

Reduced Tillage

Tilling the soil with conventional plow-based systems leaves the soil vulnerable to erosion and intensifies agricultural runoff. Many farmers have been turning to more conservative tillage practices to reduce negative impacts. Reduced tillage as a BMP is the process of utilizing any tillage practices that are less intensive or aggressive than conventional tillage. For example, if a tillage process that requires less energy per unit area replaces a conventional tillage process, then the farmer has achieved reduced tillage.

The term reduced tillage sometimes implies conservation tillage, but conservation tillage Systems require farmers to cover 30 percent of the soil surface with residue after planting (EPA 2018).

Photo credit: Jason Johnson, NRCS-Iowa. A no-till planter plants soybeans into a terminated cover crop



It is recommended to learn how to perform continuous no till from other producers who have had success, since periodic conventional till negates some of the benefits.

South Fork Kent Creek Watershed:
Rural Best Management Practices

Reduced Tillage

Conservation Practice Standard: Residue and Tillage Management, **Code 345**

Positives:

- ✓ Reduces soil erosion (in some cases by 70-100%)
- ✓ Reduces polluted runoff flow into water bodies
- ✓ Improves soil health and structure & reduces soil compaction
- ✓ Conserves water
- ✓ Decreases fuel by 50-80% and labor costs by 30-50%
- ✓ Sequesters carbon



Negatives:

- ✓ Transition from conventional to no till is difficult
- ✓ Requires pricey equipment (i.e. specialized no-till seeding equipment)
- ✓ Increases reliance on herbicide (alternatively farmers can use cover crop and crop rotation to aid in weed management)
- ✓ Causes unexpected shifts in weeds, disease, or pest prevalence
- ✓ Potentially slows germination and reduces yields

(Huggins et al. 2008)

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