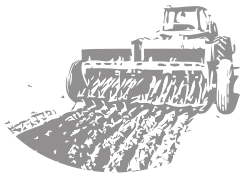
Drill Calibration Summary



Basic Adjustments to the Seed Boxes

1. The seeding rate control for the cool season grain box is on the back of the seed box.
2. The derailleur speed changer for the fluffy/chaffy seed box is on the front left-hand side of the drill.
3. The small seed rate control for the small seed box is on the front left-hand corner of the seed box.

Calculating the Bulk Seeding Rate per Acre

$$\text{Bulk seeding rate per acre (lb)} = \frac{\text{pure live seeding rate per acre (lb)}}{\text{percent of pure live seed per bulk pound (decimal)}}$$

$$\text{Percent of pure live seed per bulk pound} = \text{germination (decimal)} \times \text{purity (decimal)} \times 100$$

Performing the Wheel Circumference Method

1. Calculate the bulk seeding rate per seed drop.

$$\text{Bulk seeding rate per seed drop} = \frac{\text{(bulk seeding rate per acre (lb) x acres in simulated run)}}{\text{number of seed drops on drill}}$$

$$\text{Acres in simulated run} = \frac{\text{(drill planting width (ft) x simulated run (ft))}}{43{,}560\ \text{ft}^2\text{/acre}}$$

2. Park the drill on a nearly level surface with the tires blocked.
3. Jack the end wheel or the drive wheel up on a traditional drill. Use the calibration wheel on a minimum-till drill.
4. On each drill, disconnect two seed hoses, one on the left side and one on the right side of the seed box being calibrated.
5. Place collection containers under each of these seed drops and fill the seed box with the planting mix.
6. Determine the number of revolutions the traditional drill's end wheel or the minimum-till drill's calibration wheel needs to be turned to simulate a 100-foot (or other selected distance) run.

$$\text{Wheel revolutions} = \frac{\text{simulated run (ft)}}{\text{wheel circumference (ft and tenths)}}$$

7. Simulate a run of the drill (keep the drill stationary) by turning the end wheel or calibration wheel so seed moves through the drill.
8. Collect and weigh the seed. Compare this weight to the amount of bulk seed you want the drill to deliver.

Performing the Seed per Row-Foot Method

1. Calculate the seeds per row-foot desired for each species in the planting mix. Once you have all the numbers, add them together.

   Seeds per row-foot = seeds per square foot x row width (ft)

   $$\text{Seeds per square foot} = \frac{\text{seeds per acre}}{43{,}560\ \text{ft}^2/\text{acre}}$$

   Seeds per acre = bulk seeding rate per acre (lb) x purity (decimal) x seeds per pound of pure seed

   $$\text{Row width} = \frac{\text{planting width of the drill}}{\text{number of rows planted}}$$

2. Attach the drill to a tractor and fill the seed boxes with the planting mix.
3. Pull the drill to make sure seeds are flowing.
4. Pull the drill over a firm surface for several feet. Count the total number of seeds that were dropped in 4 or 5 feet of a row and calculate the average number of seeds per row-foot. Compare this result to the amount of seed you want the drill to deliver.

Performing the Small Bag per Land Area Method

1. Calculate the bulk seeding rate for the test run.

   Bulk seeding rate for test run (lb) = bulk seeding rate per acre (lb) x acres in test run

2. Calculate the pounds of seed remaining after the test run.

   Pounds of seed remaining after the test run = bulk seeding rate per acre (lb) – the bulk seeding rate for the test run (lb)

3. Fill the seed boxes with enough seed mix to plant 1 acre.
4. Select a sample area to drill and drill one quarter of an acre.
5. Stop and vacuum the remaining seed from the seed boxes and weigh it. Compare this weight to the weight of seed that should be left in the drill after drilling one quarter of an acre.