

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**RESIDUE MANAGEMENT, SEASONAL**

(Acre)  
**CODE 344**



**DEFINITION**

Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface during a specified period of the year, while planting annual crops on a clean tilled seedbed, or when growing biennial or perennial seed crops.

**PURPOSE**

- Reduce sheet and rill erosion.
- Reduce soil erosion from wind.
- Reduce off-site transport of sediment, nutrients, or pesticides.
- Increase plant-available moisture
- Provide food and escape cover for wildlife

**CONDITIONS WHERE THIS PRACTICE APPLIES**

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

Seasonal residue management includes managing residues of annual crops from harvest until the residue is:

- Buried by tillage for seedbed preparation
- Removed by grazing, or
- Mechanically removed

**CRITERIA**

**General Criteria Applicable To All Purposes Stated Above**

Residue shall be uniformly distributed over the entire field.

Combines or similar harvesting machines shall be equipped with spreaders capable of redistributing residues over at least 80 percent of the working width of the header.

Residues shall not be burned unless burning is an accepted practice in an integrated pest management (IPM) program developed and recommended by the University of Florida, Institute of Food and Agricultural Sciences (IFAS). See Florida NRCS conservation practice standard Pest Management, Code 595, for further guidance on IPM.

Impact to cultural resources, wetlands, and Federal and State protected species shall be evaluated and avoided or minimized to the extent practicable during planning, design, and implementation of this conservation practice in accordance with established National and Florida NRCS policy, General Manual (GM) Title 420-Part 401, Title 450-Part 401, and Title 190-Parts 410.22 and 410.26; National Planning Procedures Handbook (NPPH) FL Supplements to Parts 600.1 and 600.6; National Cultural Resources

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Procedures Handbook (NCRPH); and The National Environmental Compliance Handbook (NECH).

#### **Additional Criteria To Reduce Sheet and Rill Erosion and Erosion from Wind**

The amount and orientation of residue needed to reduce erosion within the soil loss tolerance (T) or any other planned soil loss objective shall be determined using current approved erosion prediction technology.

Partial removal of residue by means such as baling, grazing, or other harvest methods shall be limited to retain the amount of residue needed to meet the erosion reduction objective. The remaining residue shall be maintained on the surface through periods when erosion has the potential to occur or until planting, whichever occurs first. Erosion prediction estimates shall account for the effects of other practices in the management system.

Any tillage that occurs during the management period shall be limited to methods that maintain the planned cover conditions.

Crops shall be selected that produce adequate residue, at the appropriate time, and in conjunction with other practices in the management system to control erosion to within the soil loss tolerance (T), crop tolerance (cT), or other planned soil loss objective.

#### **Additional Criteria to Reduce Off-site Transport of Sediment, Nutrients or Pesticides**

The amount and orientation of residue required to reduce off-site movement of agricultural chemicals during the specified period shall be determined using the appropriate assessment tool(s): Windows Pesticide Screening Tool (WIN-PST), Phosphorus Index (PI), Leaching Index (LI), erosion prediction technologies, or other recognized tools for the site conditions.

#### **Additional Criteria To Increase Plant-Available Moisture**

Tillage and planting operations shall be done on the contour will help slow overland flow and increase infiltration, thus increasing the potential for increased water storage in the root zone.

#### **Additional Criteria to Provide Food and Escape Cover for Wildlife**

The amount of residue, height of stubble, and length of the management period necessary for meeting habitat requirements for the target species or wildlife population shall be determined using an approved habitat evaluation procedure.

Tillage operations shall be delayed until the end of the management period to maintain the food and cover value of the residue.

#### **CONSIDERATIONS**

Removal of crop residue, such as by baling or grazing may have a negative impact on resources. These activities should not be performed without full evaluation of impacts on soil, water, animal, plant, and air resources.

Production of adequate amounts of crop residue necessary for the proper functioning of this practice can be enhanced by selection of high residue producing crops and crop varieties in the rotation, use of cover crops, and adjustment of plant populations and/or row spacing.

If Residue Management (Florida NRCS conservation practice standard Codes 329, 345, or 346) is planned for the following year crop, then adequate residue should be left to meet the minimum required for those practice standards.

When planting in a low residue seedbed, completing tillage and planting in a single operation, or by performing primary tillage no more than three days before planting can minimize exposure to erosion; and in limited moisture areas, can conserve moisture for germination.

Leaving one or two rows of unharvested crop standing at intervals across the field can enhance the value of residue for wildlife habitat. Unharvested crop rows have the greatest value when they are adjacent to other cover types, such as grassy or brushy areas or woodland.

Increased residue will affect water quality and quantity by increasing infiltration and decreasing runoff. Surface water quality will benefit from reduced runoff and reduced erosion. Greater infiltration provides more water in the soil profile for plant use.

Soil tilth and structure is improved with increased amounts of residue.

Air quality will be benefited by maintaining ground cover on the surface especially during the critical wind erosion period(s).

### PLANS AND SPECIFICATIONS

For each site, specifications and purpose of treatment shall be prepared and recorded using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan or other acceptable documentation.

After harvest, leave crop residues undisturbed or shred, chop, or lightly disk only, leaving at least 30 percent ground cover on the soil surface.

If the crop is harvested for silage (corn or sorghum) or baled and removed (soybeans or peanuts), or if a crop failure results in an insufficient amount of residue being produced, a cover crop can be used to provide the needed cover.

Crop residues, from either last year's crop or from cover crops, will remain on the surface until seedbed preparation begins for the next crop.

Residue amounts will be determined using the line transect method as described in the National Agronomy Manual.

### OPERATION AND MAINTENANCE

No operation and maintenance requirements have been identified for this practice.

### REFERENCES

National Cultural Resources Procedures Handbook (NCRPH)

National Environmental Compliance Handbook (NECH)

NRCS General Manual (GM)

Title 190, Part 410.22-Procedures for NRCS Assisted Programs

Title 190, Part 410.26-Protection of Wetlands

Title 420, Part 401-Cultural Resources

Title 450, Part 401-Technical Guides

National Planning Procedures Handbook (NPPH)  
FL Supplements to Parts 600.1 and 600.6

National Agronomy Manual

University of Florida, Institute of Food and Agricultural Sciences (UF – IFAS)

Florida NRCS conservation practice standards

Pest Management, Code 595

Residue & Tillage Mgt., No-Till/Strip Till/Direct Seed, Code 329

Residue Mgt., Mulch Till, Code 345

Residue Mgt., Ridge Till, Code 346

Windows Pesticide Screening Tool (WIN-PST)

Phosphorus Index (PI)

Leaching Index (LI)