United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E345C

Reduced tillage to increase plant-available moisture

Conservation Practice 345: Residue and Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description:

Establish a reduced till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.

Criteria:

- Uniformly distribute residues over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Do not burn crop residues.
- Field must have an annual soil loss at or below the soil tolerance (T) level for the crop rotation.
- The Soil Tillage Intensity Rating (STIR) value MUST include all field operations that are performed during the crop interval between harvest of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop STIR value rating shall be no greater than 80, and no primary inversion tillage implements (e.g. moldboard plow) shall be used.

- Maintain a minimum 60 percent surface residue cover throughout the year.

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Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, no residue will be burned.

☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

☐ During implementation, no primary inversion tillage implements (e.g. moldboard plow) will be used.

☐ During implementation, maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

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NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, use information provided from the participant to calculate the soil loss, Soil Tillage Intensity Rating values, and estimated surface residue cover using current NRCS wind and water erosion prediction technologies. Verify the enrolled field(s) will have an annual soil loss at or below the soil tolerance (T) level, a Soil Tillage Intensity Rating value of no greater than 80 for each crop in the planned rotation, and the estimated surface residue cover.
  "T" = _____t/ac/year Soil erosion = _____t/ac/year
  STIR values for each crop in the rotation = _____
  Estimated surface residue cover for each crop in the rotation = _____
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information the provided from the participant to calculate soil loss, Soil Tillage Intensity Rating values, and estimated surface residue cover to document that the applied rotation met the enhancement criteria.
  Soil erosion = _____t/ac/year
  STIR values for each crop in the rotation = _____
  Estimated surface residue cover for each crop in the rotation = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

X _____

NRCS Technical Adequacy Signature Date

*Sign and certify in the Oregon-Acknowledgment & Certification supplement below.

Design Approvals & Acknowledgements:

Design Approval	Date	Job Approval Authority
Designed by:		
Approved by:		

Client's Acknowledgement Statement:

The client acknowledges:

- I have received a copy of the specification and understand the contents and requirements.
- It is my responsibility to obtain all necessary permits and/or rights and to comply with all ordinances and laws pertaining to the application of this practice.
- I will not begin installation of this practice until I have received appropriate approval to do so. I understand NRCS also has Federal and state laws to comply with that may take some time to address (e.g. cultural resources).

Client's Signature	Date

Certification Documentation:

☐	Field Evaluation: Post-treatment inventory, measurements, notes, as-built, and supporting documentation (document completion in conservation plan), as required.
☐	Map(s): Including field numbers, fields treated, and units treated (may document on conservation plan map), as required.
☐	Photos or other supporting documentation (e.g., seed tags, soil tests, receipts, invoices, spray records, fertilizer records, etc.)
Brief Description of Work Accomplished (types of equipment used, date of application, extents and quantities installed, etc.)	

Certification Statement:

The employee certifies the implementation of this conservation practice:

- Meets the purpose, general criteria, and any required additional criteria as documented in the conservation practice standard and/or enhancement sheet.
- Meets the specifications contained herein and is complete.
- Conforms to my existing Job Approval Authority controlling factors and levels.

Name	Date	Job Approval Authority

Field Level Certification – For multiple applications of this design.				
Land Unit/ Contract Item Number	Date	Unit(s)	Amount Installed	Certifier