

Residue & Tillage Management – Mulch-Till

Virginia Conservation Practice Job Sheet

345



Definition

Managing the amount, orientation and distribution of crop and other plant residue on the soil surface year round while limiting the soil-disturbing activities used to grow and harvest crops in systems where the field surface is tilled prior to planting.

Conditions Where Practice Applies

This practice includes tillage methods where a majority of the surface is disturbed by operations such as vertical tillage, chiseling, and disking

This practice also includes tillage/planting methods with relatively minimal soil disturbance but which do not qualify as no-till/strip-till (e.g., due to use of full-width tillage).

Criteria Applicable to All Purposes

1. Residue shall not be burned.
2. Residues shall be uniformly distributed.
3. Immediately after planting, the soil surface must be covered by at least 30% residue, as determined using the line transect method.

Additional Criteria to Reduce Sheet & Rill or Wind Erosion

Planners may adjust the 30% residue target level upwards based on soil loss objectives for the

overall cropping system and evaluation of the system using applicable erosion prediction technology. Residue targets below 30% are not allowed regardless of calculation results.

Additional Criteria to Improve Soil Quality

Immediately after planting the soil surface must be covered by at least 60% residue, as determined using the line transect method.

Planners may adjust this target residue level up or down based on soil organic matter management objectives for the overall cropping system and evaluation of the system using erosion prediction and Soil Conditioning Index (SCI) technology. Document system objectives and calculations if planning less than 60% cover. Use the following to guide interpretation of SCI for purposes of this Standard:

- A cropping system expected to *maintain* total soil organic matter content should have an SCI score of 0.00 or greater and predicted sheet & rill erosion at or below “T”.
- A cropping system expected to *improve* total soil organic matter content should have an SCI score of +0.25 or greater and predicted sheet & rill erosion at or below “T”.

Residue targets below 30% are not allowed regardless of calculation results.

Additional Criteria to Reduce Energy Use

The Soil Tillage Intensity Rating (STIR) value associated with any mulch-till crop shall be 80 or less. This STIR value shall reflect all field operations that are performed during the crop interval between harvest or termination of the previous crop and harvest or termination of the current crop (includes fallow periods).

NOTE: This summary does not address all requirements and considerations in the VA Mulch-till Standard (VA-345). Consult the Standard for further details.

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 erosion
- Reduce wind erosion
- Maintain or improve soil quality
- Reduce energy use

Practice Specifications

Follow all specifications and recommendations below for practice implementation.

List and/or Description of Planned Mulch-Till Crops

Consider using and attaching Cropping System Description & Evaluation (D&E) Specification Sheets to describe crop rotation and timing/frequency of mulch-till crops (see VA NRCS Tech Notes Sharepoint Site for D&E Spec Sheet document).

General Criteria Required by Standard in All Cases

1. Residue shall not be burned.
2. Residues shall be uniformly distributed.
3. Immediately after planting, the soil surface must be covered by at least 30% residue as determined using the line transect method (see below for any site-specific adjustments to this minimum target).

Additional Criteria Required by Standard – Minimum % Cover

Consult page 1 or Standard for guidance. Refer to attached Cropping System D&E Specification Sheet if needed. This value must be 30% or greater for all mulch-till crops.

Immediately after no-till/strip-till planting (from planting until two weeks after), soil surface must be protected by residue cover of at least:

%

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

Write in applicable additional criteria, if any, based on client's purpose(s); see page1 or Standard for details

[Empty box for additional criteria]

Additional Site-specific Recommendations

List any additional recommendations related to tillage, residue management, or complementary practices (crop rotation, cover crop, etc.) to achieve conservation objectives. Refer to attached Cropping System D&E Specification Sheet if needed.

[Empty box for site-specific recommendations]

Operation & Maintenance (O&M)

Carry out the following to ensure that the planned mulch-till practice functions as intended after initial implementation.

Minimum O&M Requirements:

Evaluate crop residue quantity and distribution for each crop to ensure planned residue targets are being achieved and adjust management as needed.

Additional O&M Recommendations

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

[Empty box for additional O&M recommendations]

Planner Certification

The mulch-till management practice planned in this job sheet fulfills minimum requirements of Virginia NRCS Conservation Practice Standard 345.

.....
Signature Title Date

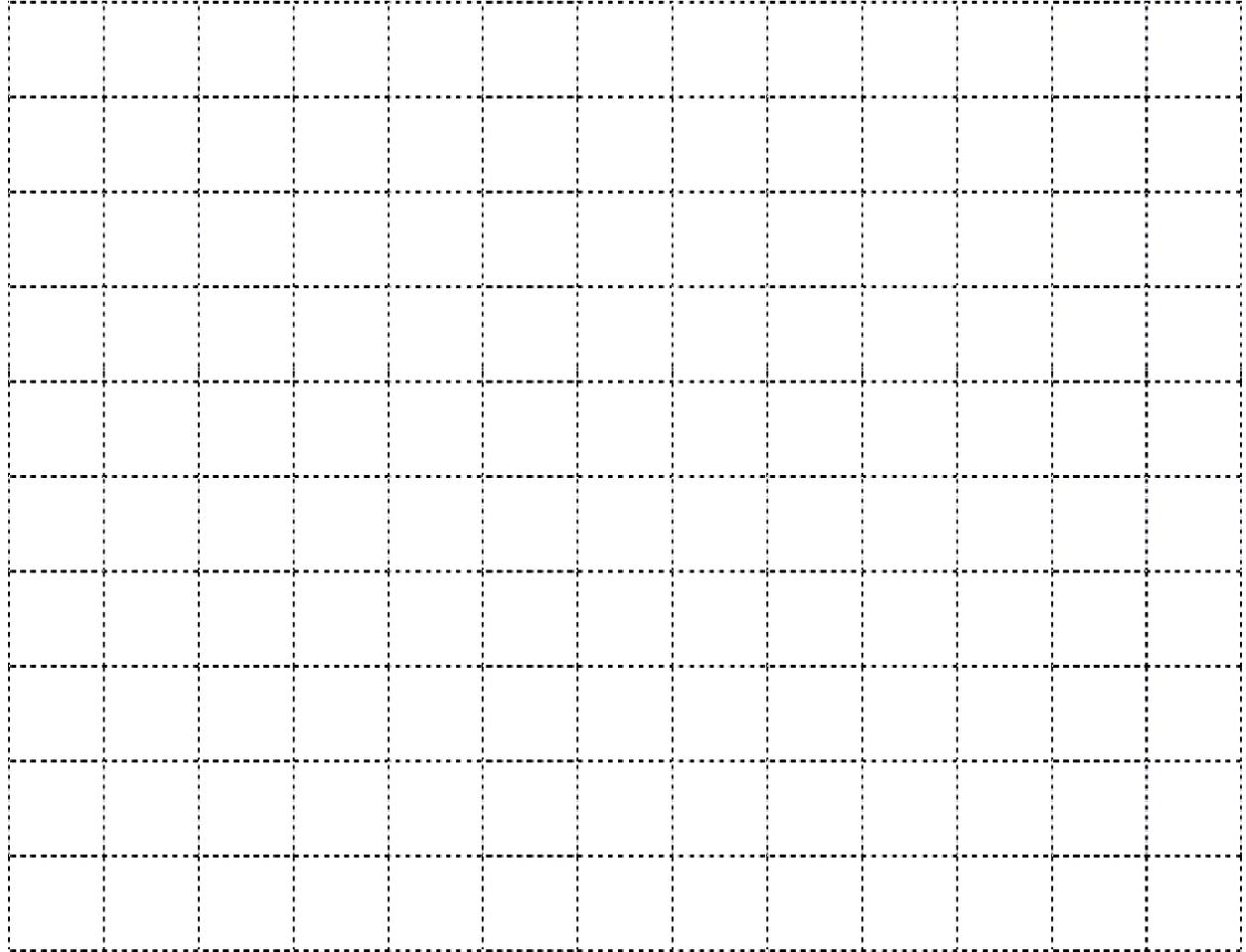
Certification of Practice Completion

The mulch-till management 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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