

Harvest All You Grow

--- Increase Profits



**BETTER CULTURAL
PRACTICES MEAN MORE
COTTON IN THE TRAILER**

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COTTON PRODUCTION PRACTICES can influence the amount of cotton that goes into your trailer at harvest time. Cotton yield varies little between populations of 15,000 to 75,000 plants per acre. Harvested yield does vary and materially affects profit. When field conditions are perfect for picking, a properly adjusted machine can be expected to harvest as much as 96 percent of the cotton. What happens to harvested yield when field conditions are not ideal? Field loss is increased.

Efficient mechanical harvesting is affected directly by field conditions at harvesting time. Several accepted field preparation practices will permit harvesting the most high quality cotton as economically as possible.

Remove Field Obstructions

Each field in which a picker is to be operated should be clean of stumps, rocks, bricks and other debris. Much time and money are lost each year from breakdowns caused by obstructions in the fields. Not only are repair bills expensive, but 2 hours lost time may cost from \$17.50 to \$35.

Smooth Fields

Fields should be formed, if practical, or in some cases smoothed, for the most efficient machinery use for more precise planting, tillage and chemical application and for efficient mechanical harvesting. Pot holes prevent the best timing of field operations. They cause uneven maturity, reduce stands, encourage grassy spots and lower picking efficiency.

Poor drainage in fields is a major cause of cultivation delays and harvesting delays. Special

care necessary during the growing season to remove grass from low spots is expensive and time consuming.

Picking also must be delayed until the wettest spots in the field will support the picker. Harvesting soon after a rain is important, since the gins are usually "caught up" and can handle seed cotton quickly.

Start Preparation Early

Stalks shredded and turned under as soon as possible after harvest decompose before spring. This prevents their interference with precision planting and other operations necessary for efficient cotton production and mechanical harvesting. In addition, these practices help control insects and diseases.

Make Turnrows Wide and Smooth

Even a small furrow or rough spot between the turnrow and row ends causes the picker head to "bob" as it enters the row. This bobbing causes the picker to drop cotton, miss bottom bolls and debark the stalks. When the operator reduces speed to cross the furrow or rough spot, the picker drops cotton on the ground and leaves some on the stalk.

Narrow turnrows also cause excessive loss at the end of the rows. This loss often amounts to from \$2 to \$4 or more per acre. When the machine has ample room to turn and enter the row at the proper speed, these losses are minimized.

A desirable turnrow is smooth, firm and has a width equal to $1\frac{1}{2}$ times the length of the mechanical picker, that is, 25 to 30 feet wide.

Prepare Uniform Rows

Thorough land preparation, which produces seed beds of uniform depth and tilt, will allow a minimum seeding rate to produce a stand of healthy plants. Seed of good quality in both

germination and vigor, planted to a uniform depth, will help insure uniform emergence and usually will improve the stand.

Rows should be straight or curved gradually. In picking rows with sharp curves, the picker head bends stalks sideways, causing them to be pulled downward into the picker head. Bending will cause the machine to debark the stalks, break off limbs, drop cotton out of the picker head and increase the trash content.

Select Recommended Varieties

The ideal plant for maximum harvesting efficiency is of medium size with relatively short fruiting nodes, medium foliage, smooth leaves and lower branches well off the ground. It should be a variety of medium early maturity, have medium size open-type bolls and tend to shed leaves when fruiting is complete.

Other plant characteristics, such as wilt resistance, however, may dictate the variety chosen. Follow local recommendations for the selection of varieties.

Follow Fertilizer Recommendations

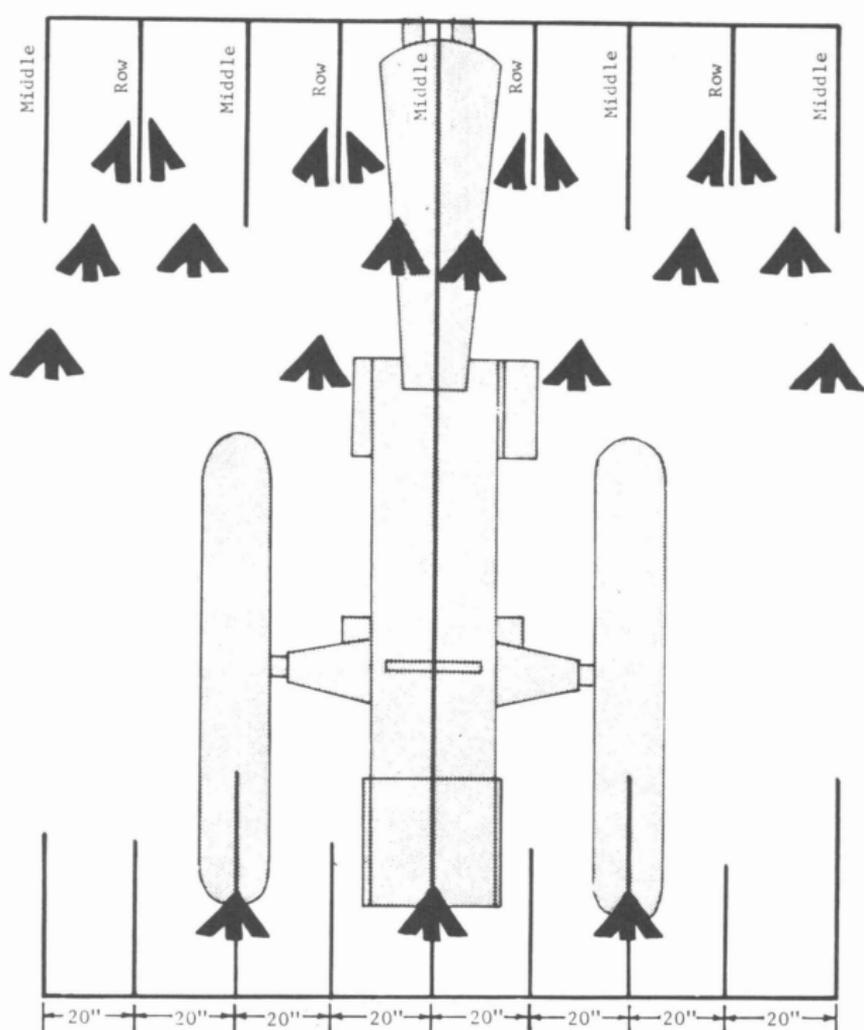
Too much nitrogen or nitrogen applied late in the season may cause excessive rank growth and delay maturity of the cotton plant. Some of the results from excessive nitrogen are:

1. Harvesting more difficult.
2. More cotton lost during harvesting.
3. More trash harvested with the cotton.
4. Defoliation delayed and more irregular.
5. Boll rot increased.

Adjust Equipment Accurately

Use the line diagram method of setting the distance precisely between row centers for mounting planters, cultivators and other equipment on

tractors. Check machines for alignment and adjustments regularly using the line diagram method.



Use the line diagram to set the distance between rows for bedding, planting and cultivating.

Plant for a Stand

Prepare rows to proper width in advance. Let them settle to a firm seed bed before planting. Wait until the soil is warm for proper germination. These practices will help insure greater emergence and a more uniform stand of vigorous plants.

A high population of three to four plants per foot of row will reduce the stalk height, cause the bolls to set slightly higher above the ground and reduce the length of limbs on the stalk. All three help reduce field loss at harvest time.

Effects of Plant Spacing

	Spacing	
	20 inches	4 inches
Height of plants	54 inches	46 inches
Fruiting height	1.5 inches	4.4 inches
Longest limb	36 inches	15 inches
Picking efficiency	90.4 percent	94.3 percent
Harvested yield	901 pounds	962 pounds

Plant population of three to four plants per foot uniformly spaced along the row results in higher harvested yield. "Skippy" cotton reduces picking efficiency.

Control Grass and Weeds

Grass and weeds cause "grassy" cotton, increase picker losses and reduce yields. Gins are not efficient in removing grass from cotton.

1. Maintain uniform stands to help control grass.
2. Use chemicals to control early-season weeds and grass.
3. Use conventional cultivation methods if chemical control is not effective.
4. Use timely application of flame, regular cultivation and post-emergence chemicals for mid and late-season weed control.

Control Insects

Good insect control is necessary for developing a uniform field of well-formed plants with bolls evenly distributed on the stalk. Follow the recommended insect control program. Insects cause late and uneven maturity and reduced yields.

Cost of good insect control is relatively small when considering the extra yield obtained. Insect control can be a most important factor in determining yield.

Maintain Row Shape

Lower bolls can be harvested with less trash if the row shape is properly maintained throughout the growing season. For efficient harvesting, rows should be uniform in height, width and contour.

The picker drum must be operated close to the ground. This is possible only if the row profile is shaped properly and uniform in height. Raising the picker drum only 1 inch to avoid high spots or irregular row profiles may lower the harvesting efficiency as much as 4 percent. In one bale of cotton per acre, this is a \$6 loss.

Wide, smooth middle furrows that are relatively deep allow leaf and stem trash to collect in the middles instead of under the stalks.

Use Care in Irrigation

Exercise care in preparing irrigation furrows. Excess dirt thrown under the plants or on the row shoulder will prevent the machine from being operated low enough to pick bottom bolls or will result in excessive wear to the picker head from dirt picked up while "plowing" through the loose soil. The bottom of the furrow should be in the center of the row middle to help the operator keep the machine centered on the row.

Irrigating too late may cause excessive growth, increase boll rot, delay harvesting and reduce quality. All of these may result in a lower harvested yield. In many instances, more is lost than gained by applying water too late.

Consider Defoliation

Defoliation is not always beneficial or necessary. It does not always pay. However, it usually helps preserve quality and increase picking efficiency.

The information in this leaflet was prepared by State and Federal Extension Specialists with the assistance of the National Cotton Council.