



Above: Milled packer wheel to force seed into moist ground before coverage. Useful on clay ground that dries out badly. Note weights to force planter into these heavy soils.

Below: Listing in on sandy ground with disk openers. This may be done on flat or bedded land.

# Planting Cotton

By W. I. THOMAS

The art of placing cottonseed in the soil to secure a positive stand of plants is the goal of all cotton growers. A full stand of plants not only is necessary to obtain maximum yields, but it materially cuts weeding costs, as the field tends to be uniformly shaded.

Since cotton planted right after the last spring frost does best, an attempt is made to plant cottonseed at a time of year when temperatures are not exactly favorable for good germination. Difficulty in obtaining stands is associated with extreme soil types. Very light sands and heavy clays are more difficult to plant in than loams.

## Moisture in the Seedbed

Studies in planting operations indicate that moisture retention in the seedbed is the most important factor in obtaining positive stands of cotton. Light soil types dry out badly. Listing in may be necessary to secure moisture, and the use of surface packing must be used to retain it.

Heavy soils tend to have considerable air space between the soil particles that are developed by the planter opener, but packing the surface is difficult without creating an adobe

effect. Good mulches are hard to obtain on heavy soils.

Ridging over or capping by the use of bar-off disks aids on these heavy soils. The ridge is removed some five days later.

## Rate of Seeding

Excessive use of planting seed does not help in securing stands on pre-irrigated seedbeds. Only where the stand is watered up is this of aid. Fields where good moisture and mulch conditions prevail have a good stand regardless of the rate of seeding. There are 4,000 seeds in a pound of acid-delinted cottonseed. Even though this seed may have a germination percentage of 85 percent or better, one can only expect 50 percent emergence in the field.

It takes ten quarter-mile rows to make an acre. A plant a foot apart is considered normal, hence 13,200 plants are necessary for a full stand of cotton. Seven pounds of acid-delinted cottonseed will suffice, but generally 10 or 12 pounds are used. Thinning is not imperative if these rates are used.

Do not rely on extra seed to get a stand of cotton. This can cost you plenty, and it has no relation to the price of planting seed.

## Good Planter Essential

A good planter should have a lister or opener device to secure penetration to moisture, and to regulate depth of seeding. It should have a long runner opener. Weights or springs to force the planter into the hard spots of the field are desired, yet it should be gauged to avoid going too deep.

Positive coverage must be assured without undue packing. Packer wheels for sands, and hillier disks for clays are indicated. There is a strong trend toward listing in on top of the beds at the present time. This develops side ridges to prevent drying out and blowing out from sand.

## Germination and Treatment

Arizona farmers insist on good seed, so little need be said along this line. Acid delinting plus the use of special dusts is considered standard practice. A home germination test is advisable to be really sure.

A light bulb in a box with a moist burlap bag will do. Egyptian cottonseed will germinate at 55 degrees; upland cottons need 65 degrees of temperature to germinate. Plant Egyptian first where both kinds are being used on the same farm.

## Use Precision Planters

The vegetable-type planters may be used for cotton when properly rigged. They tend to lose their precision effect when operated at high speeds, however. Since it takes just so much seed to get a stand, doubtful savings can be had here. Cell plates when driven at uniform speeds will give comparable stands with a lot less bother. The use of hill drop devices are not advisable.

## Depth of Seeding

Depth of seeding is quite critical. Seed planted too deep will emerge in a weak condition. Seed placed shallow will dry out before sprouting. Two to three inches deep is considered correct. Moisture must be retained for five or six days even if surface packing must be resorted to.

## Summary

1. The retention of moisture around the seed at a close proximity to the surface without undue packing of the cover is imperative in securing good stands of cotton.
2. An opener device to secure penetration to moisture and to regulate depth of seeding is suggested.
3. Use of a covering device that eliminates the voids or air spaces without undue packing is indicated.
4. Positive depth control by individual units on each row, weights for hard areas, and depth regulators for sandy areas is also important.
5. Rate of seeding is not critical unless unusual conditions exist, and this should not be relied on to get a stand of cotton unless watering up is contemplated.
6. Replanting with a lister planter is preferred to watering up as weeds in a watered-up stand are hard to control and watered-up stands are quite skippy.
7. Difficulty in planting is associated with extreme soil types.

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