THE LEADING EDGE

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Spring Strip-Till Holds Potential for Some Producers

The 2008 outlook is good for the agriculture industry. Changes in the world market and demand for alternative energy sources are expected to drive demand for corn and soybeans to record levels. In order to meet that demand, farmers may be rethinking this year's planting plans and planting additional acres. One timesaving option becoming increasingly viable is spring strip-tilling.

Spring strip-tilling creates a more flexible conservation tillage option for farmers and has been proven to produce yields equal to conventional tilling methods. By strip-tilling in the spring, farmers can cut their fertilizer costs while finding it easier to plant in unpredictable weather.

Farmers can strip-till in the fall or the early spring, depending upon location, with the purpose of creating a healthy seedbed. It involves tilling narrow, residue -free strips into which seeds will be planted. The process leaves the rest of the soil untilled and covered with crop residue, which protects soil from both wind and water erosion.

Coulter, residue manager, knife and rolling basket to make the perfect seedbed

The tilled soil forms a berm, which encourages drainage and invites soil warming, creating the perfect soil conditions for planting. Strip-till not only facilitates the option for precise nutrient placement, it also saves time as well as equipment and fuel costs.

> For more information on the benefits of strip-till, see *Leading Edge Issue 39, Strip-till: Preparing the Perfect Seedbed*.

Spring strip-tillage, although not as common in some regions as fall strip-tillage, can be advantageous in certain situations. Economically, farmers may not have anticipated this year's high demand for crops. Those interested in profiting from the increased

demand may be investigating how to quickly prepare additional acres for planting. In these situations, spring strip-tillage is an option.

Of course, producers want to ensure that spring strip-tilling has the potential for success, and that depends on a number of factors such as crop rotation and regional and fieldspecific soil conditions.

Spring strip-tillage is a prevalent practice for producers in the Western Corn Belt, according to Jerry Baysinger of JBI Enterprises in Bruning, Neb. "Some producers are concerned that spring strip-tillage and fertilizer application will result in crop burn," said Baysinger. "But I've done a lot of spring strip-tilling, and I have never hurt a corn stand." Baysinger's best corn yields in 2007 came from spring strip-tilled fields.

Strip-tilling in the spring allows more time for cornstalk decomposition and less erosion. Berms created in the fall rest all winter, eroding and 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.

Sometimes, dry, hard soil makes fall strip-tillage ineffective. If tilling turns up tough chunks of soil, an ideal seedbed is not being prepared.

Fertilizer costs may determine when producers decide to apply. Recently, fertilizer has been more affordable in the fall.

Fertilizer applied in the fall as strips are tilled also can have less-than-desirable results. Logically, there is "an advantage to applying nitrogen closer to when the plant requires it—your losses are less," said Baysinger.

Fall application may require an additional expense as well. According to Baysinger, warm fall soil temperatures may mean producers need to add a nitrification inhibitor to their mix to prevent nutrient loss through leeching. "Spring soil temperatures are generally cooler," Baysinger said.

The experiences of Floyd Koerner from Lainsburg, Mich., confirm that the potential to save on fertilizer exists with spring strip-till. He has reduced his fertilizer needs by 40 percent using spring strip-tilling in combination with fall cover crops. Warmer, aerated spring soils let him band fertilizer without loosing an expensive fall nitrogen application.*

Profitable Solution

For darker soils, spring strip-till has been proven to work. Kurt Afdahl from

Running a fertilizer knife or shank too deep in wet soil is counterproductive. When it dries, the corn roots can become restricted. It also increases fuel consumption.

Hammond, Wis., striptilled his darker soils in the spring and has noticed soil temperatures at planting to be five degrees warmer than strip-tilling in the fall. Afdahl has seen his best corn yields since switching from conventional tilling methods to strip-tilling in the spring. "The darker soil warms up faster," stated Afdahl. *

Spring strip-tilling can have its disadvantages. If the soil is too wet, the shanks will create a slot instead of breaking the soil around them. This may not affect yields, but will leave compacted areas. Wet spring soils are also more susceptible to wheel compaction.

If your fall strip-till line-up does not include row-cleaners, you may need to make that investment for spring tillage. They are important to clear the spring residue that has not had time to decompose into the soil.

Making strips while applying NH3 in the spring

Strip-tilling in the spring also requires a time investment not all producers can make, and fall-tillage tends to facilitate earlier spring planting. "The window for completing work in the spring is small," noted Baysinger.

When spring strip-tillage is a fit for a producer's soil conditions and schedule, there are a few tips to remember:

- Berms created in the spring do not need to stand as high as those created in the fall. While fall-built berms are typically two to three inches high to allow for winter erosion, spring-built berms should be almost level to the ground.
- Once the berms are created, it is critical to avoid compaction with additional passes through the field. "The next thing into your field should be the planter," said Baysinger.

Whether you choose spring or fall strip-tillage, a number of companies sell equipment to match various soil and planting specifications. Strip-tilling equipment can consist of a large coulter to cut the residue. Row cleaners may be placed before or after the coulter.

Next in the typical lineup is a shank or knife that fractures the soil and allows

Profitable Solution

banding of fertilizer. Following the shank are covering disks, which catch the soil thrown up by the shank and build a berm or mound. When spring strip-tilling, finishing with rolling baskets will help break up clods and firm the soil.

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Research is showing that when applied to the right fields and soil conditions, spring strip-tillage is an option. It is not too late for farmers, who are ever changing, to have a conservation tillage choice for this year's crop.

* Quotes and information from these growers were originally published in the February 2008 issue of *No-Till Farmer* and are reprinted with permission from Editor Frank Lessiter.

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