BETWEEN- AND WITHIN-ROW SPACING OF COTTON

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An experiment was conducted at the University of Arizona Cotton Research Center (CRC), Phoenix, in 1967 to compare various between- and within-row spacings with the varieties Deltapine Smooth Leaf (DpSL) and Hopicala. The between-row spacings included 20, 30 and 40 inches and within-row spacings of 6, 12, 18, and 24 inches.

Plantings were made at two dates, however, stand problems were encountered in a March 23 planting and this discussion will only consider results of the April 5 planting date.

Separate statistical analyses were made with each between-row spacing. With the 20-inch between-row spacing, yields were not statistically different with within-row plant spacings of 12, 18, and 24 inches. When the within-row spacing was only six inches, yield was significantly lower than the other spacings. When the 30-inch between-row spacing was compared separately, there was an interaction of varieties and within-row spacings. Deltapine Smooth Leaf out-yielded the Hopicala variety in all three between-row spacings.

In a combined analysis with all three between-row spacings, a between- by within-row interaction indicated that the wider between-row spacings yielded better with closer within-row spacings, while yields with the narrower between-row spacings were greater with wider within-row spacings. The variety by within-row spacing interaction indicated that Hopicala yielded better with wider within-row spacing and DpSL did best with closer within-row spacing. Seed cotton yields per acre for the two varieties, three between-row and four within-row spacing treatments are shown in the following table:

Calculated seed cotton yields per acre for 2 varieties, 3 between- and 4 within-row spacings at the CRC, 1967

Variety	Between-row spacings	Within-row spacings 6"	12"	18"	24"
		lbs.	lbs.	lbs.	lbs.
DpSL	20"	2970	3382	3403	3430
DpSL	30"	3402	3476	3152	3456
DpSL	40"	3384	3368	3299	3398
Hopicala	20"	1869	2358	2490	2461
Hopicala	30"	2047	2524	2505	2374
Hopicala	40"	2228	2495	2366	2526

The 1967 yield results at the Cotton Research Center were quite different than similar tests in recent years. It is difficult to pinpoint the factors involved to help explain why such differences were found between years. Because of very favorable results in recent years with different between- and within-row spacing treatments, we plan to continue with modified experiments in 1968.

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