

A Comparison of Three Varieties Planted in 30- and 40-inch
Rows, With and Without Pix

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This test was planted in moisture at the Cotton Research Center (CRC), Phoenix on April 11, 1980. Three varieties were used including two Arizona experimental strains, 7203 and 7309, and Deltapine 70. The stand was hand thinned to 30,000 plants per acre on both 30- and 40-inch rows. Pix was applied to half the plots on June 27 at the rate of 20 g active ingredient/acre. Because of the cultural practices used to prepare the 30-inch rows, a compaction problem was apparently created resulting in slower water intake. The plants in the 30-inch rows were shorter and earlier than in the 40-inch rows. Part of this difference was undoubtedly due to compaction.

The plots were harvested on October 21 using a John Deere 4-row stripper on the 30-inch rows, and on October 24 using a 2-row Allis-Chalmers stripper on the 40-inch rows.

A yield summary of the various treatment combinations is shown in Table 1. There were no significant differences in yield between the 30- and 40-inch rows nor among the three varieties.

A significant variety x row width interaction did occur. The yields given in Table 2 show better yields for the experimental strains, 7203 and 7209, in 40-inch rows, whereas Deltapine 70 produced more in 30-inch rows.

A significant row width x Pix treatment interaction was also found. The yields given in Table 3 show no effect for Pix in the 40-inch rows but in the 30-inch rows the Pix treatment resulted in a yield reduction. Plant heights in the 30-inch rows were already rather short due to the compaction problem previously mentioned. Since one of the benefits attributed to the use of Pix is a reduction in plant height, its application to plants already shortened due to other factors may have been detrimental.

One row from each plot was harvested by hand at about 2-week intervals starting August 26. The cumulative percent of the crop harvested by date is given in Table 4. Yield from 30-inch rows gave an earlier crop in all cases and strain 7209 was the earliest of the three entries in this test. The use of Pix resulted in a slightly earlier crop with the 40-inch rows but had little effect on earliness in the 30-inch rows.

Table 1. Lint yield in pounds per acre from three varieties, 30- and 40-inch rows, with and without Pix application at the CRC, 1980.

Variety	Row Width						Variety Ave.
	Pix	40" No Pix	Ave.	Pix	30" No Pix	Ave.	
7203	1458	1436	1447	1375	1417	1396	1422
7209	1396	1468	1432	1265	1391	1328	1380
Deltapine 70	1392	1355	1374	1394	1510	1452	1413
Ave.	1415	1420		1345	1439		
Overall Ave.		1418			1392		1405

Table 2. Lint yield in pounds per acre from three varieties and two row widths over growth regulator treatments at the CRC, 1980.

Variety	Row Width	
	40"	30"
7209	1432	1328
7203	1447	1396
DP 70	1374	1452

Table 3. Lint yield in pounds per acre with and without Pix application and 30- and 40-inch rows over all varieties at the CRC, 1980.

Treatment	Row Width	
	40"	30"
Pix	1415	1345
No Pix	1419	1440

Table 4. Accumulated percent of crop harvested from four harvest dates for three varieties, 30- and 40-inch rows, with and without Pix application at the CRC, 1980.

Variety	Row Width	Percentage of total yield harvested as of:						10-6 All
		8-26		9-11		9-24		
		Pix	No Pix	Pix	No Pix	Pix	No Pix	
7203	40"	29	27	62	58	85	81	100
	30"	47	47	70	72	86	87	100
7209	40"	41	37	69	66	90	89	100
	30"	51	53	77	75	89	88	100
DP70	40"	20	18	55	54	79	79	100
	30"	38	35	71	68	88	87	100

Effects of Row Widths and Pix on Pima Cultivars

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Summary

Genotype had more influence on earliness and yield than either the application of a growth regulator or a change in planting pattern.

The effects of the growth regulator Pix and row width on three cultivars of Pima cotton were evaluated (Table 1). On September 8, when approximately one-half of the bolls on each strain were open, 79-103 and 79-106 yielded 26 and 42 percent, respectively, higher than Pima S-5. At final harvest on October 20, the two strains yielded 11 and 29 percent, respectively, higher than Pima S-5. Thirty-inch row widths, compared with 40 inch, increased earliness slightly but had no effect on total yield. The application of Pix gave a slight increase in yield in the 40-inch rows but had no effect in the 30-inch rows.