

Landowner \_\_\_\_\_

**WHAT IS RIDGE TILL RESIDUE MANAGEMENT?**

Ridge Till is managing the amount, orientation, and distribution of crop and other plant residues on the soil surface year-round while growing crops on pre-formed ridges alternated with furrows protected by crop residue.

**PURPOSE**

- Reduce sheet and rill erosion
- Reduce wind erosion
- Maintain or improve soil condition
- Manage snow to increase plant-available moisture
- Modify cool wet site conditions
- Provide food and escape cover for wildlife

**HOW IT HELPS THE LAND**

Ridge Till provides for the management of crop residue year round to reduce soil erosion, conserve soil moisture, and increase water infiltration. It also provides a source of organic material for improving soil tilth.

**WHERE THE PRACTICE APPLIES**

This practice applies to all cropland and other land when crops are planted on pre-formed ridges and the ridges are maintained by row cultivation after planting. It does not include no till planting on ridges or bedding or listing operations that bury residues.

**WHERE TO GET HELP**

For assistance with this practice, contact your local Natural Resources Conservation Service office or your local Conservation District office.

**APPLYING THE PRACTICE**

Following crop harvest, residues should remain on the surface until planting. Residues should not be burned.

Crop residues left on the field after harvest should be uniformly distributed on the soil surface.

Maintain ridge height throughout the harvest and winter seasons by controlling equipment traffic.

Control livestock grazing of crops or residues to eliminate deterioration of the ridges and to maintain appropriate amounts of cover.

Use planters equipped with ridge-planting attachments such as row-cleaning devices and/or guidance systems.

After planting, maintain residues in the furrows between ridges. Any soil or residue removed from the top of the ridge should be moved into the furrow until the ridges are rebuilt during row cultivation.

Cultivation equipment designed to operate on ridges should be used, such as cultivators equipped with ridge-building attachments. Rebuild ridges to their original height and shape during the last row cultivation.

Perform soil testing just prior to planting and monitor through the entire crop rotation. Apply nutrients at the recommended rates for each crop in the rotation.

When ridges direct runoff to areas of concentrated flow where erosion can occur, stable outlets with erosion resistant grass or conservation practices such as grassed waterways, water and sediment control basins, underground outlets, or any other suitable practice needs to be installed to protect these areas.

#### **CONSIDERATIONS**

Removal of residue 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, plants, 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 producing crops and crop varieties in the rotation, use of cover crops, and adjustment of plant population and/or row spacing.

Since row cultivation is typically used for weed control and to reform ridges, this practice has the potential to reduce herbicide requirements.

Where improvement of soil tilth is a concern, continuous ridge planting will allow organic material

to accumulate in the surface horizon. Reconstruction of ridges in the same row area year after year will maximize organic matter buildup and biological activity in the row.

CO<sub>2</sub> loss is directly related to the volume of soil disturbed, the intensity of the disturbance and the soil moisture content and soil temperature at the time the disturbance occurs.

- Shallow soil disturbance (1-3 inches) releases less CO<sub>2</sub> than deeper operations.
- When deep soil disturbance is performed, such as by subsoiling or fertilizer injection, make sure the vertical tillage slot created by these implements is closed at the surface.
- Planting with a single disk opener no-till drill will release less CO<sub>2</sub> than planting with a wide-point hoe/chisel opener air seeder drill.
- Soil disturbance that occurs when soil temperatures are below 50° F will release less CO<sub>2</sub> than operations done when the soil is warmer.

Soil compaction may be reduced by controlled traffic, where wheel traffic from all operations is limited to the area between designated rows or traffic areas.

Leaving rows of unharvested crops standing at intervals across the field or adjacent to permanent cover will enhance the value of residues for wildlife food and cover. Leaving unharvested crop rows for two growing seasons will further enhance the value of these areas for wildlife.

Avoid disturbing standing stubble or heavy residue during the nesting season for ground-nesting species.

Forgoing fall shredding or tillage operations will maximize the amount of wildlife food and cover during critical winter months.

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