



## 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.

### North Dakota Sideboards:

Cover crops must be full season (seeded by July 1 or exclusively winter annuals seeded by September 1 and be allowed to grow until June 15 the following year).

Payments will be made based on the acres of the system, meaning all fields that will be meet the criteria of E328A will be included in the payment, regardless of what point in the rotation the fields are at during year 1. (If the planned rotation is Wheat-Corn-Alfalfa 2 years, first year payment could be issued on all fields seeded to wheat, corn, or alfalfa.



**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

## ND CSP Signup 2023

### 328A NRCS Enhancement Guidance

Resource Conserving Crops* - 328A	
Grasses and Legumes /1	Annual Crops /2
Alfalfa Big Bluestem Birdsfoot Trefoil Canada Wildrye Cicer Milkvetch Crested Wheatgrass Green Needlegrass Indiangrass Intermediate Wheatgrass Ladino Clover Little Bluestem Meadow Bromegrass Perennial Ryegrass Prairie Sandreed Pubescent Wheatgrass Reed Canarygrass Russian Wildrye Sideoats Grama Switchgrass Tall Wheatgrass Timothy Western Wheatgrass	Annual Ryegrass Barley Millet Oats Rye Sorghum Sorghum-Sudangrass Hybrids Teffgrass Triticale Wheat (all) Winter Wheat

*1/ Must be maintained for at least two years (or more) after the seeding year.*

*2/ These crops must be solid-seeded. Cover crops will be established early enough in growing season (full-season) to provide diversity, planned benefits and cover.*

*\*Additional species will be considered on a case-by-case basis.*

*\*\*Resource Conserving Crop Rotation*

**Guidelines:**

Annual small grain crops or perennial grasses or legumes that typically produce large amounts of above ground biomass are considered resource conserving crops (RCC). Note: Row crops such as corn are not considered resource conserving crops.

No harvesting, haying or grazing of crop residues of the cover crop is permitted on acreage scheduled for 328A, 328D, 328E, 328G.

When a cover crop is planned the cover crop will consist of a mixture of at least 2 species and must be a full-season planting; ie. in place of another crop in the rotation. Cover crops planted after harvest do not meet the rotation criteria.

# North Dakota Crops List

## High Residue Crops

Barley  
Buckwheat  
Corn, grain  
Durum  
Flax  
Millet  
Oats  
Rye  
Ryegrass, annual  
Sorghum, grain  
Speltz  
Spring wheat  
Teff  
Triticale  
Winter wheat

## Low Residue Crops

All clover species  
Beet  
Canola  
Corn, silage  
Cowpea  
Crambe  
All Edible beans  
Fava or Faba bean  
Garbonzo bean  
Horse bean  
Lentils  
Kale  
Mustard  
Onion  
Peas  
Potato  
Radish  
Safflower  
Sorghum, silage  
Soybean  
Sugarbeet  
Sunflower  
Turnip  
Vetch