

Table 3. Net Farm Income (\$/ac) Resulting from Narrow-row after Eight Weeks of Flowering vs. Conventional Terminated after 12 Weeks.

REDUCED COSTS:		ADDED COSTS:	
Cultivation	1.76	Shape beds	2.43
Irrigation	14.74	Seed	4.80
Fertilizer	5.59	Herbicides	.10
Insecticide	39.47	Ginning	<u>5.79</u>
Harvesting	73.20		
Road	8.14	Total	13.12
Hauling	.19		
Prod. credit	.53		
Management	<u>2.69</u>		
Total	145.81		
REDUCED RETURNS:			
Yield	53.79		
Total added costs and reduced returns			<u>66.89</u>
NET CHANGE IN FARM INCOME:			+78.92

Table 4. Break-even Prices (¢/lb) for Conventional and Narrow-row Cotton Production.

Cultural System	Water	Weeks of Flowering		
		8	10	12
Conventional	Gravity	27.56	31.26	32.43
	Pump	33.55	37.89	39.76
Narrow-row	Gravity	22.51	23.64	24.68
	Pump	28.04	29.88	31.57

Under conditions where plant growth can be controlled to achieve uniformly medium plant height allowing an efficient harvest with the stripper harvester, narrow-row cotton can be produced and harvested more economically than conventional full-season cotton. An opportunity exists to increase net farm income using the narrow-row, short-season system, especially in areas of high-cost pump water.

#### BREEDING COTTON ADAPTED FOR NARROW-ROW, HIGH POPULATION CULTURE AND LATE PLANTING

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Evaluation of selected genotypes of cotton grown under narrow-row, high population culture with late planting was carried on in 1975 at Yuma (100' elevation), and Cotton Research Center, Phoenix (1100').

Plant populations varied in the two tests, but in both locations the populations were considerably higher than that normally found in conventional single-row cultural practices.

Genotype Test--1975 Yuma

Yield, lbs. of seed cotton/Acre ( $\bar{x}$  of 2 reps)

Stoneville 213	3835
DPL-16	3436
DPL-61	3109
Arizona Superokra	2212

Planted dry with grain drill and irrigated up, May 28, 1975.  
Plant population, approximately 200,000 plants/Acre. Plots harvested by hand.

Genotype Test--1975 CRC, Phoenix

Yield, lbs. of lint/Acre ( $\bar{x}$  of 4 reps)

Arizona Superokra	880
Stoneville 213	749
DPL-16	736

Planted dry with grain drill and irrigated up, May 22, 1975.  
Plant population approximately 180,000 plants/Acre. Plots harvested with stripper.

COMPARISON OF SHORT STAPLE PLANTING DATES

C.R. Farr

Increased interest in late plantings of cotton after small grain has directed attention at timing and yield losses as late wheat harvest delays cotton planting. Proportionately higher percentages of five-lock bolls have been observed in seasons with favorable weather so this characteristic was recorded in the data.

As expected, yield tended to decrease with later planting dates and boll size was smaller for the last two planting dates. Five-lock bolls were larger than four-lock bolls, but there was not consistent reduction in boll numbers or boll size as plantings were delayed. The June 15 planting showed undue moisture stress at one point and many late bolls were killed by an early frost to reduce yield below what had been expected.

Planting Date	No. 4-lock* Bolls/10 ft. Row	No. 5-lock** Bolls/10 ft. Row	Percent of 5-lock Bolls	Ratio Size	Percent Turnout 1st Pick	Lbs. of Lint per Acre
				5-lock: 4-lock Bolls		
1. April 25	238	58	19.7	1.22	34.65	1348
2. May 5	204	51	20.1	1.19	34.73	1167
3. May 15	170	50	22.8	1.29	33.58	1108
4. May 30	190	29	13.3	1.25	34.08	998
5. June 15	66	19	22.4	1.19	32.17	292

GRAMS PER BOLL

	April 2	May 5	May 15	May 30	June 15
4-Lock Boll Size	4.24 g	4.39 g	4.27 g	4.03 g	3.77 g
5-Lock Boll Size	5.19 g	5.21 g	5.52 g	5.04 g	4.48 g

\*All data reported for 10-foot row samples which were taken from four-row plots  
(continued)