

No-Till Notes:

Equipment to handle residue

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Equipment to handle high amounts of residue is often a topic new no till producers struggle with when considering switching their farm to a no till farming system. Often the equipment they currently own will work with no till farming. The producer may need to make a few modifications to their current equipment and not need to go out and purchase a new equipment. This is particularly true with row crop planters.

The only addition you may want to consider to a row planter is the addition of trash whippers to control residue. There are numerous residue managers or trash whippers available on the marketplace. Most residue managers are spoke toothed in design with some curvature in the teeth. Many of the common ones sold at local implement dealers' work real well in controlling excess residue. One concern with trash whippers is to pay close attention to the depth at which the trash whippers are run. Running the trash whippers to deep will move to much soil and place the seed in a deep furrow which will have the potential to crust the soil following a hard rain, and may even allow for soil erosion if the land is on a slope. Neither situation is good for seedling emergence. Another problem with too aggressive soil disturbance is weed control. Moving to much soil at planting is an invitation to weeds to germinate in the row where residue has been removed and the soil surface disturbed. Always think of minimum disturbance when adjusting the trash whippers. Moving enough residues to get proper seed placement without disturbing the soil surface is ideal.

Another important consideration with a row crop planter is the use of single disc fertilizer openers if applying a starter fertilizer to the side and below the row. Single disc openers don't disturb the soil as much as a double disc opener will which is a good thing when considering weed control. They also tend to stay in the ground better and don't ride up on the residue. Another benefit of less soil disturbance is the buildup of wet soil on the gauge wheels of the planter when using the higher disturbance double disc openers.

I have observed several long term no till producers who have modified their planters using the single disc fertilizer openers in place of one of the pair of trash whippers. They are running a single disc opener and using this opener to cut the residue. The single trash whipper is then used to move the residue to the side of the planter openers. I haven't tried this on our planter, but the concept does make sense. This type of setup does seem to do a nice job of managing the residue.

Paul Jasa, University of Nebraska No Till Specialist and equipment engineer has extensive experience in no till equipment design. Paul has field tested or observed numerous planter designs and setups. Paul stresses the importance of planter seed depth when diagnosing planter problems. Row crop planters are designed to run at a minimum depth of 2 inches. Planter depth settings less than 2 inches change the angle of the seed openers. This change in angle will not allow the openers to slice through the residue as they are designed to do resulting in uneven seed placement and uneven emergence of the seed. Consistent depth of seed placement throughout the seedbed is very important.

Paul often adds additional weight to the planter frame if necessary to assist the planter in cutting through heavy residue. Fertilizer tanks mounted on the planter frame and filled with fertilizer will do a good job of adding additional weight if the producer is using starter fertilizer or a pop up fertilizer when planting the crop.

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