

Table 1. Petiole nitrate levels of cotton treated with four nitrogen rates.

Site 1 N lb/A	Weeks Following Pix Application							
	0	1		3		5		
	20g	Ck	20gm	Ck	20gm	Ck		
100	15,000	10,150	11,100	6,400	6,750	4,700	4,200	
200	15,000	10,650	10,650	7,050	7,150	5,100	4,200	
300	15,000	10,300	11,250	7,400	8,250	5,400	3,900	
400	15,000	11,500	11,250	9,300	8,650	5,900	4,700	
Site 2								
87	18,725	14,850	15,350	13,550	13,050	11,050	12,800	
187	18,400	15,050	16,000	13,150	13,600	11,300	10,050	
287	19,000	15,900	18,700	13,800	13,700	11,200	11,300	
387	18,050	17,750	16,450	14,300	14,050	11,400	11,450	

Table 2. Yield of cotton treated with four levels of nitrogen and two levels of Pix during 1981.

Site 1 Rate of Pix	Nitrogen lb/ac				
	100	200	300	400	Av
	-----lint lb/ac-----				
20g	2,104	1,920	2,059	2,052	2,034
Ck	2,021	2,004	2,026	1,812	1,966
Site 2					
	Nitrogen lb/ac				
	.87	187	287	387	
	-----lint lb/ac-----				
20g	1,898	1,993	1,730	1,864	1,868
Ck	1,813	1,943	1,708	1,859	1,831

Effect of PixTM on Three Cotton Varieties
Planted in 30- and 40-inch Rows

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Three cotton varieties, Deltapine 70, 7209, and 7209-107, were planted in both 30- and 40-inch rows in a replicated experiment at the Cotton Research Center, Phoenix, in 1981. The plots were hand thinned to a uniform stand of 30,000 plants per acre on both row widths. On June 19, when plants were 20 to 24 inches tall with blooms on approximately half the plants, Pix was sprayed on one half of each plot at the rate of one pint per acre. The plants in this field remained rather short throughout the season never exceeding a height of 3 feet. There were no measurable differences in height between the Pix treated and untreated plots.

One row (43 feet long) of each plot was harvested by hand at two-week intervals starting on August 17. Yields shown in the tables below were calculated from the hand harvested plots.

At the first picking, August 17, the only significant variable was a row width by Pix interaction. The interaction was due to higher yield on 30-inch rows for Pix treated plots but a lower yield on 40-inch rows. This interaction persisted through the fourth harvest date. There were significant differences among the three varieties at four harvest dates also. However, at the final harvest on October 26, the varietal differences and the Pix-row width interaction had disappeared.

Cumulative lint yield in pounds per acre at six harvest dates with
30- and 40-inch rows with and without Pix.

		Aug. 17, 1981			Aug. 31, 1981			Sept. 15, 1981		
		Pix	No Pix	Ave.	Pix	No Pix	Ave.	Pix	No Pix	Ave.
Row	30"	684	605	644	946	863	904	1045	964	1004
Width	40"	572	609	590	855	882	868	1005	1025	1015
	Ave.	628	607		900	872		1025	994	

		Sept. 29, 1981			Oct. 12, 1981			Oct. 26, 1981		
		Pix	No Pix	Ave.	Pix	No Pix	Ave.	Pix	No Pix	Ave.
Row	30"	1185	1122	1154	1359	1303	1331	1407	1349	1378
Width	40"	1141	1167	1154	1330	1316	1323	1381	1350	1366
	Ave.	1163	1144		1344	1310		1394	1350	

Significant variables

Aug. 17	Row width x Pix Interaction **
Aug. 31	Row width x Pix Interaction**, variety**
Sept. 15	Row width x Pix Interaction*, variety**
Sept. 29	Row width x Pix Interaction*, variety**
Oct. 12	Row width x Pix Interaction ^{n.s.} , variety*
Oct. 26	No significant differences

The Effect of a Growth Regulator on Pima S-5 Cotton

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For the past three years a concerted effort has been made to evaluate the economics of Pix[®] applications. In most cases there was a positive gain locally. When applied to long staple cotton every comparison (1979 thru 81) in Pima County proved to be economic.

Probably the most important factor contributing to this high success rate was field selection. Applications were only made in fields with a history of excessive vegetative growth. This situation takes advantage of the growth regulator attributes of controlling plant size along with promoting earlier maturity.

In spite of 1981 being an almost ideal growing season, with much more early boll set than normally occurs, the one pint application of Pix[®] on Pima S-5 provided economic returns. The following results were obtained this past season.

Pix[®] Treatment - Pima S-5 *
Apex Farms, Art Pacheco, Marana

Treatment	Seed Cotton Per Plot (Pounds)				Seed Cotton	Lint/Acre
	Rep 1	Rep 2	Rep 3	Rep 4		
1 Pt. Pix [®]	1865	1840	1435	1345	2533	763
Check	1405	1490	1805	1430	2395	721

* First Pick Only

The data above shows the lint increase per acre from the Pix[®] application was 42 pounds. Figuring the value of the increase to be about \$42.00 and the cost for 1 pint of material plus application at \$18.00 the net profit per treated acre was \$24.00. As a result it can be concluded that it was profitable to make the chemical application to this field.