



Great Plains No-Till Drill Rate and Calibration



Lake County
Conservation
District

Lake County Conservation District

Office Address

64352 US Highway 93

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(406) 676-2811 ext. 102

Example: Planting Rates and Calibration of Lake County CD No-Till Drill

Before Calibration

- Drill must be hooked to tractor with hydraulics engaged and “lock pin” set to lock in position.
- The main (large) seed box and the small seed box seed at different rates and will calibrate separately. The following procedure will work for either box. You can calibrate each box at the same time, but calculations must be done separately for each box.
- Refer to seeding rate charts, for main seed box and small seed box, for the seeding rates and seed rate handle setting number. Drill rows are 7.5 inches apart.
- If seeds are not listed in manual, use closest approximation.

When Calibrating

- Add more rows in Step 1 for additional seed species if necessary.
- Find the sum in lbs./ac and seed rate settings for each species in a mix
- Main (large) seed box and small seed box can be calibrated at same time, but must be done as separate units
- Switch to Drive Type 2 through Drive Type 4 on chart if seeding rate is too low for your chosen species at Drive Type 1 (default) setting
- If your seed rate (lbs./ac) is in between two numbers, pick a number between the two listed numbers then calibrate to check and adjust as necessary.
- Make sure that all three calibration hoses from one seed box (small or main (large) seed box) are releasing seed into the same container. If you are calibrating both the small and main (large) seed box than you should have 2 separate containers with seed from 3 hoses each



Gear Box

Selects drive type, which speeds up/
slows down planting rates

Gear Box Ratios
Drive Type 2 is 2.06 times faster than 1
Drive Type 3 is 3.08 times faster than 1
Drive Type 4 is 5.03 times faster than 1

Example: Planting Rates and Calibration of Lake County CD No-Till Drill

Step 1

Small Seed Box

Seed species to be planted:	Seeding Rate (lbs./ac):	Seed rate handle setting number:
<u>orchard grass</u>	<u>3</u>	<u>62</u>
<u>trefoil</u>	<u>2</u>	<u>12</u>
<u>red clover</u>	<u>2</u>	<u>12</u>
Total:	<u>7 (lbs./ac)</u>	<u>86</u>

Step 2

Test Calibration:

- Weigh container(s) without seed (XXXXX grams)
- Fill up only the first 3 sections on the left side of each seed box with the appropriate seed. Use the hoses from these 3 sections for the calibration
- Put 3 calibration hoses for main (large) seed box in one container and 3 calibration hoses for small seed box in another separate container
- Crank calibration handle 59 times (59 turns = $1/10^{\text{th}}$ of an acre [=0.1 acre])
- Weigh each container of seed in grams, subtract weight of container and divide each by 3 to get the average seed weight per seeding tube. **In this example our seed from the three small seed boxes weighs 93 grams.**
- Do the math as described below in the example to calculate your calibrated seeding rate.

Small Seed Box (set to 86)



Math Example:

1. Weight of container of seed (g) – weight of container = "w" total weight of seed in 3 tubes (g)
2. "w" total weight of seed (g) / 3 = "x" g per tube
3. "x" grams per tube x 10 tubes = "y" g in 0.1 acre (seeding rate for 0.1 ac)
4. "y" g in 0.1 acre / 453 g/lb. = "z" lbs. in 0.1 acre
5. "z" lbs. in 0.1 acre x 10 = _____ lbs./acre actual drilling rate (this is the calibrated rate)

Math: (Fill your info in here)

1. Weight of container of seed (g) – weight of container = 93 total weight of seed in 3 tubes (g)
2. 93 grams total weight of seed (g) / 3 = 31 g per tube
3. 31 grams per tube x 10 tubes = 310 g in 0.1 acre (seeding rate for 0.1 ac)
4. 310 g in 0.1 acre / 453 g/lb. = 0.68 lbs. in 0.1 acre
5. 0.68 lbs. in 0.1 acre x 10 = 6.8 lbs./acre actual calibrated drilling rate

*6.8 lbs/ac is close enough to our desired rate of 7 lbs/ac for us, but if you want to get closer to 7 lbs/ac then adjust the seed rate handle number upwards (to a higher #, from 86 to 90) and re-calibrate.

***Tighten wing nut on the seed rate handle to lock the desired seeding rate into place so it does not move when drilling!**

Planting Rates and Calibration of Lake County CD No-Till Drill

Step 1

Main (large) Seed Box

Seed species to be planted:

Seeding Rate (lbs./ac):

Seed rate handle setting number:

Total: _____ (lbs./ac)

Total: _____

Step 2

Test Calibration:

- Weigh container(s) without seed (XXXXX grams)
- Fill up only the first 3 sections on the left side of each seed box with the appropriate seed. Use the hoses from these 3 sections for the calibration
- Put 3 calibration hoses for main (large) seed box in one container and 3 calibration hoses for small seed box in another separate container
- Crank calibration handle 59 times (59 turns = 1/10th of an acre [=0.1 acre])
- Weigh each container of seed in grams, subtract weight of container and divide each by 3 to get the average seed weight per seeding tube
- Do the math as described below in the example to calculate your calibrated seeding rate. Adjust seed rate handle number and re-calibrate as necessary.

Math Example:

1. Weight of container of seed (g) – weight of container = "w" total weight of seed in 3 tubes (g)
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Math: (Fill your info in here)

1. Weight of container of seed (g) – weight of container = _____ total weight of seed in 3 tubes (g)
2. _____ total weight of seed (g) / 3 = _____ g per tube
3. _____ grams per tube x 10 tubes = _____ g in 0.1 acre (seeding rate for 0.1 ac)
4. _____ g in 0.1 acre / 453 g/lb. = _____ lbs. in 0.1 acre
5. _____ lbs. in 0.1 acre x 10 = _____ lbs./acre actual drilling rate (this is the calibrated rate)

Planting Rates and Calibration of Lake County CD No-Till Drill

Step 1

Small Seed Box

Seed species to be planted:

Seeding Rate (lbs./ac):

Seed rate handle setting number:

Total: _____ (lbs./ac)

Total: _____

Step 2

Test Calibration:

- Weigh container(s) without seed (XXXXX grams)
- Fill up only the first 3 sections on the left side of each seed box with the appropriate seed. Use the hoses from these 3 sections for the calibration
- Put 3 calibration hoses for main (large) seed box in one container and 3 calibration hoses for small seed box in another separate container
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- Weigh each container of seed in grams, subtract weight of container and divide each by 3 to get the average seed weight per seeding tube
- Do the math as described below in the example to calculate your calibrated seeding rate. Adjust seed rate handle number and re-calibrate as necessary.

Math Example:

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Math: (Fill your info in here)

1. Weight of container of seed (g) – weight of container = _____ total weight of seed in 3 tubes (g)
2. _____ total weight of seed (g) / 3 = _____ g per tube
3. _____ grams per tube x 10 tubes = _____ g in 0.1 acre (seeding rate for 0.1 ac)
4. _____ g in 0.1 acre / 453 g/lb. = _____ lbs. in 0.1 acre
5. _____ lbs. in 0.1 acre x 10 = _____ lbs./acre actual drilling rate (this is the calibrated rate)

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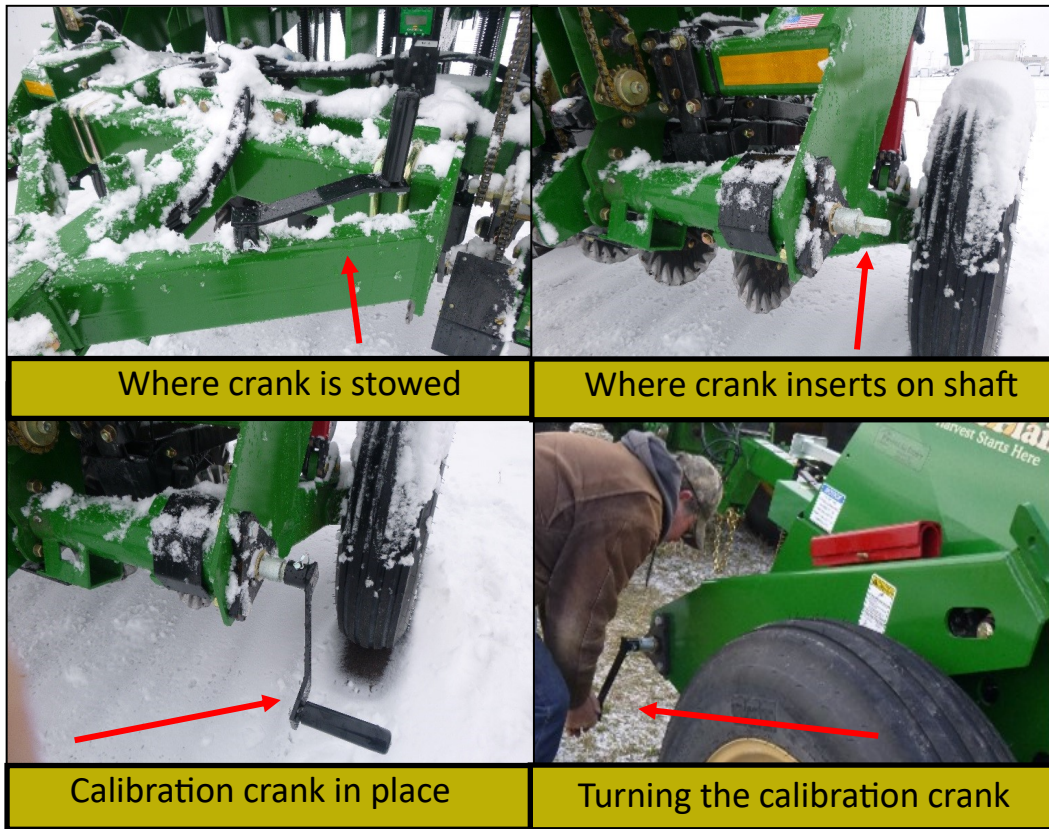
Step 3 (Both small and main (large) seed boxes)

- If needed, adjust drilling rate accordingly and repeat test calibration (Step 2)

Before Planting

- **Re-connect seeding hoses after performing calibration**
- **Tighten wing nuts on seed rate handles so they do not move while seeding**
- **Replace calibration crank into storage position**

The Calibration Crank



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