

# No-till Residue and Tillage Management Georgia

Conservation Practice Job Sheet – 329 (10/15)

Producer \_\_\_\_\_ County \_\_\_\_\_ Date \_\_\_\_\_

Farm # \_\_\_\_\_ Tract # \_\_\_\_\_ Assisted By \_\_\_\_\_



**Definition**

Residue management involves managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round, while growing crops in narrow areas in soil. This practice includes no- and strip-till management that does not exceed the limited amount of soil disturbance described below.

**Purposes**

No- or strip-till tillage management, a no-till cover crop (Code 340) and deep tillage (Code 324) are frequently used together in a conservation tillage crop production system. Deep tillage is frequently needed to break up hardpans, especially in sandy Coastal Plain soils.

Provide documentation in Table 1 that the STIR value for the period of time between the harvest or termination of the cash crops is no greater than 20. The STIR value is a measure of soil disturbance obtained from RUSLE2 (or current NRCS erosion software).

This requirement applies to all purposes of this practice.

A conservation tillage system should include the first three purposes. Select the purpose and provide the additional documentation for each one in the appropriate table in the Georgia NRCS Cover Crop (Code 340) jobsheet.

Controlling weeds is should also be a goal of implementing conservation tillage. Document weed control in the jobsheet of the cover crop standard because it is not a purpose of implementing residue and tillage management.

\_\_\_ Reduce soil erosion (sheet, rill and wind) to the tolerable level (T). Other soil loss goals may apply, such as when planning on highly erodible land (Table 2). Also, determine the amount of surface residue, time of year required and amount of soil disturbance allowed to reduce soil erosion to the desired level.

\_\_\_ Maintain or increase soil quality and organic matter with a Soil Conditioning Index (SCI) value of zero or greater. This index is also obtained from RUSLE2 (Table 3).

\_\_\_ Increase the use efficiency and storage of water in the soil. Maintain a minimum of 2,000 lbs. of crop residue or 60% residue cover throughout the year (Table 6) as required by the residue management standard. Information for

calculating the amount of dry biomass is available in Appendix I.

The next three purposes are not likely to be part of a conservation tillage crop production system. Select the desired purpose and provide the required documentation.

\_\_\_ Provide food and escape cover for wildlife. The following tools for evaluating wildlife habitat within cropland are located in FOTG and can be accessed using this link  
<http://efotg.sc.egov.usda.gov/toc.aspx?CatID=2918>:

- Wildlife Habitat Suitability Index (for general wildlife habitat evaluation and planning)
- 327 Conservation Cover Pollinator Job Sheet
- Native Bee Pollinator Habitat Assessment Form and Guide – Farms and Agricultural Landscapes
- Beneficial Insect Habitat Assessment Form and Guide.

\_\_\_ Reduce energy use in field activities. Document at least a 25% reduction in the RULSE2 software.

\_\_\_ Reduce tillage-induced air-borne particulate matter. The standard will probably not to be used in Georgia to accomplish this purpose, except indirectly, by reducing soil erosion, as mentioned in the first purpose.

### **Conservation Management System**

A single conservation practice rarely provides the treatment needed to protect a natural resource. As mentioned above, a conservation tillage system should include at least the three practices at the same time in a field. Furthermore, residue management should be components of conservation management systems that conserve energy, soil, water, air, plant and animal resources while meeting the objectives of the land user. Crop rotation and nutrient and pest management are also recommended in a

conservation management system along with residue management.

### **Specific information**

In strip-tillage, the soil is left undisturbed from harvest through planting, except for narrow strips up to 1/3 of the row width. Planting or drilling is accomplished with equipment that has coulters, row cleaners, in-row chisels, subsoiler shanks, or disk openers. Weed control is accomplished primarily with herbicides.

No full-width tillage is performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation. As mentioned above, the STIR rating for this period cannot exceed 20.

Do not graze or hay residue in a conservation tillage system.

Do not wind row, burn, or disturb crop residue by full width tillage in any crop production system.

### **Other information**

No- and strip-till may reduce soil erosion significantly compared to that occurring with moldboard plowing and other conventional planting systems. Soil crusting and runoff can also be eliminated by implementing reduced tillage.

The amount of organic matter in Georgia soils is small, but its influence on the soil's physical, chemical, and biological properties can be large. The soil organic matter content of our soils can be increased if residue management practices are applied for a few years.

Crop residue decomposes rapidly in Georgia soils. Tillage aerates the soil and speeds up the decomposition of residue. As long as tillage is used, even light disking, the amount of organic matter in Georgia soils will not increase significantly.

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The condition the soil surface has the greatest effect on water use efficiency. It takes a few years of continuous no-till or strip-till to accumulate considerable amounts of soil organic matter on the soil surface.

**Operation and Maintenance**

Evaluate/measure the crop residues cover and orientation after each crop to ensure the planned amounts and orientation are being achieved. Adjust management as needed to either plan a new residue amount and orientation or adjust the planting and/or harvesting equipment.

Limited tillage is allowed to close or level ruts from harvesting equipment. No more than 25% of the field may be tilled for this purpose.

If there are areas of heavy residue accumulation (because of movement by water or wind) in the field, spread the residue prior to planting so it does not interfere with planter operation.

**Practice Lifespan** 1 year

**Table 1 – Planned No- or Strip-Till Residue Management Specification.** Document the STIR value between the harvest or termination of the cash crops and other requirements in this table or attached RUSLE2 printout.

Year	Field/Tract	Rotation and STIR Value from Current NRCS Soil Erosion Software = or <20



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**For More Information** Contact your local NRCS Office and Soil & Water Conservation District

**Jobsheet Certifications**

Prepared by

\_\_\_\_\_ **Title** \_\_\_\_\_ **Date** \_\_\_\_\_

Approved by

\_\_\_\_\_ **Title** \_\_\_\_\_ **Date** \_\_\_\_\_

**Installation Meets NRCS Standards and Specifications**

Certified by

\_\_\_\_\_ **Title** \_\_\_\_\_ **Date** \_\_\_\_\_