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CORN PLANTER TUNE-UP CHECKLIST

Champlain Valley Crops, Soil, and Pasture Team



Corn Planter Tune-up Season

By Rico Balzano, UVM Extension Agronomy Outreach Professional

It is often said that corn yields start to drop as soon as the seed bag is opened. This is due to many variables, some of which are out of your control. One variable you can control is your corn planter, and if you are planning on no-tilling, it's especially important. The three goals of any corn planter are even seed depth, good seed to soil contact, and proper closing of the seed trench. If the planter is going to work properly, it has to be maintained properly. Thoroughly checking over your planter will ensure you don't lose yield right out of the bag.

This list applies to any planter, whether set up for no-till or not. If you are planning on no-tilling, there are a new key add-ons to consider, and are listed where relevant.

Champlain Valley Crop, Soil & Pasture Team

Project Leader

Jeffrey Carter

Extension Agronomist

Agronomy Outreach

Rico Balzano

Kirsten Workman

Cheryl Cesario

Nate Severy

Daniel Infurna

Kristin Williams

SCR

(802) 388-4969

cvcrops@uvm.edu

blog.uvm.edu/cvcrops

23 Pond Lane, Ste. 300

Middlebury, VT 05753

Planter Maintenance & Upgrades

1. PARALLEL ARMS - Check to make sure parallel arms are tight. Parallel arms hold the row unit true. If the bushings are bad, the row unit will roll to the side, changing seed depth, coverage, and how the whole unit works. Worn bushings effect how the row unit rides.

- **No-till upgrade:** Extra or heavy duty down pressure springs will get help get the planter in the ground for no-till. The next step up, hydraulic and pneumatic down pressure are adjustable from the cab.

2. SEED METERS - Seed meters should be cleaned annually. Seed treatment residues can build up and affect the performance of the seed meter. Do not use petroleum products on plastic finger meters, they may become brittle. Be sure to use lubricant (graphite) during the season to keep your meters running properly.

3. SEED TUBES, GUARDS - Worn seed tubes are a leading cause of skips and doubles. Plastic burrs can form on the end of the seed tube. When turned in, they can interfere with the seed as it drops, causing problems with spacing and depth. Seed tube guards are important, since they protect your seed tubes. They should be at least 9/16" across the bottom. The rule of thumb is to change seed tube guards when disc openers are changed. Speed is also important: the seed tube curve is made for planters operating no faster than 5 mph.

- **No-till Upgrade:** Keeton seed firmers attach to the seed tube, and ensure the seed is placed on the bottom of the seed trench. So if you have them make sure they are attached firmly to the seed tube.

For more information contact: Rico Balzano—(802)-388-4969 ext 338 or rico.balzano@uvm.edu

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4. ROW CLEANERS- Row cleaners are not necessary for no-till, but if you need 'em, you need 'em. Large amounts of crop residue or a thick, dense cover crop make row cleaners necessary. Row cleaners should move residue away from the seed trench without moving soil. **Floating row cleaners** are highly recommended for this reason: they can be set so they give when they contact hard soil, so they do not gouge the seed trench. Also, the outer depth gauge wheel is necessary when running floating row cleaners.

5. FERTILIZER OPENERS- Fertilizer openers should be checked for proper offset spacing: If you want it 2"x2", pull the planter in the field a ways, and measure the distance to make sure it is right. Higher N recommendations for no-till increase the risk of seed burn if the fertilizer is placed too close to the seed trench, so keeping the proper distance becomes more important. If there is heavy residue in the field, double-disk and single-disk openers may be difficult to get in the ground, interfering with fertilizer placement. Coulters and openers can be set up behind the row cleaner, but be sure to get the long row cleaner arms. This way they have a clean path to band fertilizer.

- **No-till upgrade** Dribble banding fertilizer off the back of the planter is an efficient way to get the extra nitrogen needed for no-till. Simple stainless steel tubes on the back of the tailpiece are much more cost effective easier to install than coulters and disc openers.



6. SEED OPENERS BLADES - New seed opener blades are 15" for Deere, Kinze, and new style White planters, and 14" for Case planters. Blades should be replaced when at 14.5" for Deere, Kinze, etc., and 13.5" for Case planters. If the blades are worn beyond one half inch, the seed tube guard is more exposed and you won't get a true V trench. You should be able to turn the blades by hand, with resistance. If you can't, they are too tight and will wear. Check blade contact with business cards, placed at the top and the bottom of the two blades, and pulled in until they can go no further. The distance should be 1"-1.5" with heavy blades.

- **No-till upgrade** Heavy duty seed opener blades help cut through tough no-till soils and any residue missed by the row cleaners. Install 3.5mm blades on Deere, Kinze, etc., and 4.5mm blades on Case.

7. GAUGE WHEELS- Gauge wheels need to contact seed openers, any gap will result in plugging and trench filling. When the planter is in the ground, try to spin the gauge wheel with your foot. If it spins easily, there is not enough down pressure. If you can just make it slip, it is just about right. If you can't move it at all, there is too much down pressure, which can cause sidewall compaction and impede root growth.

8. CLOSING WHEELS- There are certainly plenty of choices out there for closing wheels nowadays. Traditional rubber wheels close the trench from the top and should be spaced 1.5-1.75" across the bottom. Spiked closing wheels pinch the bottom of the seed trench while keeping the soil above it loose. They also crumble the sidewall and should be spaced 2.25-2.5".

- **No-till upgrade** Double spiked closing wheels help close the trench in no-till conditions, and resist accumulating mud and debris. When used properly, they will achieve good seed to soil contact and leave a well-defined seed bed over the trench. (See UVM closing wheel guide for some of the many options out there.)

COULTER.....OR NO COULTER

Many No-till planters come equipped with coulters, and at first glance, it makes sense. However, if not set right, they may do more harm than good. If the coulters run too deep, they can create a "false bottom" in the seed trench, leading to improper seed depth. Coulters should always be run shallower than the seed trench. Planters fitted with coulters may have a hard time getting in the ground, or need more down pressure. If the down pressure is concentrated on the seed openers without coulters, they will open the trench. Row cleaners clear the residue so you don't hairpin. The goal is to have the disc openers setting the depth of the furrow.

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