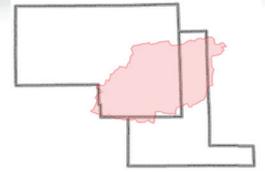


VERMILION HEADWATERS TILLAGE REPORT



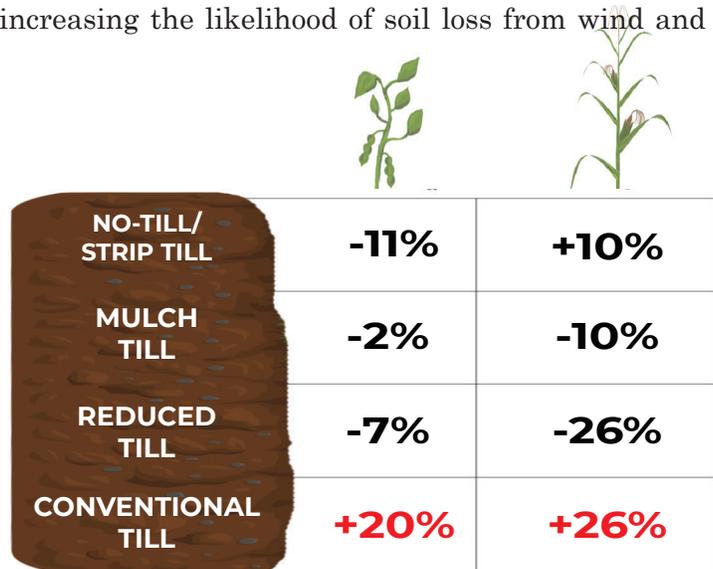
The headwaters of the Vermilion-Illinois River Basin drain over 254,000 acres of Ford and Livingston Counties. These acres form the Vermilion Headwaters Watershed (VHW) which was identified by the Illinois Nutrient Loss Reduction Strategy as one of the highest non-point source nitrogen (N) loading watersheds in Illinois. Tillage data collected across the watershed from 2016 to 2019 indicates a rise in conventional tillage of corn and soybean (see “Tillage Report” below), increasing the likelihood of soil loss from wind and water erosion.

VERMILION HEADWATERS WATERSHED CORN & SOYBEAN TILLAGE REPORT

Percent change in corn and soybean tillage types from 2016 - 2019 crop years

Numbers in red indicate a rise in conventionally tilled acres, significantly increasing erosion and soil loss potential.

SOURCE: Tillage Transect Survey conducted by SWCD Staff



The VHW Partnership is working to further increase the health of our local soils and streams. Reduced tillage as part of a conservation cropping system can help decrease soil and nutrient losses while increasing net economic returns via lower labor and fuel costs. **Are you interested in reducing labor and fuel expenses on your farm?** The following table summarizes the advantages and disadvantages of reduced tillage systems and estimates the typical number of field operations each crop year for comparison.

SYSTEM	NUMBER OF FIELD OPERATIONS	ADVANTAGES	DISADVANTAGES
Reduced Till (Full-width, 15-30% residue on surface)	4-5	Allows incorporation, moderate erosion control, will conserve some moisture in high residue systems	Substantial fuel and labor costs, moderate soil moisture and erosion losses
Mulch Till (Full-width, 30% or more residue on surface)	3-4	Allows incorporation, moderate erosion control, will conserve some moisture in high residue systems	Moderate fuel and labor costs, moderate soil moisture and erosion losses
Strip Till (Zone-till, 75% or more residue on surface)	2-3	Precision application of nutrients into row, well suited for poorly drained soils, warmer, more uniform seeding environment than no-till, reduced fuel and labor costs, improved soil structure, increased organic matter	Possible additional equipment costs, strips may dry out or crust over, not suited for drilled crops
No-Till (75% or more residue on surface)	2-3	Maximum erosion control and soil moisture conservation, low fuel and labor costs, improved soil structure, increased organic matter	No incorporation of plant residues, increased dependence on herbicides, slow warming of poorly drained soils

THINKING OF REDUCING YOUR TILLAGE OPERATION?

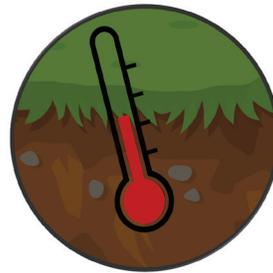
Recent Illinois research has determined that farms with a Soil Productivity Rating (SPR) higher than 136 can **immediately implement a strip-till or one-pass tillage system to capitalize on increased profitability opportunities demonstrated by these systems on Illinois farms**, while farms with a SPR below 136 should consider their entire system to determine if reduced tillage could be implemented without increasing other direct costs.¹



Start with an **inventory of current equipment**, identify any additional operational requirements or attachments needed



Anticipate **any labor or weather restrictions involved** in changing the timing of nutrient applications or tillage operations.



Factor in any **changes in soil moisture and temperature conditions** that may be induced by altering the residue coverage on the soil surface



Pay close attention to **nutrient management and timing**. Reducing tillage in cold, wet soils may cause soil nutrients to mineralize more slowly than conventionally tilled fields.

IS STRIP TILL RIGHT FOR YOU?

Economic and yield benefits experienced in strip till systems are typically attributable to the combined effects of nutrient placement, soil conditions in the tilled zone, and less tillage passes across the field. A successful transition to this system requires consideration of these three factors:

1. Existing equipment capabilities and nutrient placement



2. Putting in strips in the fall or spring may enhance planting conditions by allowing for more rapid soil warm-up and increased seed to soil contact in comparison to no-till systems.

3. Economic returns are greatest when fall P and K applications are banded with the fall strip operation.

¹ Recommendations taken directly from: The Business Case for Conservation. Cost Benefit Analysis of Conservation Practices. A 2015-2018 Data Summary from the Precision Conservation Management Program of the IL Corn Growers Association.

**No Farms
No Food**

For more information about the VHW Partnership and how you can get involved please contact:

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