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Tillage Type Definitions

Crop Residue Management (CRM)

A year-round system beginning with the selection of crops that produce sufficient quantities of residue and may include the use of cover crops after low residue producing crops. CRM includes all field operations that affect residue amounts, orientation and distribution throughout the period requiring protection. Site-specific residue cover amounts needed are usually expressed in percentage but may also be in pounds. CRM is an “umbrella” term encompassing several tillage systems including no-till, ridge-till, mulch-till, and reduced-till.

Conservation Tillage Types (30 percent or more crop residue left, after planting).

Any tillage and planting system that covers 30 percent or more of the soil surface with crop residue, after planting, to reduce soil erosion by water. Where soil erosion by wind is the primary concern, any system that maintains at least 1,000 pounds per acre of flat, small grain residue equivalent on the surface throughout the critical wind erosion period.

No-till/strip-till

The soil is left undisturbed from harvest to planting except for strips up to 1/3 of the row width (strips may involve only residue disturbance or may include soil disturbance). Planting or drilling is accomplished using disc openers, coulters, row cleaners, in-row chisels or roto-tillers. Weed control is accomplished primarily with crop protection products. Cultivation may be used for emergency weed control. Other common terms used to describe No-till include direct seeding, slot planting, zero-till, row-till, and slot-till.

Ridge-till

The soil is left undisturbed from harvest to planting except for strips up to 1/3 of the row width. Planting is completed on the ridge and usually involves the removal of the top of the ridge. Planting is completed with sweeps, disk openers, coulters, or row cleaners. Residue is left on the surface between ridges. Weed control is accomplished with crop protection products (frequently banded) and/or cultivation. Ridges are rebuilt during row cultivation.

Mulch-till

Full-width tillage involving one or more tillage trips which disturbs all of the soil surface and is done prior to and/or during planting. Tillage tools such as chisels, field cultivators, disks, sweeps or blades are used. Weed control is accomplished with crop protection products and/or cultivation.

Other Tillage Types:

Reduced-till (15-30% residue)-

Full-width tillage which involving one or more tillage trips which disturbs all of the soil surface and is performed prior to and/or during planting. There is 15-30 percent residue cover after planting or 500 to 1,000 pounds per acre of small grain residue equivalent throughout the critical wind erosion period. Weed control is accomplished with crop protection products and/or row cultivation.

Conventional-till or intensive-till

Full width tillage which disturbs all of the soil surface and is performed prior to and/or during planting. There is less than 15 percent residue cover after planting, or less than 500 pounds per acre of small grain residue equivalent throughout the critical wind erosion period. Generally involves plowing or intensive (numerous) tillage trips. Weed control is accomplished with crop protection products and/or row cultivation.

Unofficial:

Stale seedbed is not an official category. The residue level after planting dictates the tillage category (mulch-till, reduced-till, or intensive-till. Fields are tilled full-width soon after harvest. The seedbed “settles” until planting is performed in the in the undisturbed (settled) seedbed or in re-formed beds (minimum disturbance). Weeds and/or cover crops are controlled with crop protection product(s) and/or row cultivation.

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