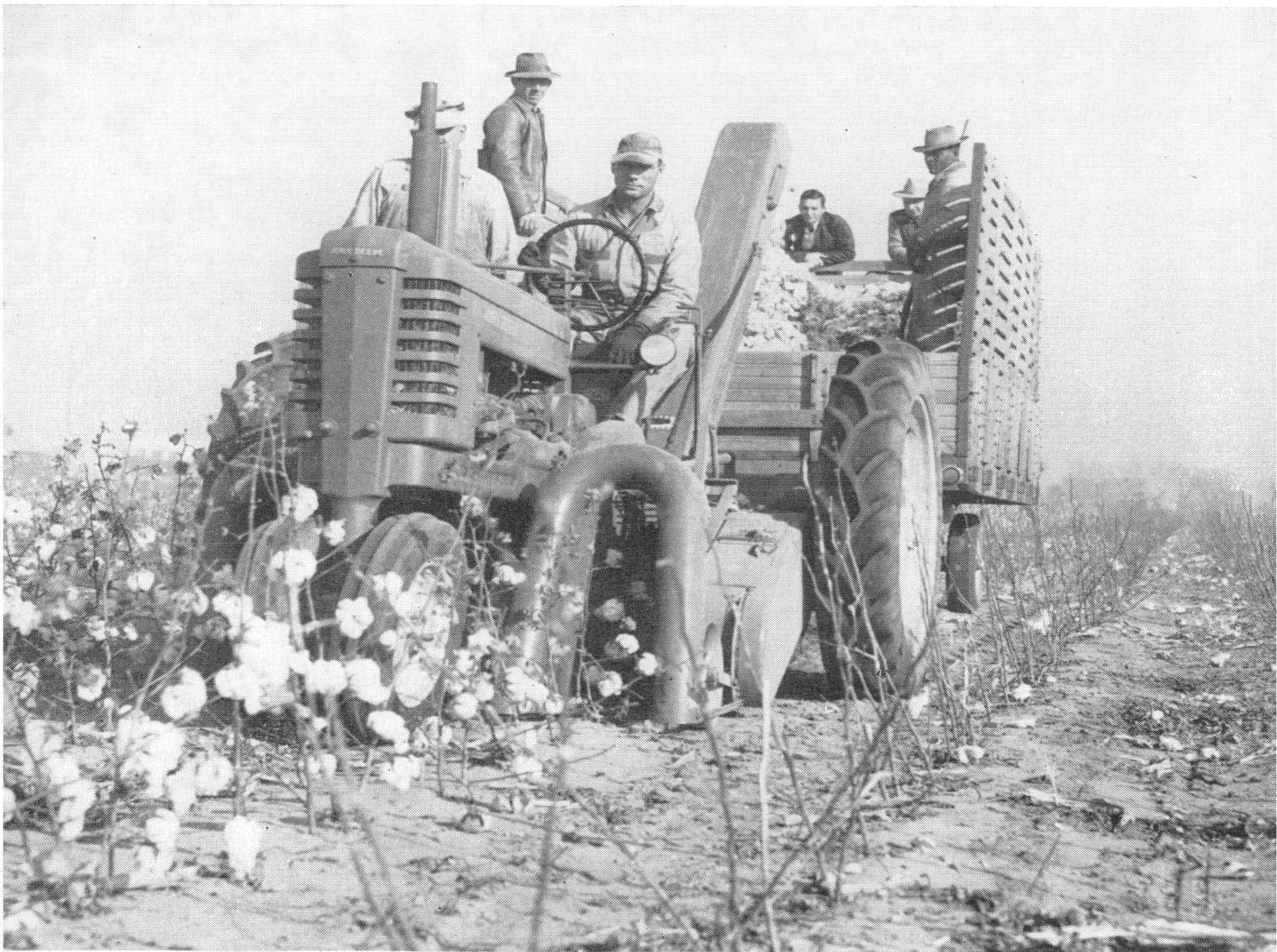


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# Stripper Harvesting *of* Cotton

Circular 500



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# STRIPPER HARVESTING — COTTON

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## MECHANICAL HARVESTING PRACTICAL

The use of mechanical roller type cotton strippers has proved to be a practical and economical method of harvesting in the western area of Oklahoma and can be used successfully on cotton plants 10 inches to 36 inches in height.\* The scarcity and high cost of labor will accelerate the shift to complete mechanization of cotton production in this section of the state. Cotton growers seem likely to find it worthwhile to give due consideration to planting and cultivating their crop in such a manner that it can be readily harvested with mechanical strippers. There should be no more expense to grow cotton so that it could be machine harvested, if necessary.

### Select Proper Variety\*\*

A storm resistant variety will minimize pre-harvest field losses and machine losses at time of harvest. Of the varieties grown in this state, Stormproof No. 1, Lankart 57, and Macha are the most storm resistant and adaptable to mechanical stripping. Lockett 140 and Northern Star are rated "fair" for stripping. Harvest of these varieties should not be unduly delayed.

It will very likely be profitable and necessary to machine harvest less storm resistant varieties next season. On most soils cotton will stay in the burr fairly well until December unless subjected to severe storms.

### Planting and Cultivating

The two or four row planter should be used with a 40-inch spacing of rows. The roller type stripper is made for this row width and if used on any other spacing harvesting losses are greater. Long straight rows result in easier harvesting but contour rows can be successfully harvested if sharp turns are avoided when planting.

Plants closely spaced, 6 to 12 inches in the row on tight land and 3 to 6 inches on sandy soils, will likely give good results. Plants of uniform height result in higher efficiency of the stripper. It is a common practice to plant to a stand; but some growers use too much seed, which leaves the plants solid in the row. More precision in planting to a stand can be obtained from high quality delinted seed using the corn or field bean plate.

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\* Oklahoma Agricultural Experiment Station Bulletin B-364 "Farmers Find Cotton Stripping Profitable," by John D. Campbell.

\*\* Oklahoma Agricultural Experiment Station Bulletin B-343 "Cotton Varieties for Oklahoma," by I. M. Parrott, N. M. Gober, and J. M. Green.

Placing the seed in a narrow drill row permits the plants to feed easily into the stripper; therefore a knife seed furrow opener or a stinger or opening plow at end of planter chute gives good results. A splatter row is to be avoided. Deep rooted plants are more difficult to pull up by the machine; therefore, planting in the furrow and working the soil to the plants anchors them more securely. Clean cultivation is desired. The cotton lint tags onto weeds and weeds may also choke the stripper.

Most stripper owners leave the cotton row slightly ridged at the last cultivation and the middles level or with a ridged line in the middle to aid in guiding the tractor while harvesting. Leaves collect in the middles rather than under the plants.

Some farmers on heavy soils prefer to leave the middles high with a slant to the drill row in order to let the water from small cotton showers run to the plants. However, stripping the lower bolls from stalks still in the furrow may be difficult.

### **Defoliation**

Chemical defoliation of the leaves prior to frost will hasten the opening of the cotton, since plant growth stops and the bolls dry out. This will permit harvesting sooner after frost and should improve the grade.

Whether or not the leaves can be successfully defoliated depends on the condition of the plants, the soil, and weather. Plants must be active to react to the chemical. Drought stressed plants are difficult to defoliate and cold weather may cause poor results since under these conditions the plants are almost dormant.

Defoliation whether by chemicals or natural causes is highly desired but not a "must" for successful stripper harvesting.

### **Harvesting**

For the harvesting operation two men are commonly used—one on the tractor and one in the trailer. In addition the cotton must be hauled to the gin, which may require more man hours than the harvesting. This depends on distance of haul, size of trailers, and time consumed at the gin. Hauling to the gin may be done at night to reduce the time strippers are idle if there are sufficient trailers and labor is not available.

It usually takes at least two weeks after the first killing frost for the plants to cure out. Proceed with harvesting as soon as the plants are ready to save grade and avoid weather hazards. Immature bolls at frost will delay harvesting since they dry out so slowly. Some stripper owners have installed a green boll separator which permits earlier harvest, and some gins are equipped with green boll separators.

The skill of the tractor operator is one of the chief factors in reducing cotton losses. An experienced operator harvesting a storm

resistant variety should not waste over two to three percent, which is no more than the loss from hand harvesting after frost.

Adjustment of the gauge wheels is most important to permit gathering of low bolls and at the same time avoid picking up trash and clods. Extreme care must be exercised on rocky soils to keep rocks out of the harvested cotton which could result in damage to gin equipment or cause a fire in the gin or cotton.

Harvesting speed will depend upon condition of the field and cotton plants and the yield per acre. Two acres per hour is an average speed in cotton making one-half bale per acre and less.

Six to eight hours operation per day is average due to waiting in the morning for the cotton to dry out.

For uninterrupted operation several trailers are needed. During the height of harvest enough trailers for a full day's operation may be required. These trailers should be large enough to hold one or two bales without tramping. Tramping rough harvested cotton will easily lower the quality one grade. Saving the grade on a few bales would soon pay for a trailer.

The grades of cotton mechanically stripped compare favorably with hand snapped cotton when harvested on the same day.\* The grades of machine stripped cotton average only one-twelfth lower than that hand harvested. This means that out of every twelve bales stripped eleven were the same grade as that hand harvested and one bale was one grade lower, for the 1948 crop.

For the 1949 season the Agriculture Economics Department of the Oklahoma Experiment Station was able to compare grades on approximately 500 bales of cotton harvested on a once-over-all stripper operation. The grades of these 500 bales averaged one-third of one grade lower than was the average grade of all cotton harvested in western Oklahoma during the 1949 season.

The highest quality cotton is that which is harvested soon after maturity. The loss of grade in machine stripped cotton is due to the delay of harvest until after frost and not to the method of harvesting. It must also be kept in mind that on the average about 50 percent of the cotton is harvested before frost in western Oklahoma. There would be undue weathering of only that portion which could be harvested before frost. Five to six weeks of weathering will likely lower the quality of cotton one grade.

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\* Oklahoma Agricultural Experiment Station Bulletin B-364 "Farmers Find Cotton Stripping Profitable," by John D. Campbell.