

Tillage is the process of cultivating the soil with various pieces of equipment. The goal of tillage is to prepare a seedbed, eliminate competing vegetation such as weeds, and manage previous crop residues.

Crop residue is the organic matter remaining in the field from a previous crop harvest. Tillage systems are usually defined by the tillage implements used and how much crop residue is remaining after planting.

- **Conventional tillage** is any planting system that leaves less than 30% crop residue. Tillage implements commonly used are the moldboard plow and tandem disc.
- **Conservation tillage** is a planting system that leaves more than 30% crop residue.

Conservation Tillage Practices:

No-till is when crops are planted in untilled fields using special planters or drills designed to cut through crop residue.

Ridge-till is when crops are planted on ridges 6 to 8 inches tall that were formed during cultivation of the previous crop.

Strip-till is when row crops are planted within a 7 to 9 inch wide tilled strip that alternates with untilled areas of the field. The strip was created with a separate piece of equipment in the fall or spring prior to planting.



Tillage pros: Aerates and loosens the entire plow layer, mixes and incorporates nutrients and organic matter within the soil, terminates weeds or previous cover crops.

Tillage cons: Increases soil erosion and soil compaction, higher surface water runoff due to soil pore destruction, high fuel and labor costs.

Source: Schulte and Walsh. *Management of Wisconsin Soils*. UW Extension publication A3588, P29 to 36

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