

**PIMA S-5 NITROGEN FERTILITY**  
 Apex Farms, Art Pacheco, Mgr., Marana  
 J.F. Armstrong, B.B. Taylor, and M.D. Openshaw

Nitrogen Applied* Pounds/Acre	Seed Cotton/Plot (Pounds)	Lint/Plot (Pounds)	Lint/Acre (Pounds)
0	635	206	556
40	616	200	540
80	610	198	535
120	639	207	559

\*45% Granular Urea injected in beds

Planted - 4/17/75                      Harvested - 1st Pick 11/11/75  
 Seeding Rate - 13 lbs./Acre                      2nd Pick 12/10/75

The test was a randomized block design with four replications. Fertilizer was injected into the beds in mid-June. Granular Urea (45%) was used for all treatments.

There was no significant increase in yield with the addition of nitrogen fertilizer at any level. Actually, the 120-pound rate only increased the lint yield per acre three pounds over the check.

This test adds further support to the theory that overfertilization, in general, in long-staple production is commonplace. There has been no significant response to nitrogen over the past three years of testing.

Under the conditions of this testing program it would not be economical to fertilize long-staple cotton.

**Pima S-5 Nitrogen Fertility**  
 Apex Farms, Art Pacheco, Mgr., Marana  
 25 Hand-picked Bolls

Weight in grams	Pounds of nitrogen/A			
	0	40	80	120
Avg. boll weight	3.32	3.48	3.56	3.36
Avg. lint weight per boll	1.32	1.40	1.40	1.28
Avg. seed weight	1.96	2.04	2.04	1.92
Seed index	11.5	12.0	11.5	11.3
Lint percent	40.1	39.5	38.2	38.1

The average boll and lint weight of the plots receiving 40 and 80 pounds nitrogen per acre were significantly greater than the weights of the plots receiving 0 and 120 pounds nitrogen per acre.

**Pima S-5 Nitrogen Fertility**  
 Fiber Properties  
 1975

Nitrogen lb/A	Lint strength	Micronaire	Fiber length		
			UHM <sup>1/</sup>	M <sup>2/</sup>	Uniformity ratio
0	5.09	3.35	1.37	.715	51.7
40	4.83	3.34	1.38	.698	50.5
80	5.10	3.37	1.39	.708	51.0
120	4.94	3.29	1.37	.695	50.5

<sup>1/</sup>UHM = Upper half mean

<sup>2/</sup>M = Mean

Pima S-5 Nitrogen Fertility

Avg. number of flowers per plot that bloomed each week during the growing season

Nitrogen lb/A	July 14-20	July 21-27	July 28 - Aug. 3	Aug. 4-10	Aug. 11-17	Aug. 18-24	Aug. 25-31	Sept. 1-7	Sept. 8-14	Sept. 15-21	Total
0	8	11	11	18	34	41	61	46	20	4	254
40	11	7	10	18	21	30	62	48	28	10	245
80	10	10	8	19	20	37	57	63	46	25	295
120	16	14	12	19	32	43	56	53	41	23	309

Percent blooms per plot that developed into bolls

0	94	55	82	69	81	71	31	24	36	6
40	68	61	78	75	71	46	43	32	16	3
80	78	58	59	72	65	38	36	29	13	0
120	31	41	67	71	62	37	27	30	16	0

IRRIGATION TERMINATION FOR HARVEST MANAGEMENT

C.R. Farr

Seasonal variations and long-season fruiting characteristics of cotton lead some growers to believe that late September or early October irrigation is justified in some years. The 1975 crop season provided a strong contrast with the 1974 season. The 1974 season produced an early set with a record crop of 1348 lbs. of lint per acre for the area, whereas the spring of 1975 was the least favorable on record with much more late cotton being set than usual.

In 1975 first flowering was delayed 10-14 days in many fields and few bolls were set below the 10th or 11th laterals. Consequently, a higher proportion of cotton was set in August and September than in 1974 and less than 25% of the crop was open on October 1 in the Carl Weiler trial. In this trial flowering continued into October with date tags showing the last mature bolls were set between September 20 and 25.

In 1975 single harvesting of the late crop in the Weiler trial was completed December 6 (Table 1). This was on sandy loam soil and October 1 final irrigation failed to increase yield over the yield of September 6 final irrigation.

In 1974 a September 8 final irrigation produced maximum yield on sandy loam soil compared with the September 23 irrigation (Table 2). Late harvest (Nov. - Dec.) of the August 23 irrigation treatment retrieved as much spindle-picked cotton as early harvest (Oct. - Nov.). However, late harvest (Dec. - Jan.) of the September 8 and 23 irrigation treatments reduced the yield of the machine-picked cotton when compared earlier harvest in November and December. These results and those of 1975 reinforce final irrigation trial data from earlier years which indicate that irrigation after mid-September does not increase yield and may reduce yield on heavier soil types. Late irrigation makes defoliation more difficult, may delay maturity of the cotton, and frequently delays the time of harvest.