

# Residue Management, Seasonal

North Carolina Practice Job Sheet 344

Prepared for: \_\_\_\_\_

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Uneven field surfaces such as this will benefit by leaving crop residues on the surface over winter.



Corn stalks, shredded or not, provide good soil protection. Over-winter decomposition of crop residues will generally reduce the amount by about 30%.

## DEFINITION

Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface during a specified period of the year.

## PURPOSE

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 soil erosion from wind and associated airborne particulate matter.
- Harvest and utilize renewable bioenergy feedstocks.
- Provide food and escape cover for wildlife.

## CRITERIA

Residue will be uniformly distributed over the entire field.

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

Residues will not be burned.

Limit tillage operations during the residue management period to undercutting tools such as blades or wide sweeps that minimize residue flattening or burial. Any tillage that occurs during the management period will be limited to methods that maintain the planned cover conditions.

Limit partial removal of residue by means such as baling, grazing, or other harvest methods to retain the amount needed to meet the erosion reduction objective. Maintain the remaining residue on the surface through periods when erosion has the potential to occur, or until planting, whichever occurs first. Account for the effects of other practices in the conservation management system when estimating erosion.

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

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



Even in the "flat" lands of the east, stormwater runoff from unprotected fields will carry topsoil and other pollutants to the streams.

## CONSIDERATIONS

Removal of plant residue by baling or grazing may have a negative impact on resources. These activities should not be performed without full evaluation of impacts on other resources.

When planting into a clean tilled seedbed, completing the 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.

In areas that are in non-attainment for PM<sub>10</sub>, and for other areas with particular sensitivities to PM from dust, residue cover is especially important and should ensure that off-site PM levels are below critical thresholds, including maintenance of proper visibility.

Consider the relationship between crop residues and soil fungi or organisms. Adequate residue will provide food and habitat to beneficial soil flora and fauna, which positively impacts soil aggregate stability, moisture retention, infiltration, fertility, and breakdown of inorganic compounds.

No till planting annual spring small grains appropriate for the climatic zone in the fall, that winter-kill, will provide additional cover and/or feed for wildlife, grazing animals, soil erosion protection, and water retention without adding additional weed control measures.



The Neuse River in Craven County still runs clear after a 3 1/2 inch rain in late winter. Most of the cropland in the drainage area is protected by crop residues over winter.

## OPERATION AND MAINTENANCE

As a minimum, the following operation and maintenance information should be provided:

- Timing and extent of tillage operations and effects on the practice purposes.
- The use and effects of residue management tools, such as shredders or mowers.
- Understanding the nature of the residue, as to how fragile and subject to decomposition it may be.
- Further guidance is available in the job sheet for this practice.

Additional Operation and Maintenance requirements specific to this Plan: