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CC152 Adjusting your Planter for Sorghum

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Adjusting Your Planter for Sorghum

- Select a plate that will fit your seed.
- Calibrate your machine for proper operation.

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College of Agriculture and U.S. Department of Agriculture Cooperating W. V. Lambert, Director
Adjusting Your Planter for Sorghum

DELBERT E. LANE

Rate of seeding has much to do with the quality and yield of the sorghum crop. Several factors may influence the stand, including size and viability of the seed, seedbed conditions, and planter adjustment. If moisture is a problem the adjustment becomes extremely important.

Selecting the seed plate

The proper seed plate may be selected by (1) sending seed to the nearest implement dealer or branch house for a seed plate test, or (2) drilling blank plates to fit the seed.

The dealer should have the following information about the planter: (1) model number, (2) width of row, (3) seed spacing desired in the row, and (4) sprockets to be used with the plates. The dealer may want a representative quart sample of the seed for the test. Check with him on this.

When preparing to drill blank plates, consider (1) number of holes in seed plate, (2) size of hole, (3) shape of hole, (4) thickness of the plate, (5) ground travel per revolution of the plate, (6) size of the seed, and (7) condition of the seed box.

Use the operator's manual to find (1) the wheel travel per revolution of the seed plate, (2) spacing of seed with various combinations of sprockets and seed plates, and (3) information on care and adjustment for most efficient operation of the machine.

If you have no operator's manual a new one can usually be obtained from the manufacturer.

Number of holes

Seeding rate may be varied by changing the speed of the seed plate in relation to ground travel (by putting a faster or slower sprocket on the seed plate drive). The faster sprocket will give an increased planting rate unless a plate with fewer holes is used. The slower sprocket gives a decreased planting rate.

A medium sprocket on the seed plate drive is best when determining the number of holes for a blank plate because the planting rate can be varied either way.

If the relationship between the sprocket and gear setting, number of holes in the seed plate, and seed spacing is not given in the instruction book, it can be determined by the following procedure:
1. Block the drive wheel off the floor.
2. Engage the seed shaft clutch.
3. Place a mark on the seed plate drive gear and a corresponding reference mark on the seed box floor plate or on some other stationary part of the planter.
4. Fix a reference point near the rim of the drive wheel and mark the rim of the drive wheel at the reference point.
5. Turn the drive wheel enough to give one revolution of the seed plate; then measure the inches of drive wheel circumference that passed the reference point while the seed plate was making one revolution. This is equal to ground travel.
6. Determine the number of holes needed in the seed plate to give the desired seed spacing as follows: divide the inches of wheel circumference that passed the reference point during one revolution of the seed plate by the distance (inches) desired between the seeds dropped from two adjoining holes in the plate. A seed plate 7 inches or more in diameter can accommodate 32 to 36 holes up to 7/64 inch in diameter.

Size of the seed plate hole

The hole should be large enough to hold two seeds. (Remember that seeds vary considerably in size.) If the hole is large enough for only one seed it has a tendency to clog. Factors other than size of the seed affect the seeding rate. These are plate thickness, and the sprocket or gear combination used on the seed plate drive. The seed size is the most important factor and a chief reason for adjusting the planter before each planting season.

Drilling the holes

A blank plate may be used to check the seed box for leaks before drilling the holes. The blank plate is cast iron and must be handled with care.

Lay off the holes accurately with a divider or a fence staple with the points spread to the proper distance. Locate the holes on the circle at a given distance from the edge of the plate. A stationary drill is best and the plate should rest on a flat, solid surface.

Reaming the holes

Ream the holes at an angle of 30° and to within 1/16 inch of the top of the plate. The top of the plate should be beveled off at a 15° angle. Holes are reamed to allow seed to drop from the hole without clogging and are beveled so the shutoff pawl can remove extra seed or ride over seed without bouncing.
Check the seed box for leaks

Check the false plate or box bottom and the seed box for any openings that will allow leakage of the seed. Leaks may occur between the cutoff and the plate, around the plate, or through the corner formed by the seed plate, the cutoff, and the seed cone.

To check for leaks, remove the sheet metal and direct a stream of seed directly on a blank seed plate. If seeds leak by the cutoff pawl they will be carried under the cutoff cover and around the edge of the seed box cone. Seeds that leak by the edge of the seed plate will drop on the ground.

Calibrating the seed mechanism

The planter should be calibrated each season because of variable factors involved in the accuracy of the planter.

The planter may be calibrated by the following method:

1. Block the drive wheel off the floor.
2. Determine the distance around the drive wheel.
3. Put seed in the box, engage the seed-shaft clutch, and turn the drive wheel several times after the seed begins to come through.
4. Place a pan under the seed tube. Make ten revolutions of the drive wheel at planting speed. Turn the wheel as fast as it will go in the field.
5. Count the seeds in the pan. Divide the number of seeds by ten times the circumference of the drive wheel (in feet). The result will be the approximate number of seeds that would be planted per linear foot.

General maintenance

Check all the chains, gears, bearings, and other sliding surfaces for wear and/or breakage.

Replace all badly worn or broken parts. This may save you valuable field time and the planter will operate with greater efficiency. Check the functioning of safety devices—shear pins, etc.