

## I. Cotton Production: Cultural Practices

### EVALUATION OF PREPLANT TILLAGE SYSTEMS IN COTTON PRODUCTION

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Experimental evaluation of the effects of preplant tillage systems on yields of short-staple cotton was made for the 1965, 1966 and 1967 crop years. Plots were located on the Marana and Safford Experimental Farms and at the Cotton Research Center.

The tillage systems (treatments) tested were:

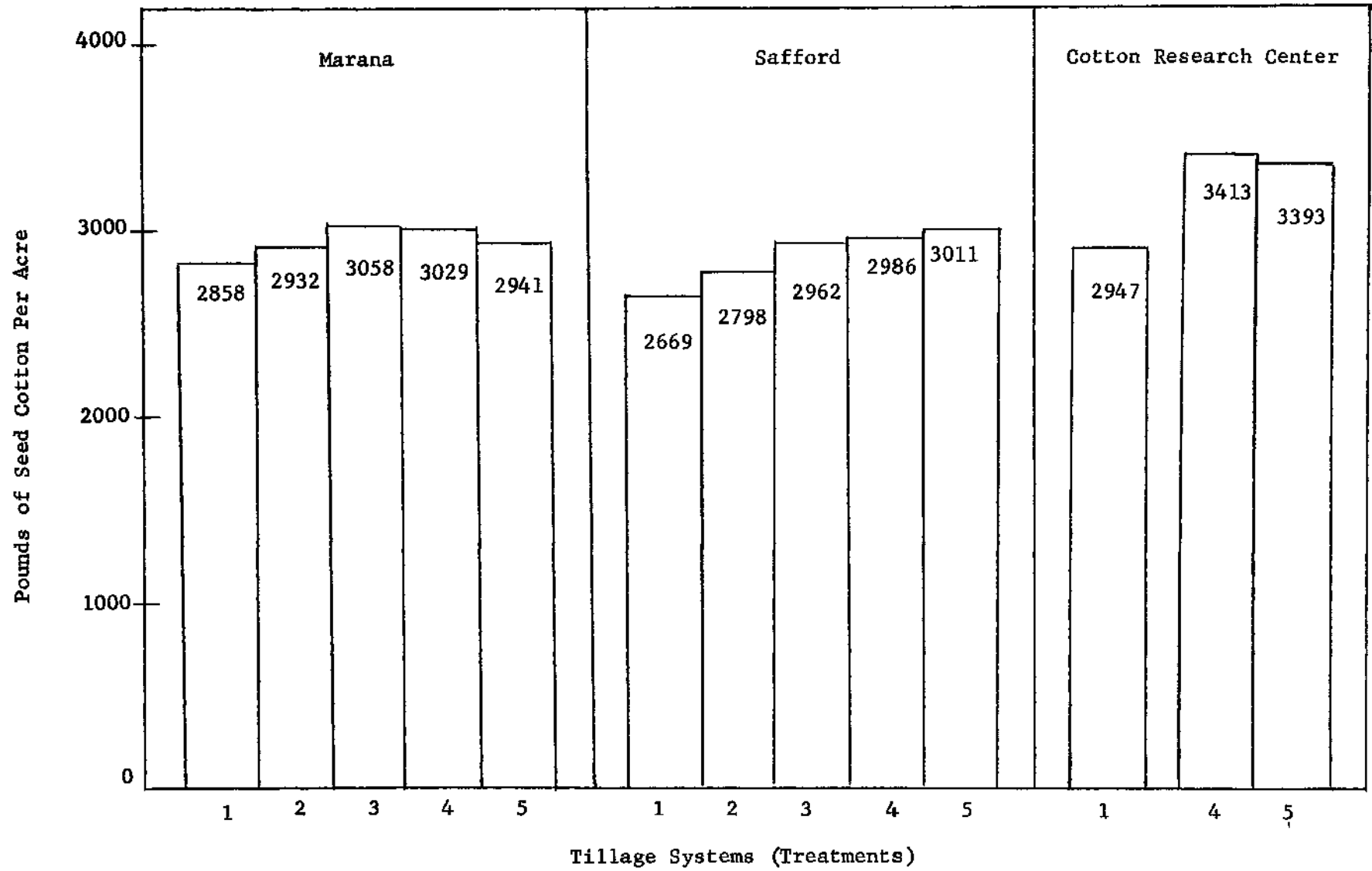
1. Conventional: Chop stalks, disc, plow 12-14", disc 2x, float or drag, bed.
2. List Only: Chop stalks, bed.
3. Chisel-List, chisels at 12-14": Chop stalks, bed.
4. Chisel-List, chisels at 16-19": Chop stalks, bed.
5. Chisel-List, chisels to depth limit of power unit, 20-28": Chop stalks, bed.

Treatments 1, 4 and 5 were used at the Cotton Research Center due to limited amount of available land.

Cotton yields at each of the three plot locations were averaged for the three-year test period. Statistical analysis of the yield data showed no differences between tillage treatments within each of the three locations. There was a trend however, of slightly increased yields in the chisel-list treatments. (See Accompanying Bar Chart)

Although there is a substantial cost reduction with the simpler pre-plant tillage systems and a slight increase in yield over the conventional preplant system, the chisel-list systems alone do not meet current pink bollworm control requirements. However, as a part of an "early crop" system with early fall trash treatment, the chisel-list method of land preparation may offer a means for cost reduction in this set of operations.

THREE YEAR YIELD AVERAGES ('65, '66, '67)



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