



# SOIL MANAGEMENT (CSP Enhancements)

January 2006

## Enhancement Activity Task Sheet

UT-CSP-ESM



Photo courtesy of NRCS

### Enhancement Activities

Enhancements activities refer to actions that provide resource benefits beyond the level prescribed by NRCS Conservation Practice Standards. Once implemented

Enhancement Activities should result in an observable or measurable improvement to the condition of one or more of the soil, water, air, plant, or animal resources, or provide for more efficient resource utilization and/or energy conservation.

### Enhancement Activity Benefits

Enhancement activities associated with soil improvement such as leaving crop residue on or near the surface, reducing tillage, controlling erosion, controlling traffic, adding organic matter such as mulches and solid manure, using cover or green manure crops, etc can result in the following benefits to the producer and the environment:

- Cleaner ground and surface water
- Reduced costs

#### USDA Nondiscrimination Statement

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's [TARGET Center](#) at 202-720-2600 (voice and TDD). To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

- Improved soil health
- Improved yields

### CSP Payments

You can earn soil management enhancement payments by:

**Decreasing Soil Tillage Intensity Ratings (STIR) on your fields.** STIR ratings can be decreased by actions such as:

- Reducing field operations.
- Using a GPS or other controlled traffic guidance system.

**Improving your Soil Conditioning Index (SCI) score.** SCI scores can be increased by actions such as:

- Using a crop rotation that includes perennials such as alfalfa or crops that produce high amounts of residue,
- Leaving crop residues on the soil surface,
- Using cover crops during critical erosion periods
- Applying animal manure or other organic mulches
- Controlling wind and water erosion through practices such as cross slope tillage, strip cropping, or terraces

**CSP Enhancements earnings are subject to payment caps. Your actual payment will depend on your CSP Tier level and the number of acres enrolled.**



# SOIL MANAGEMENT (CSP Enhancements)

January 2006

## Enhancement Activity Task Sheet

UT-CSP-ESM

### Client's Acknowledgement Statement:

I have elected to use the following Soil Management activities to decrease STIR ratings and/or maintain or increase my SCI and understand the requirements of the selected activities (Check all that apply):

- Managing field operations to reduce compaction and STIR ratings (Worksheet 1)
- Adopting GPS or other similar guided technology to reduce STIR ratings (Worksheet 2)
- Improving Soil Condition Index (Worksheets 3, 4, and 5) by:
  - Using a crop rotation that includes perennials such as grass and/or alfalfa in rotation and/or other high residue crops (Worksheet 4)
  - Use cover crops (Worksheet 4)
  - Maintain crop residues through tillage operations (mulch till or no till) (Worksheet 5)
  - Applying organic mulches or manure (Worksheet 5)
  - Control wind and water erosion (cross slope tillage, strip crop, terraces (Worksheet 6)

The SCI takes into account organic matter (OM) contributions from crops, mulches, and manures (all +'s) and tillage and harvest operations which destroy OM, soil aggregates and structure, and that cause compaction (all -'s), or erosion (also a -). An increase in soil tilth and organic matter and reductions in water and wind erosion resulting in increased air and water quality can be achieved with an increase in SCI.

The SCI can be calculated using Rusle2 (Contact NRCS to run SCI). To calculate an SCI the following information is needed:

- Crop rotation (include past crops if needed to show the full rotation)
- Cover crop information (if applicable)
- Crop yield information and/or surface residue after harvest
- All production operations (tillage and field prep, planting, cultivation, pest control, harvest, etc.)
- Mulch and manure application rates (if applicable)
- Tillage direction (ranging from up and down slope to precise contour tillage)
- Erosion control practice information (terraces, grassed waterways, strip cropping etc.)
- Irrigated or dryland

I agree that the following information will be provided to NRCS upon request:

- Written documentation of the activity performed (use attached worksheets or equivalent).

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

I understand that it is my responsibility to obtain all necessary permits and to comply with all ordinances and laws pertaining to the application of these activities.

Accepted by: /s/ \_\_\_\_\_ Date: \_\_\_\_\_

**SOIL MANAGEMENT (CSP Enhancements)**

January 2006

**Enhancement Activity Task Sheet****UT-CSP-ESM****Name:****Worksheet 1 – Manage field operations to reduce compaction and STIR ratings****Payment schedule:** For managing field operations to reduce soil compaction.

- \$0.50/Ac. for a Soil Tillage Intensity Rating (STIR) between 31 and 60.
- \$1.00/Ac for a Soil Tillage Intensity Rating (STIR) between 16 and 30
- \$2.00/Ac for a Soil Tillage Intensity Rating (STIR) of 15 or less

Soil Tillage Intensity Rating (STIR) is an index used to evaluate the kind and number of ground disturbing tillage passes used to produce a crop. Because STIR calculations consider operating speed of equipment, tillage type, tillage depth and the percent of surface area disturbed, the results reflect how much the soil is being compacted in the process of growing a crop. A low STIR rating is an indication of reduced potential for compaction.

Your STIR rating will be calculated by NRCS based on tillage information you supply. Payments will be based on the STIR over the entire rotation.

**Field Operations Certification**

I certify that I have followed the field operations for my crop rotation as specified on the attached RUSLE2 report (provided by NRCS) and/or operations and crop rotation worksheets.

Name: \_\_\_\_\_ Date: \_\_\_\_\_



# SOIL MANAGEMENT (CSP Enhancements)

January 2006

## Enhancement Activity Task Sheet

UT-CSP-ESM

Name: \_\_\_\_\_

### Worksheet 2 - Adopt GPS or other similar controlled traffic guidance system

**Payment schedule:** For using GPS or other similar guided measure technology to reduce soil compaction by controlling areas of traffic.

- \$1.00/Ac. for a Soil Tillage Intensity Rating (STIR) between 31 and 60.
- \$2.00/Ac for a Soil Tillage Intensity Rating (STIR) between 16 and 30
- \$4.00/Ac for a Soil Tillage Intensity Rating (STIR) of 15 or less

Global Positioning System (GPS) controlled guidance systems such as John Deere AutoTrac, New Holland IntelliSteer, Case/IH AgGPS® Autopilot use Earth-orbiting satellites and GPS receivers to translate radio signals into precise geographic coordinates that can be used to guide traffic patterns on cropland fields and reduce repeat passes of equipment reducing soil compaction.

Your STIR rating will be calculated by NRCS based on tillage information you supply. Payments will be based on the STIR over the entire rotation.

Use this (or similar) table to document where Precision Ag techniques are used.

Tract & Field #s	Acres	Crop Grown	Type of System Used	Crop Year Used
T123 Field 4	180 <small>Example</small>	Winter Wheat	John Deere AutoTrac	2004

## Guided Traffic System Certification

I certify that I have used a Guided Traffic System on the fields listed in the table above.

Name: \_\_\_\_\_ Date: \_\_\_\_\_



# SOIL MANAGEMENT (CSP Enhancements)

January 2006

## Enhancement Activity Task Sheet

UT-CSP-ESM

Name: \_\_\_\_\_

### Worksheet 3 – Improve Soil Condition Index Score

**Payment schedule:** \$2.32/acre for every 0.2 increment in the Soil Condition Index (SCI) Score above 0.0 up to a score of 2.5.

The Soil Conditioning Index (SCI) is a tool that can predict the consequences of cropping systems and tillage practices on the trend of soil organic matter. Organic matter is a primary indicator of soil quality and an important factor in carbon sequestration and global climate change.

The Soil Conditioning Index has three main components:

- 1) the amount of organic material returned to or removed from the soil;
- 2) the effects of tillage and field operations on organic matter decomposition; and
- 3) the effect of predicted soil erosion associated with the management system.

The SCI gives an overall rating based on these components. If the rating is a negative value, the system is predicted to have declining soil organic matter. If the rating is a positive value, the system is predicted to have increasing soil organic matter.

Your SCI rating will be calculated by NRCS based on crop management information you supply. Payments will be based on the SCI over the entire rotation.

## Field Operations Certification

I certify that I have followed the field operations for my crop rotation as specified on the attached RUSLE2 report (provided by NRCS) and/or operations, crop rotation, and erosion control worksheets.

Name: \_\_\_\_\_ Date: \_\_\_\_\_



# SOIL MANAGEMENT (CSP Enhancements)

January 2006

## Enhancement Activity Task Sheet

UT-CSP-ESM

Name: \_\_\_\_\_

**Worksheet 4 – Conservation cropping rotation & history**

Indicate if field is irrigated or dryland. Indicate any cover crops grown.

Tract & Field #s	Acres	Crop Rotation Sequence							
		Year	200_	200_	200_	200_	200_	200_	200_
T13111 - 3 irrigated	80	Crop	Potatoes	Winter Example 2 Bu/Ac	Potatoes	Corn	Alfalfa	Alfalfa	Alfalfa
		Yield	20 T/Ac		20T/Ac	185 Bu/Ac	5 T/Ac	5 T/Ac	5 T/Ac
		Crop							
		Yield							
		Crop							
		Yield							
		Crop							
		Yield							
		Crop							
		Yield							
		Crop							
		Yield							
		Crop							
		Yield							
		Crop							
		Yield							
		Crop							
		Yield							
		Crop							
		Yield							
		Crop							
		Yield							

### Crop Rotation Certification

I certify that I am rotating my crops as shown in the table above.

Name: \_\_\_\_\_ Date: \_\_\_\_\_



