



CONSERVATION ENHANCEMENT ACTIVITY

E328A

CONSERVATION STEWARDSHIP PROGRAM

Resource conserving crop rotation

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERNS: Soil; Plants

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three-year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.

Criteria

- Crops shall be grown in a planned sequence. The crop rotation shall include a minimum of two different crops in a minimum three-year crop rotation. Rotation must include AT LEAST one resource conserving crop (refer to State Specific List of Resource Conserving Crops). For purposes of these criteria a cover crop is considered a different crop.
- Crop rotation must produce a positive trend in the Organic Matter (OM) subfactor value, as determined by the Soil Conditioning Index (SCI) calculated using current NRCS wind and water erosion prediction technologies. (management SCI value)
- Design the crop sequence to provide sufficient diversity in plant family and species as well as timing and type of field operations to suppress the pest(s) of concern, which may include weeds, insects, and pathogens. Use land grant university or industry standards to determine a suitable crop sequence.



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- Select crops, varieties of crops, and the sequences of crops based on local climate patterns, soil conditions, irrigation water availability, and an approved water balance procedure.
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.
- The crop rotation shall include at least one of the following types of resource conserving crops (refer to State Specific List of Resource Conserving Crops):
 - With at least one other crop in the rotation, include a perennial grass grown at least 2 years from time of planting;
 - With at least one other crop in the rotation, include a legume that is grown at least 2 years from time of planting;
 - With at least one other crop in the rotation, include a legume-grass mixture that is grown at least 2 years from time of planting;
 - With at least one other crop in the rotation, include a grass-forbs or legume-grass-forbs mixture, in which at least the grass component of the mixture is grown at least 2 years from time of planting, or
 - With at least two other crops in the rotation, include a non-fragile residue or high residue crop or a crop that efficiently uses soil moisture, reduces irrigation water needs, or is considered drought tolerant. Neither the crop residue nor the cover crop shall be harvested or grazed.



Documentation and Implementation Requirements

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Participant will:

- Y 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)

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

NRCS will:

- Y As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.
- Y Prior to implementation, verify that the crop rotation includes at least two different crops in a minimum three-year crop rotation.
- Y Prior to implementation, verify the crop rotation includes at least one resource conserving crop (refer to State Specific List of Resource Conserving Crops).



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- Y Prior to implementation, use the information provided from the participant to calculate the management Soil Conditioning Index (SCI) value using current NRCS wind and water erosion prediction technologies. Crop rotation must produce a positive trend in the Organic Matter (OM) subfactor value. **Management SCI Value = _____ OM subfactor value = _____**
- Y During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- Y After implementation, if the applied crop rotation is different than the planned crop rotation, use the information provided from the participant to calculate SCI value to document that the applied rotation met the enhancement criteria. **Management SCI Value = _____ OM subfactor value = _____**

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 _____

NRCS Technical Adequacy Signature

Date



**IOWA SUPPLEMENT TO
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Additional Criteria for Iowa

- NOTE: This enhancement requires either a perennial forage for two or more years or a small grain in the rotation followed by a cover crop in a minimum three year rotation.
- State list of Resource Conserving Crop
 - Any perennial crop (Example - Alfalfa, Bromegrass, Orchard grass)
 - Any short term (2+ years) perennial or biennial (Example - Red Clover, Sweet Clover)
 - Any spring or winter small grain harvested for grain (Example - Oats, Barley, Cereal Rye, Wheat, Triticale), with a green manure or followed by a cover crop.
- Resource conserving crop may be harvested for forage or grain.
- Perennial/biennial crops may be grazed.
- When an adding a small grain to the rotation, the small grain residue, green manure, and cover crops cannot be grazed.