



IOWA LEARNING FARMS

BUILDING A CULTURE OF CONSERVATION

FARMER TO FARMER | IOWAN TO IOWAN

THE ECONOMIC VALUE OF COVER CROPS

WHAT WE KNOW ABOUT THE BENEFITS OF COVER CROPS:



INCREASED SOIL ORGANIC MATTER, SOIL HEALTH, AND PRODUCTIVITY



REDUCED SOIL EROSION AND NITRATE LEACHING

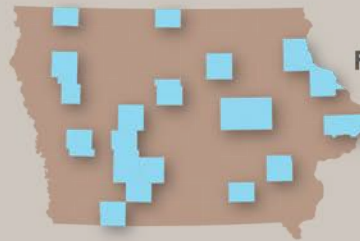


SUPPRESSION OF WINTER ANNUAL AND EARLY SEASON WEEDS

DATA WERE COLLECTED FROM:



9 FARMER PARTNERS WHO PARTICIPATED IN A CEREAL RYE COVER CROP REPLICATED TRIAL BEGUN IN 2009.



AT LEAST 2 COUNTIES, RANDOMLY SELECTED, FROM EACH OF IOWA'S 9 CROP REPORTING DISTRICTS.

3 METHODS OF GENERATING AN AVERAGE COST OF SOIL LOSS TO THE LANDOWNER

MEASURED CHANGES IN:



VALUE OF THE CORN SUITABILITY RATING v2



YIELD POTENTIAL



RENTAL RATE

CSR2 RATES SOILS RELATIVE TO ONE ANOTHER. THE HIGHER THE VALUE, THE HIGHER THE POTENTIAL FOR PRODUCTIVITY.

\$ 0.53/TON

SOIL EROSION NEGATIVELY IMPACTS YIELD POTENTIAL FOR A CORN-SOYBEAN ROTATION.

\$ 0.54/TON

ISU CASH RENT SURVEY IS USED TO ESTIMATE THE CHANGE IN LAND RENTAL DUE TO SOIL EROSION.

\$ 0.38/TON

ESTIMATED SOIL LOSS VALUES IN EACH COUNTY SAMPLED AFTER AVERAGING THE THREE METHODS RANGED FROM:

\$0.39/TON TO \$0.72/TON, FOR AN AVERAGE \$0.49/TON

ECONOMIC VALUE OF NUTRIENTS?



SOILS WITH HIGHER ORGANIC MATTER HAVE GREATER PRODUCTIVITY DUE TO HIGHER NUTRIENT CONTENT AND AVAILABILITY.

TO ESTIMATE THE NUTRIENT VALUE, THE AVERAGE ORGANIC MATTER PERCENTAGE FOR EACH COUNTY FROM THE IOWA SOIL PROPERTIES AND INTERPRETATIONS DATABASE WAS USED.



FOR THE 20 COUNTIES IN THE STUDY, THE AVERAGE NUTRIENT VALUE LOST TO EROSION IS \$5.57/TON.

\$0.49/TON
AVERAGE VALUE OF SOIL
LOSS FROM EROSION

+

\$5.57/TON
LOST NUTRIENT VALUE

=

\$6.06/TON*

* ONLY A PORTION OF THE ULTIMATE VALUE



FOR EACH TON OF SOIL THAT IS KEPT IN PLACE THROUGH CONSERVATION PRACTICES SUCH AS COVER CROPS, \$6.06 CAN BE CREDITED TO THAT PRACTICE TO HELP OFFSET THE COST OF IMPLEMENTATION.

LARGEST IMPACTS OF COVER CROP USAGE WERE FOUND WHERE EROSION RATES WERE HIGHEST



FOR EXAMPLE, TAMA COUNTY SOIL LOSSES UNDER 3 SCENARIOS:

CONSERVATION TILLAGE

=

6 TONS/ACRE



CONSERVATION TILLAGE
+ COVER CROPS

=

5 TONS/ACRE



~\$6/ACRE
SAVINGS

NO TILLAGE
+ COVER CROPS

=

1 TON/ACRE



~\$30/ACRE
TOTAL SAVINGS

A STUDY CONDUCTED BY:



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FOR MORE INFORMATION

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