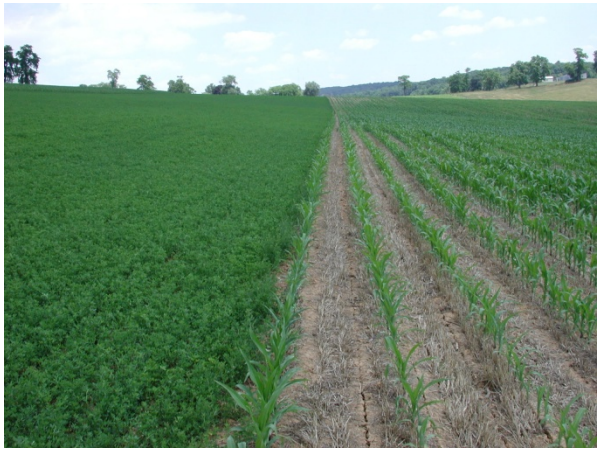
United States Department of Agriculture
Natural Resources Conservation Service

Conservation Crop Rotation

Virginia Conservation Practice Job Sheet *328*



Definition

A planned sequence of crops grown on the same ground over a period of time.

Conditions Where Practice Applies

This practice applies where at least one annually-planted crop is included in the rotation.

Criteria Applicable to All Purposes

- Crops shall be grown in a planned sequence as outlined in Plans and Specifications.
- Crops shall be adapted to the local climate, soil resource, and goals of the producer.
- The rotation shall include at least two crops.
- Plan suitable crop substitutions for cases where the planned crop cannot be planted

Additional Criteria to Reduce Sheet & Rill and/or Wind Erosion

The cropping sequence, along with other practices in the management system, shall produce sufficient biomass, crop residue, and/or intervals without soil disturbance to achieve the planned soil loss objective.

Additional Criteria to Maintain or Increase Soil Health and Organic Matter Content

Soil health refers to amount and function of soil organisms. Enhance soil health with rotations that implementation of soil health principles (keep soil covered, minimize soil disturbance, maximize living roots, and maximize soil biodiversity).

Soil organic matter refers to total non-mineral carbon content of the soil. The cropping sequence, along with other practices in the management system, shall produce sufficient biomass, crop residue, and/or intervals without soil disturbance to ensure that:

- For soil organic matter maintenance, (a) predicted sheet & rill erosion is at or below the soil loss tolerance value (T) and (b) the Soil Conditioning Index predicts an SCI score of +0.00 or greater.
- For soil organic matter increase, (a) predicted sheet & rill erosion is at or below the soil loss tolerance value (T) and (b) the Soil Conditioning Index predicts an SCI score of +0.25 or greater.

Additional Criteria to Reduce Water Quality Degradation Due to Excessive Soil Nutrients

Select/manage crop sequence to achieve any of these:

- Reduce the supply of excess nutrients in the soil (e.g., grasses or brassicas scavenging excess soil nitrogen (N) in the fall).
- Reduce the need to supply excess nutrients to the soil (e.g., legumes fixing atmospheric nitrogen for use by subsequent nitrogen-fertilized crops)
- Reduce transport for excess nutrients from the soil (e.g., crops reducing runoff, erosion, and leaching risk by transpiring moisture, increasing soil cover).

Additional Criteria to Improve Soil Moisture Management

Select crops sequences to deplete soil moisture on sites with excessive moisture or to reduce runoff and evaporative losses on sites with inadequate moisture.

Additional Criteria to Reduce Plant Pests

Design the crop sequence to suppress pests, which may include weeds, insects, and pathogens.

Indicators for Evaluating Crop Rotations

See the Considerations section of Standard for simple numerical indicators for assessing and comparing rotations, including rotation duration, summers in perennial, fallow frequency (crop continuity), species counts (crop diversity), percent cover after planting, and Soil Tillage Intensity Rating (STIR).

NOTE: This summary does not address all purposes, requirements, and considerations in the VA Conservation Crop Rotation Standard (VA-328). Consult Standard for further details.

Conservation Crop Rotation – Specifications & Certifications 328

General Information

Client: _____ County: _____

Field Office: _____ Contract #: _____

Farm #: _____ Tract #: _____

Field # and acreage: _____ ___

Client's Purpose(s) (check all that apply)

Note: Some purposes trigger additional requirements to include in Specifications – see page 1 or Standard for details.

- ☐ Reduce sheet, rill, and wind erosion
- ☐ Maintain or increase soil health and soil organic matter content
- ☐ Reduce water quality degradation due to excess nutrients
- ☐ Improve soil moisture management
- ☐ Reduce plant pest pressures
- ☐ Provide feed and forage for domestic livestock
- ☐ Provide food and cover habitat for wildlife, including pollinator forage and nesting

Practice Specifications

Follow all specifications and recommendations below for practice implementation.

General Criteria Required by Standard in All Cases

1. Crops shall be grown in a planned sequence as specified below.
2. Crops shall be adapted to the local climate, the soil resource, and the producer's goals.
3. The crop rotation shall include at least two different crops (non-harvested cover count as a crop).
4. Plan suitable crop substitutions for cases when the planned crop cannot be planted.

Description of Planned Crop Rotation

At a minimum, specify below the following for the planned crop rotation(s): (a) rotation duration in years; (b) names or types of crops to be grown; (c) sequence of crops to be grown; (d) length of time each crop will be grown in rotation.
***Optional**: Use one or more attached Conservation Crop Rotation Planning & Evaluation Worksheets to help describe and evaluate the baseline rotation and any alternative planned rotations. If optional Worksheets are used, state that in the box below.*

Additional Criteria Required by Standard Depending on Client's Purpose(s)

List additional criteria to be met, if any, based on client's purpose(s); see Standard for details. Refer to attachments as needed.

Additional Site-specific Recommendations

List any additional recommendations related to crop rotation or management or complementary practices (conservation tillage, cover crop, etc.) to achieve conservation objectives. Refer to attachments as needed.

Operation & Maintenance (O&M)

Carry out the following to ensure that the planned crop rotation practice functions as intended after initial implementation.

Minimum O&M Requirements:

1. Periodically evaluate crop rotation to determine if planned system is achieving desired purposes; make adjustments as needed.
2. Insert substitute crops into the rotation as needed in response to crop failure or weather- or market-driven changes in planting intentions. Acceptable substitutes are crops that will accomplish the purpose of the originally planned crop.

Additional O&M Recommendations

Provide any additional practical guidance for actions to ensure the long-term effectiveness of practice.

Planner Certification

The conservation crop rotation practice planned in this job sheet fulfills minimum requirements of Virginia NRCS Conservation Practice Standard 328.

Signature	Title	Date

Certification of Practice Completion

The conservation crop rotation practice planned in this job sheet has been completed according to NRCS specifications (indicate in Specifications any changes to planned activities and acreage).

Signature	Title	Date

If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"= _____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")

Additional Specifications and Notes:

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Conservation Crop Rotation Planning & Evaluation Worksheet *(optional)* 328

Cropping system / rotation name or ID: _____

Crop Rotation Planning Calendar *(sketch in planned crops, fallow periods, and management details for the rotation)*

Year	Spring			Summer			Fall			Winter			Counting columns (for species counts, etc.			
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb				

Crop Rotation Simple Numerical Indicators *(requires analysis of rotation and tillage only – see Considerations Section of 328 Standard for details)*

Indicator:	Result:	Comments / Interpretation:
1. Rotation duration: *(in years)*		
2. Summers in perennial: *(number of summers)*		
3. Fallow frequency / crop continuity: *(number of fallow periods longer than 60 days without significant living vegetation)*		
4. Species counts / crop diversity: *(number of total species & number of legume species)*		
5. Minimum % cover after every planting: *(or list next to each crop in calendar above)*		
6. Soil Tillage Intensity Rating (STIR) for overall rotation - from RUSLE2 or WEPS: *(or list STIR for each crop in calendar above)*		

RUSLE2 / WEPS Results *(requires analysis of system including climate, soil, topography – attach printout with details as needed)*

Indicator:	Result:	Indicator:	Result:	Comments / Interpretation:
1a. Sheet & rill erosion: *(in tons/ac/year)*		1b. RUSLE2 Soil Conditioning Index (SCI): *(considers sheet & rill erosion only)*:		
2a. Wind erosion: *(in tons/acre/year)*		2b. WEPS Soil Conditioning Index (SCI) *(considers sheet, rill, and wind erosion)*:		

Conservation Crop Rotation Planning & Evaluation Worksheet (optional) 328

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