

THE LEADING EDGE

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A PUBLICATION DEDICATED TO MAXIMIZING YIELD POTENTIAL

Make Vertical Tillage Part of the Plan for Fall Residue Management - July 2009

Harvest may come a little late this year due to the wet spring, and many producers are less likely to have time to make their normal fall passes through the field to prepare soil for next spring's planting. Now is the time to consider whether an alternative tillage option is the answer to manage residue that will be left on fields.

Properly spreading and sizing residue with the combine saves both the time and expense associated with extra tillage passes and keeps tools from clogging during spring planting.

Vertical tillage is one of the most cost-effective and practical ways to control residue, and a pass with a vertical tillage tool in the fall sets the stage for the ideal spring seedbed. Vertical tillage tools have multiple uses and bring real savings in terms of time and money.

Most vertical tillage tools have fairly low horsepower requirements and can be operated at relatively fast speeds of 6 to 10 miles-per-hour! At that speed, producers are more likely to be able to complete fall tillage, in spite of getting a late start. Lighter machines require less fuel, and therefore reduce the input costs associated with this fall tillage option.

Vertical tillage is an option that may meet the needs of both conventional and minimum-till producers. For producers looking for minimal tillage, vertical tillage offers the benefits of tilled soil as well as erosion protection by leaving a layer of residue on the soil. Because vertical tillage is a lighter tillage application, it is one with which most conservation-focused producers can abide. If residue sizing is needed before primary tillage occurs then a vertical tillage machine can achieve that much faster and more economical than a disc.



Vertical Tillage Attachment on JD 2210.

Vertical tillage is especially well-suited for fields that dry slowly in the spring, such as those with poor drainage or high clay content.

In vertical tillage, producers use a range of tools usually including some combination of harrows, coulters, and rolling baskets to fluff crop residue and perform shallow soil tillage without inverting the soil.

Vertical tillage puts residue in contact with active soil microbes, which will break down over the winter months and make planting a smoother process in the spring. Also, this action prepares the loosened soil to absorb and store moisture that will be released during the growing season.

Soil conditioned by fall vertical tillage warms more quickly in early spring, energizing the seedbed for maximum growth and yield potential. Time for seedbed preparation is reduced, allowing for an earlier planting date.

Vertical tillage provides a natural mechanism to improve insect and disease control through residue sizing and disturbance, and vertical tillage attachments can be used for very shallow incorporation of fertilizer and herbicides.

Producers may purchase only the attachments, choosing the right coulters option--for their needs. Narrow coulters blades provide the least amount of tillage, whereas wider blades result in more soil disturbance.

An old chisel plow is the perfect candidate to be modified to accept these vertical tillage attachments. Putting an outdated tool back into the field with an updated purpose makes economic sense.

A key to successful vertical tillage is to leave the soil surface as level as possible. Coming out of the winter with peaks and valleys no deeper than three inches is ideal. Any more than that, can lead to herbicide streaming. Plus, non-uniform soil is difficult to plant into. Adding rolling baskets to vertical tillage attachments will help achieve that level surface.

Other general guidelines for operating vertical tillage equipment include:

- Space the coulters blades on the tillage tool on 6-inch centers.
- Set or mount coulters blades to run perpendicular to the soil.
- Operate at a speed of 6 to 10 mph.
- Don't let vertical tillage coulters blades operate below seed depth in no-till fields.



Vertical Tillage Attachment on JD chisel frame

Producers who are concerned they will not have time for a tillage pass this fall or those unhappy with the result multiple fall-tillage passes can bring should consider making vertical tillage part of their fall residue management

plan. The practice is easily undertaken with minimal equipment expense and offers multiple benefits leading to healthy crops. This tillage option offers a quick return on investment as well as time and money savings.

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