821	1.12	83.2	29.3	10.5	5.6	75.1	9.6
SGX 2079	1.19	82.2	30.8	9.3	4.9	77.1	9.1
SGX 248	1.16	81.4	30.7	9.3	5.4	77.3	8.8
SGX 180	1.13	82.1	30.3	9.4	5.4	76.2	8.6
OA 62	1.10	83.2	30.7	9.9	5.4	75.1	9.4
NU 33B	1.10	82.6	29.2	9.7	5.4	78.1	8.0