

Pima Regional Variety Test at The Maricopa Agricultural Center, 1995

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Abstract

Eighteen Pima varieties and experimental strains were grown in a replicated trial at the Maricopa Agricultural Center. Lint yield, boll size, lint percent, plant population, plant height and fiber property data are presented in this report.

Introduction

This trial was conducted to evaluate established Pima varieties and experimental strains under central Arizona conditions. Varieties from the USDA and private seed companies were included. Micro spinning and HVI (high volume instrument) analyses were run on the entries from both the Maricopa and Safford locations. Lee Clark will present the results of the Safford Pima trial in a separate report.

Materials and Methods

This trial was located in a field with 850 ft. long rows and was arranged in a randomized complete block design replicated five times. Plots were 4 rows wide, 43ft. long, with 40 inch row spacing. The field was preirrigated on 16 March and seed was planted in moist soil on 12 April. Additional irrigations were on 29 April, 22 May, 15 June, 30 June, 13 July, 25 July, 2 August, 14 August and 29 August. The planting was defoliated on 5 and 19 October and the center two rows of each plot were machine harvested on 10 November. Heat units (threshold 86/55°F) for the growing season were 3978 and rainfall during that period (12 April to 5 October) was 2.52 inches.

Fifty hand-picked boll samples taken out of 2 reps were used to determine lint % and boll size. The same sample was ginned and 20 grams of lint were analyzed for fiber properties. Grab samples taken at the time of harvest were ginned and 150 grams of lint was used for micro spinning.

Results and Discussion

Results of the trial are shown in **Table 1**. Yields ranged from 346 to 1131 lbs. lint/acre. The 1995 cotton growing season was characterized by very cool temperatures at planting time and unseasonably cool temperatures early in the season. Three and four year averages of lint yield are represented in **Tables 2 and 3**, respectively. Fiber properties (single instrument) are listed in **Table 4**.

Table 1. Lint yields, lint percent, boll size, plant population and plant heights for Pima varieties in the regional variety test at the Maricopa Agricultural Center, 1995.

Variety	Lint Yield (lbs/acre)	Boll size (g/boll)	Lint Percent	Population (plts/acre)	Height (cm)
OA 328	1131a ¹	2.92cd	36.65a	19082abcd	116h
OA 322	1117a	2.78def	36.71a	19082abcd	132fg
OA 312	1065a	2.84def	35.21bc	25356ab	136efg
OA 333	1031ab	2.91cd	34.57cde	19344abcd	125gh
OA 337	1011ab	2.66f	36.10ab	15945cd	129gh
OA 305	962abc	2.90cd	33.83ef	23265abc	147de
S-7	960abc	2.92cd	34.62cde	19866abcd	150cde
PHY 21	956abc	2.87cde	34.07def	24572abc	162c
OA 304	931abc	2.84def	32.73g	25879a	147de
OA 329	931abc	2.93cd	34.80cde	13291d	124gh
CR 253	912abc	2.92cd	33.28fg	20912abcd	115h
OA 331	793bcd	2.67ef	36.54a	16468bcd	144ef
S-6	738cd	2.86def	36.59a	20128abcd	160cd
PHY 57	721cd	2.98cd	34.35cde	25617ab	177b
DPL 9911	617de	3.10bc	36.36bc	23265abc	173b
ORO BLANCO	506ef	3.22b	35.21bc	25356ab	183b
CR 252	442ef	3.37a	35.07cd	20128abcd	184b
PHY 58	346f	2.95cd	33.41fg	24833abc	199a
Average	791	2.92	35.01	21243	150
CV	15.1	3.7	-----	19.7	5.6

¹ Means followed by the same letter are not significantly different at the 0.05 probability level.

Table 2. Three year lint yield average of 6 varieties in the Pima regional test at the Maricopa Agricultural Center, 1995.

Variety	Lint Yield (lbs/acre)
OA 312	1247
OA 305	1218
OA 304	1200
S-7	1195
S-6	1045
ORO BLANCO	972

Table 3. Four year lint yield average of 4 varieties in the Pima regional test at the Maricopa Agricultural Center, 1995.

Variety	Lint Yield (lbs/acre)
OA 304	1147
OA 312	1130
S-7	1101
S-6	942

Table 4. Fiber properties data (single instrument) for pima varieties in the regional variety test at the Maricopa Agricultural Center, 1995.

Variety	Strength	el	Length 2.5%	Length 50%	Uniformity	MIC
ORO BLANCO	33.0	9.0	1.38	0.69	50	3.99
S-7	37.3	8.1	1.42	0.72	51	3.98
S-6	35.0	8.9	1.40	0.71	51	3.98
CR 252	33.0	8.5	1.40	0.70	51	4.12
CR 253	33.5	7.7	1.36	0.69	51	4.16
OA 304	36.0	8.5	1.42	0.72	51	3.92
OA 312	35.4	8.6	1.38	0.70	50	4.08
DPL 9911	33.8	8.7	1.40	0.71	51	3.88
OA 331	34.5	7.4	1.40	0.71	51	4.10
OA 333	37.8	8.2	1.40	0.70	50	3.81
OA 337	36.4	8.3	1.35	0.67	50	4.01
PHY 21	33.9	8.6	1.38	0.68	50	3.78
OA 305	34.4	8.8	1.41	0.72	51	4.02
PHY 57	35.2	8.8	1.39	0.70	51	3.90
PHY 58	33.7	7.9	1.42	0.72	51	3.68
OA 322	35.3	8.3	1.37	0.70	51	3.68
OA 328	36.3	8.2	1.35	0.68	51	4.15
OA 329	36.4	8.3	1.41	0.72	51	3.88