

## Residue & Tillage Management – No Till

### Virginia Conservation Practice Job Sheet

329



#### Definition

Limiting soil disturbance to manage the amount, orientation and distribution of crop and plant residue on the soil surface year around.

#### Conditions Where Practice Applies

This practice applies to all cropland and other land where crops are planted.

The no-till (NT) planting operation (one pass with NT planter, drill, or transplanter) is the only soil disturbance allowed during time interval between harvest/termination of the previous crop and harvest/termination of the NT crop.

#### Criteria Applicable to All Purposes

1. Residue shall not be burned.
2. All residues shall be uniformly distributed over the entire field.
3. No full-width tillage is allowed during the time interval from harvest/termination of the previous crop until harvest/termination of the NT crop. The only soil disturbance allowed during this time interval is tillage in strips and slots. Tilled strips must be no wider than one third (33%) of row width.
4. Any tillage in strips or slots must be performed in conjunction with the NT planting operation.
5. The Soil Tillage Intensity Rating (STIR) associated any NT crop must be 20 or less.

#### Additional Criteria to Reduce Soil Erosion/Particulate Matter

Immediately after planting, soil surface must be protected by an overall average of at least 30% raindrop-intercepting residue cover.

Planners may adjust this target residue level up or down based on evaluation of cropping system with erosion prediction technology. Document calculations if residue below 30% is planned.

#### Additional Criteria to Improve Soil Quality and/or Reduce Energy Use

Immediately after planting, soil surface must be protected by an overall average of at least 60% raindrop-intercepting residue cover.

Planners may adjust this target residue level up or down based on evaluation of cropping system with applicable soil organic matter trend (SCI) or energy prediction technology. Document calculations if residue below 60% is planned.

Use the following to guide interpretation of SCI:

- A system predicted to *maintain* total organic matter should have score of 0.00 or greater.
- A system predicted to *improve* soil organic matter should have score of +0.25 or greater.

Use the following for energy use assessment:

- Plan residue targets below 60% only if a drop in energy use of at least 25% compared to the baseline condition can be achieved.

#### Additional Criteria to Conserve Plant-Available Moisture

Immediately after planting, soil surface must be protected by an overall average of at least 60% raindrop-intercepting residue cover.

**NOTE: This summary does not address all requirements and considerations in the VA No Till Conservation Practice Standard (VA-329). Consult the Conservation Practice Standard for further details.**

<b>General Information</b>	
Client: _____	County: _____
Field Office: _____	Contract #: _____
Farm #: _____	Tract #: _____
Field # and acreage: _____	

<b>Client's Purpose(s)</b> (check all that apply)
<i>Note: All purposes trigger additional requirements to include in Specifications – see page 1 or Standard for details.</i>
<input type="checkbox"/> Reduce sheet, rill, and wind erosion
<input type="checkbox"/> Reduce tillage-induced particulate emissions
<input type="checkbox"/> Reduce energy use
<input type="checkbox"/> Maintain or increase soil quality and organic matter content
<input type="checkbox"/> Increase plant-available moisture

<b>Practice Specifications</b>		
<b>Follow all specifications and recommendations below for practice implementation.</b>		
<b>List and/or Description of Planned No Till Crops</b> <i>Consider using and attaching Cropping System Specification Sheets to describe crop rotation and timing/frequency of no-till crops (see VA NRCS Tech Note for Cropping System Spec Sheet document).</i>		
<b>General Criteria Required by Standard in All Cases</b>		
<ol style="list-style-type: none"> <li>1. Residue shall not be burned and shall be uniformly distributed.</li> <li>2. All tillage must be in strips and slots and performed in conjunction with the NT planting operation.</li> <li>3. The Soil Tillage Intensity Rating (STIR) value for any NT crop must be 20 or less (if Criterion 2 is achieved and at least 30% cover is present after planting, you may assume STIR is less than 20)</li> </ol>		
<b>Additional Criteria Required by Standard – Minimum % Cover</b> <i>Refer to page 1 or Standard for details. Refer to attached Cropping System Specification Sheet if needed. Specify above if different residue targets required for different reduced till crops in rotation.</i>		
<table border="1" style="width: 100%;"> <tr> <td style="width: 70%;"><b>Immediately after NT planting (from planting until two weeks after), soil surface must be protected by residue cover of at least:</b></td> <td style="width: 30%; text-align: center;"><b>%</b></td> </tr> </table>	<b>Immediately after NT planting (from planting until two weeks after), soil surface must be protected by residue cover of at least:</b>	<b>%</b>
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**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.

**Operation & Maintenance (O&M)**

Carry out the following to ensure that the planned NT 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.

Limited tillage may be allowed after or before NT crops to level ruts from harvesting. The amount disturbance allowed shall be determined on a case-by-case basis by NRCS field personnel. In no case may more than 25% of field be tilled for this reason.

If water or wind cause residue movement and uneven distribution, spread residue as needed prior to planting so it does not interfere with planter operation.

**Additional O&M Recommendations**

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

**Planner Certification**

The No-Till management practice planned in this job sheet fulfills minimum requirements of Virginia NRCS Conservation Practice Standard 329.

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Signature Title Date

**Certification of Practice Completion**

The No-Till management practice planned in this job sheet has been completed and maintained according to Virginia NRCS specifications (indicate in Practice Specifications any changes to planned activities and acreage).

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Signature Title Date

