

# THE LEADING EDGE

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## A PUBLICATION DEDICATED TO MAXIMIZING YIELD POTENTIAL

### Increase Your Profitability With a Good Strip-Till System

Interest in strip-till remains steady. That's what manufacturers at the September Farm Progress Show in Boone, Iowa, told Dan Zinkand, managing editor of Strip-Till Strategies. One manufacturer told him that strip-till is expanding beyond the Corn Belt and the Great Plains. Subscribers are using strip-till with corn, as well as soybeans and sugarbeets.

And with good reason. Strip-till is eco-friendly and offers savings in fuel, labor, and machinery compared to conventionally tilled corn.



Strip-tilled soil warms more quickly

In addition to lower input costs, strip-till circumnavigates some of the drawbacks of no-till. Strip-tilled soil warms more quickly in the spring, limiting the profit-robbing effect cold, wet soil and delayed planting can have on yields. The recent series of cold, wet springs in the Midwest have made things challenging for no-tillers —strip-till may be a solution.

Yet, the yield increases with strip-tilling may take time to come to fully develop.

Dave Nelson, a Fort Dodge, Iowa, strip-tiller, looks at the big picture when evaluating the success of his strip-till operation. "Everything is about net income," Nelson says. "We're saving \$20 to \$30 per acre in fuel, labor, and machinery by using strip-till in our farming operation. We are in our third year strip-tilling and we are just now seeing increased yields.

"The sides by sides that we've done next to conventional tillage prove to us that strip-tillage gives comparable-to-increased yields." (<http://www.no-tillfarmer.com/pages/Feature---Seven-Ways-To-Make-More-Money-Strip-Tilling.php>)

### Strip Creation: When is the Right Time?

When producers should undertake strip-tilling varies. While once thought to be a fall-only operation, some producers have gotten good results from strip-tilling in the spring. Each situation is different and when strip-tilling happens may be determined by the time available in the fall versus the spring and weather conditions. For fall strip tillage, experts advise that the soil strip should remain relatively tall—ideally, a three- to five-inch mound of soil. This height is needed to accommodate the weathering that happens over the winter. However, the taller the berm, the more growers should be cautious—air pockets are more likely to form in taller strips.

Spring strip-tillage, although not as common in some regions as fall strip-tillage, can be advantageous in certain situations. Strip-tilling in the spring allows for warming and drying a strip and less erosion. Sometimes, dry, hard soil makes fall strip-tillage ineffective. If tilling turns up tough chunks of soil, an ideal seedbed is not being prepared and early spring may be a better time to till.

There also are other situations in which spring strip-tilling may be the better choice. Berms created in the fall rest all winter, collecting residue blown in with the winter winds. So, cornfields with highly erodible soils benefit by being left alone in the fall. Additional cornstalk decomposition may benefit those planting continuous corn in the spring because they will have less residue to contend with.

Fertilizer placement while strip-tilling is an option with both fall and spring strip-tillage, although care must be taken to prevent fertilizer burn in the spring. For more information on spring strip-till, see [Leading Edge Issue 55](#).

### General Guidelines for a Successful Strip-Till Setup

One thing certain in strip-till is that it's not one-size-fits-all. No two seasons and no two fields are identical, so successful strip-tillers adapt their equipment as needed. Some general guidelines to help develop a successful strip-till operation follow.



Choose versatile equipment

**The best strip-till systems start at harvest.** It is critical that the combine be equipped with a spreader to distribute residue evenly across the full width of the header and catch the fine chaff that is expelled by the combine. This prevents a mat-like build-up. A chopper is beneficial to size the heavier and tougher residue. Properly sized residue reduces the workload of the residue manager wheels, creating a residue-free zone that facilitates faster soil

warming in the spring.

**Proper coultter blade selection is crucial.** Incomplete slicing of soil surface residue can result in residue buildup around the knife and eventually lead to complete plugging. Using a coultter blade capable of penetrating the soil to a depth where firm soil that facilitates clean cutting is present can avoid or reduce residue buildup.

**For continuous corn programs, producers should place the new strips between the old corn rows rather than going back on top of the old rows.**



The right residue managers make a difference

**Select appropriate residue management tools.** For fields with lighter residue cover and a firm soil profile, fingered residue manager wheels may provide the needed action. Continuous cropping, especially corn-on-corn, requires more aggressive residue management. Or, if soft soil conditions do not permit the cutting coultter to completely sever the residue, discs with a cutting edge are a better option. More aggressive residue management wheels such as Shark Tooth® from Yetter Farm Equipment perform well in a variety of conditions and are proven to work well in strip-till situations. The Shark Tooth wheel cuts and moves the residue, resulting in a clear path with no plugging of the residue manager.

**Choose an appropriate fertilizer knife.** Many knife styles are available to choose from, such as less aggressive straight knives to more aggressive mole knives. All fertilizer knives, regardless of design, are sensitive to both operational depth and ground speed. The faster the knife moves through the soil, the more soil is disrupted.

The correct knife can be determined by:

- Amount of required or acceptable soil disturbance.
- Depth of operation.
- Type of fertilizer being applied.
- Ground speed.
- Time of year of application.

Located throughout North America are knife manufacturers and distributors capable of supplying the right knife for most applications.

**Overcome sealing challenges with new strip-till tools.** Producers strip-tilling in heavy residue or wet soil conditions have frequently faced challenges effectively closing the seed trench because of the aggressive action needed to cut the trench. New tools address this concern and offer producers options

to match any soil condition. Look for units that offer flexibility in sealer adjustments for width, pitch, and distance from the row.

Disc sealer blades are ground-speed sensitive: to achieve the required sealing, adequate ground speed must be maintained. A key element in maintaining ground speed is properly matching available horsepower to applicator draft. Strip-till implements, pulled at the proper depth, require 15 to 25 horsepower per shank. While each of the strip-till tools on the market today has a recommended horsepower requirement, actual needs will vary depending on the knife, the speed of operation, and the depth desired.

The disc sealer blade concavity positioned towards the direction of travel results in the maximum soil movement. This position provides the best mounding of the soil for higher berms. Disc sealer blade concavity in an inverted "V" position (towards the direction of travel) results in minimum soil movement. This position is best suited for rolling the loose soil disrupted by the knife back over the knife trench for sealing while leaving more residue intact on the soil surface of the berm.

### **Strip-Till Holds Promise for Forward-Thinking Producers**

Years of research designed to help understand the equipment and best-practices needed for a successful strip-till operation are paying off. Current strip-tillers are seeing the profitability benefits and manufacturers are offering tools to further increase return-on-investment. Consider strip-tillage—it may be the next step toward increasing your farming operation's success.

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