Marana Pima Test

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Abstract

Seventeen pima cotton varieties were grown at the Marana Agricultural Center as part of the national cotton variety testing program. Lint yield, boll size, lint percent and fiber properites are presented in this report.

Introduction

A pima cotton variety test was conducted as part off the national variety testing program. Varieties from the USDA and private seed companies were included. S-7 was used as the national standard and Conquistador and S-6 were used as regional standards.

Materials and Methods

This trial was located in a level basin field with 600 foot runs and was arranged in a randomized complete block design replicated four times. Plots were 4 rows wide, 38 feet long with 40 inch spacing. The field was preirrigated on 28 March. 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 were analyzed for fiber properites. Following is a crop history on how the crop was managed:

Crop History

Planting date:	22 April
Herbicides:	Prowl (1.8 pt/acre) + Caparol (1.6 qts/acre) preplant; Caparol (1.6 qts/acre) on 18 July
Fertilizer:	77 lbs of N
Irrigation dates:	10 June, 1 July, 5 August, 21 August, 3 September, 17 September
Insecticide applications:	Asana (6.4 oz/acre) + Orthene (1 lb/acre) on 15 August, Vydate (29.7 oz/acre) on 29 August, Applaud (0.5 lb/acre) + Orthene (15.8 oz/acre) on 12 September, Lorsban (1.6 pts/acre) on 26 September, Pencap (3 pts/acre) on 7 October
Defoliations:	Sodium Chlorate (2.5 gal/acre) + Accelarate (22.9 oz/acre) on 17 October
Heat units:	3960 (80/55 degrees) from 22 April to 17 October

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Rainfall: 7.75 inches from 22 April to 17 October
Harvest date: 18 November

Results and Discussion

Results of the test are shown in Table 1. Yields ranged from 961 to 1380 lbs lint/acre. Table 2 has two year lint yield averages of 7 varieties. Table 3 has the fiber property data(HVI).

Table 1. Lint yield, boll size and lint percent for varieties in the Pima Regional Variety Test at the Marana Agricultural Center, 1998.

Variety	Lint Yield (lbs/acre)	Boll Size (grams)	Lint Percent
DPL HTO PIMA	1380a*	3.54a	41.63a
OA 340	1345ab	3.47ab	39.95b
OA 338	1342ab	3.42ab	38.40bcd
UA 9	1328ab	3.26ab	38.79bcd
OA 328	1267abc	3.15ab	39.03bc
OA 322	1250abc	3.15ab	39.18bc
S-7	1247abc	3.11ab	38.37bcd
OA 314	1215abcd	3.01ab	38.28bcd
OA 339	1206abcd	2.81ab	40.11b
CONQUISTADOR	1167a-e	3.24ab	38.05cd
S-6	1157a-e	3.31ab	39.91b
UA 6	1138a-e	2.91ab	37.76cd
UA 7	1117bcde	3.17ab	37.83cd
DPL WHITE PIMA	1074cde	2.74b	37.44cd
UA 4	1049cde	3.54a	38.77bcd
OA 316	985de	3.24ab	37.86cd
UA 5	961e	3.21ab	36.98d
Average	1190	3.19	38.73
CV %	9.32	.028	------

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

Table 2. Two year lint yield averages of 7 varieties in the regional variety test at the Marana Agricultural Center, 1998.

Variety	Lint yield (lbs/acre)
DPL HTO PIMA	1213
OA 328	1155
OA 322	1117
S-7	1064
DPL WHITE PIMA	1028
UA 4	962
UA 5	918

Table 3. Fiber properties data (HVI) for pima varieties in the regional variety test at the Marana Agricultural Center, 1998.

Variety	LEN	UR	STR	E1	MIC	Rd	b
S-6	1.36	89.6	40.0	11.0	4.4	66.4	12.3
S-7	1.35	90.0	44.9	11.0	4.5	68.7	11.4
CONQ	1.35	89.3	45.1	11.0	4.5	66.7	12.1
DPL WH PIMA	1.35	89.0	46.4	12.0	4.2	73.1	9.4
DPL HTO PIMA	1.34	89.5	43.8	11.0	4.3	68.9	11.5
OA 322	1.38	90.5	42.1	11.0	4.1	72.1	10.8
OA 328	1.34	87.7	36.4	10.0	4.3	69.0	11.5
OA 340	1.36	90.2	44.6	11.0	4.4	67.3	11.5
OA 338	1.37	90.1	48.1	11.0	4.1	66.8	11.5
OA 339	1.38	91.0	43.3	11.0	4.0	73.9	8.9
UA 6	1.37	90.1	40.9	10.0	4.1	67.4	11.9
UA 9	1.36	89.9	43.0	10.0	4.1	66.8	11.7
UA 4	1.38	90.2	43.7	11.0	4.4	70.3	11.5
UA 5	1.37	89.6	43.5	11.0	4.1	69.7	10.8
UA 7	1.35	90.0	43.5	12.0	4.3	69.9	11.2
OA 314	1.36	89.0	43.3	11.0	4.4	65.0	11.2
OA 316	1.37	90.2	44.0	11.0	4.3	68.4	11.5