

Get the right strip-till iron



Strip-till Focus

CHOOSING the right equipment for your soils and conditions is the key to success with strip tillage.

John Nowatzki, North Dakota State University Extension machine specialist, offers the following guide to strip-tillage equipment.

There are 15 to 20 different strip-till iron manufacturers, but their implements have similar features. Most strip-till machines have coulters blades, row cleaners, tillage shanks, berm-building disks, and packing wheels or conditioning baskets, says Nowatzki.

Coulters blades cut through the soil and residue in front of the tillage shank. Coulters need to be spring-mounted to allow movement over stones. Some manufacturers are using fluted coulters designed with depth-control features.

Residue managers clear crop residue away from the tilled strip. They usually are mounted a few inches in front of the coulters blade to move the crop residue, which allows the coulters to penetrate soil. Some manufacturers mount row cleaners behind the coulters and just in front of the tillage shank.

Tillage shanks penetrate and loosen the soil and can be designed with a fertilizer injection tube so gaseous, liquid or dry granular fertilizers can be applied with the strip-tillage operation. Tillage depth is dependent on the type of soil and conditions, and the specific crop that will be planted.

Berm-building disks are mounted on each side of the tillage shank and 6 to 8 inches behind the shank. The disks can be mounted to mound the strip to promote moisture runoff and facilitate soil drying in the spring, or to create a slight depression in the soil to catch snow and rain to increase soil moisture for next year's crop.

Conditioning baskets are mounted behind the shanks to break soil clods and smooth the soil. Some manufacturers use rubber wheels instead of packing wheels, but some way of smoothing the soil and breaking lumps is important on strip-till equipment.

Power and GPS requirements

Strip-till equipment requires approximately 15 to 30 tractor horsepower per strip, but varies depending on component design and depth of operation. It is important to properly size and ballast the tractor so that it operates efficiently.

"A primary concern of strip tilling is to precisely plant into the strips the following spring," Nowatzki explains.

Key Points

- Equipment selection is one of the keys to success strip tilling.
- Implements have unique designs, but similar features.
- Around 15 to 30 horsepower per strip is generally needed to pull strippers.

"Strip-tillage machines can be equipped with markers to facilitate accurate spacing of rows on each round in the

MULTI-TASKER: Strip-till implements, like this Elmer's Mfg. model, clear and till the strip, build a berm, place fertilizer and smooth the seedbed in one pass.

field. However, using precise GPS guidance likely will result in more consistent planting in the rows.

"The GPS accuracy must be within the tolerances of the strip-tilled width, which is easily achievable with real-time kinematic differential correction, but

more difficult with less precise GPS differential correction services."

Source: North Dakota State University Extension Communications



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