



## **EFFECTS OF STAND LOSS AND SKIPS ON COTTON YIELDS**

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Hail, disease and other factors frequently result in the injury and death of young cotton plants. In dealing with the evaluation of this type damage, it is frequently recommended that if 2 or more plants per foot of row survive and if there are not too many long skips, the stand is still good enough for optimum lint production. Under good growing conditions, the plants on either side of a 2 to 3 foot skip can compensate for the missing plants with little or no loss in yield. But what about long skips?

In 1981 through 1984, studies were conducted at the Research and Extension Center at Lubbock to determine the effects of skips on cotton yields. In these tests, the length of the skips varied from 0.5 to 9.0 feet in length. The skips were positioned in the drill of the test rows at random to approximate the situation typically encountered under field conditions (i.e. skips of varying length scattered throughout the field).

The number of skips was controlled to provide 3-types of stands:

- 1) Normal stand (4 to 4.7 plants per foot)
- 2) 25% stand loss (3 to 3.5 plants per foot)
- 3) 50% stand loss (2 to 2.5 plants per foot)

Results of the two-year study are summarized in Table 1. Stand reductions of 25- and 50-percent, respectively, reduced lint yields about 13- and 26-percent, respectively. Similar yield loss can be expected under actual field conditions.

Table 1. The effects of skippy stands on cotton yields, 1981-1984\*

Treatment	Average stand, Plants/foot	Lint yield, Lbs/acre	Yield decrease, %
Normal stand	4	438	--
25% stand loss	3	382	12.8
50% stand loss	2	324	26.0

\*Tests conducted at the Texas A&M University Research and Extension Center at Lubbock by Dr. Don Wanjura, Ag Engineer-USDA, and Dr. James Supak, Extension Agronomist – Cotton using Paymaster varieties (909, 266, 404). The study was partially funded by Cotton Incorporated.

The profitability of replanting damaged stands will depend to a large degree on farm location and date. Figure 1 below illustrates that kind of yield losses that can occur from late plantings in an average year.

Based on the information in Table 1 and Figure 1, a farmer in Castro County would be ill-advised to replant a stand averaging 2 plants or more per foot of row after June 10, even if it were skippy. For that matter, even a producer in Dawson County might have difficulty justifying the cost of replanting a similar stand after June 10.

**Figure 1. Potential yield loss from delayed plantings after May 10.**

