

How Can I No-Till and Not Lose Yield?

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No-till has reached a plateau on many U.S. farms. Many farmers have gone back to some form of tillage to maintain yields. A typical response since the adoption of No-till is “no-till corn does not yield as well as other types of tillage.” With record fuel and fertilizer prices, farmers are again looking at no-till to increase their bottom line!

Thankfully, some very innovative farmers and researchers have worked diligently to address this question. We have finally recognized that the typical planter row unit was designed for loose, warm, dry soil that tillage provides. How do we make this row unit work in residue with tighter, cooler, damper soils no-till must succeed in.

The first thing these innovators did was take off the no-till coulter. The coulter causes too much residue hair pinning and compaction for plant roots to grow through easily. By using a fertilizer opener 2 inches or farther off the row center, the residue can be slit and swept clean with a row-cleaner or residue manager. Fertilizer can also be applied and many farmers apply 20 or more units of N or combinations with other macronutrients.

The typical depth control rubber tire was also designed for warm, loose, dry soil. The Case IH gauge wheel tire has an extreme divot designed for no-till that spreads the planter weight across the furrow, actually lifting the soil instead of compacting it as the typical gauge wheel tire does. This tire works well in any tillage situation but is preferred for no-till's tougher requirements.

This setup forces the double disk opener to provide most of the furrow tillage so new disk openers with new bearing is very important. Many farmers have gone to the seed firmer to pinch the seed at the bottom of the Vee the double disk opener makes. Most farmers and agronomists agree that at least 1 3/8 inches above the seed is needed to provide adequate soil for emergence and proper root development for maximum yield.

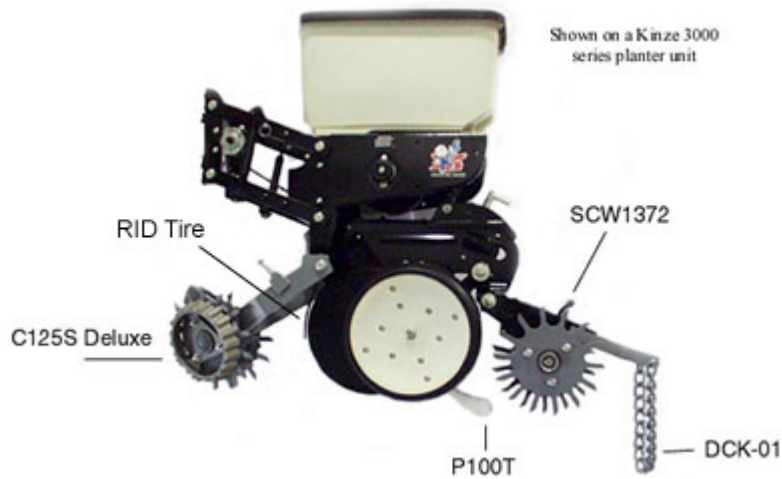
Another problem encountered in no-till is press wheel coverage. Many press wheels were again designed for loose, warm, tilled soil and don't work as well in no-till soil conditions. Spike press wheels when installed and set properly, gently till up the soil around the Vee without disturbing the soil to provide an adequate and equal amount of loose, crumbly soil above each seed.

These innovators learned that a 30 inch long piece of heavy, square 3/8 inch chain looped behind the spading wheels crowns the furrow with the smallest, loosest organic matter and soil for germination that simulates garden or tillage operations.

Again, this planter setup is preferred by farmers across the country for no-till but can be used in any tillage practice so a farmer can increase no-till acreage as fast or as gradual as he chooses or

install the row unit modification on one or more rows of his planter without switching to the entire system at once. The choice is the farmers.

Fields should be limed and drained before any cropping activity so the practice can be used on the farmer's best fields if he desires as he improves his farming operation. Within years a farmer can be 100% no-till if he chooses as he learns how to achieve yields as well or even better than he has currently without no-till. The farmers who have tried this system have seen soil erosion stop, soil structure improve dramatically while yield trends increase over time.



Additional Information

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