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.

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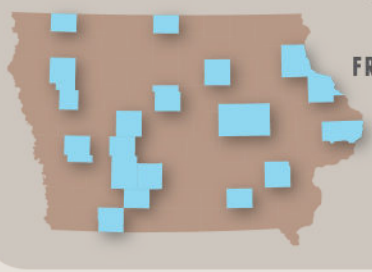

AT LEAST 2 COUNTIES, RANDOMLY SELECTED, FROM EACH OF IOWA'S 9 CROP REPORTING DISTRICTS.

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.	SOIL EROSION NEGATIVELY IMPACTS YIELD POTENTIAL FOR A CORN-SOYBEAN ROTATION.	ISU CASH RENT SURVEY IS USED TO ESTIMATE THE CHANGE IN LAND RENTAL DUE TO SOIL EROSION.
$ 0.53/TON	$ 0.54/TON	$ 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:

Iowa Learning Farms
Practical Farmers of Iowa — working together, always learning
Iowa State University Extension and Outreach

Iowa Learning Farms is funded by the Iowa Department of Agriculture and Land Stewardship through the Integrated Farm and Livestock Demonstration Program, in collaboration with Iowa Department of Natural Resources (USEPA Section 319), Natural Resources Conservation Service, Conservation Districts of Iowa, Iowa State University Extension and Outreach, Leopold Center for Sustainable Agriculture, Iowa Farm Bureau Federation and Iowa Water Center.

For more information

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