

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD AND SPECIFICATIONS**

RESIDUE MANAGEMENT, SEASONAL

(Acre)
CODE 344

DEFINITION

Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface during part of the year while growing crops in a clean tilled seedbed.

PURPOSES

This practice may be applied as part of a conservation management system to support one or more of the following:

- Reduce sheet and rill erosion.
- Reduce wind erosion.
- Provide food and escape cover for wildlife.

CONDITIONS WHERE PRACTICE APPLIES

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

This standard includes residue management methods applied during part of the year from harvest until residue is buried by tillage for seedbed preparation.

CRITERIA

General Criteria Applicable to All Purposes

Loose residues to be retained on the field shall be uniformly distributed on the soil surface. Combines or similar machines used for harvesting shall be equipped with spreaders capable of distributing straw and chaff over at least 80 percent of the working width of the header.

Residues shall not be burned.

Additional Criteria to Reduce Sheet and Rill Erosion or Wind Erosion

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 or grazing shall be limited to retain the amount of residue needed for erosion control. Calculations shall account for the effects of other practices used in the conservation system.

Remaining surface residues shall be maintained on the soil surface through erosion periods or until planting time, whichever comes first. Any tillage that occurs during the erosion periods shall be limited to methods that leave residue on the surface and maintain the planned cover conditions.

Additional Criteria to Provide Food and Escape Cover for Wildlife

Residue height and amount will be managed based on the food and cover required by the targeted wildlife species or population. Residues shall not be removed unless it is determined by a habitat evaluation procedure, Wildlife Habitat Appraisal Guide, that residue removal would not adversely affect habitat values.

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

CONSIDERATIONS

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

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Excess removal of crop residues by baling or grazing often produces negative impacts 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 residues necessary for the proper functioning of this practice can be enhanced by the selection of high residue crops and crop varieties, use of cover crops, and adjustments to plant populations and row spacing.

When planting on a clean seedbed, exposure to erosion can be minimized and available moisture for germination can be improved by completing tillage and planting in a single operation. If a single tillage and planting operation is not feasible, primary tillage and planting should be completed within three (3) days.

The effectiveness of stubble to trap snow or reduce plant damage from freezing or desiccation increases with stubble height. A minimum stubble height of 6 inches is desired. Patterns of variable stubble heights may be created to further increase snow storage.

Leaving rows of unharvested crop standing at intervals across the field can enhance the value of residues for wildlife habitat.

PLANS AND SPECIFICATIONS

Site specifications for establishment and maintenance of this practice shall be prepared for each field or treatment unit according to the Criteria, Considerations, and Operation and Maintenance described in this standard.

Site specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

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

GENERAL SPECIFICATIONS

Procedures, technical details, and other information listed below provide additional guidance for carrying out selected components of this practice.

The estimated residue cover after harvest shall be:

Corn, 30" rows, > 120 bushel yield	95%
Corn, 30" rows, 60-120 bushel yield	80%
Corn, silage, 23 ton yield	15%
Cotton	35%
Forage crop, after cutting	35%
Forage crop, after regrowth	85%
Grain sorghum, harvested for grain	75%
Grain sorghum, silage	15%
Winter small grain, 50 bushel yield	85%
Spring small grain, 40 bushel yield	80%
Soybeans, 30" rows, 35 bushel yield	70%
Soybeans, drilled, 40 bushel yield	75%
Sunflowers, 1400 pounds yield	40%
Rice	60%

Estimates of residue cover remaining after grazing, over winter weathering, tilling, or planting operations shall be determined according to the guidelines in the National Agronomy Manual, Part 503, Subpart E.

The line transect method shall be the approved method used to evaluate the percentage of ground surface actually covered by plant residue.

REFERENCES

Conservation Tillage Systems and Management, MWPS-45 Second Edition, 2000.