

USDA - Natural Resources Conservation Service

Conservation Assistance for Healthy Soils in Connecticut - Reduced Tillage

Helping People Help the Land

When you look at your crop fields have you noticed...

- sediment at the bottom of fields?
- eroded channels?
- crusting of the soil surface?
- ponded water?
- extended field wetness?
- absence of earthworm activity?
- shallow or horizontal roots?

If you answered yes to any of these questions, you should consider reducing tillage operations as part of a Healthy Soil Management System to reduce erosion, compaction, and improve overall soil condition.

What is Reduced Tillage?

Reduced Tillage systems reduce soil disturbance during planting operations and leave greater amounts of plant residues on the soil surface than conventional tillage practices.

- What practices may be included in a Reduced Tillage System?
 Zone Tillage, No-till, Ridge-till, Mulch-till, Reduced-till, Strip-till, and Crop Residue Management.
- What are the benefits of Reducing Tillage?

 Reducing tillage minimizes the loss of organic matter and protects the soil surface with plant residues. Tillage is used to loosen surface soil, prepare the seedbed, and control weeds and pests. But tillage can also break up soil structure, speed the decomposition and loss of organic matter, increase the threat of erosion, destroy the habitat of helpful organisms, and cause compaction. New equipment and practices allows crop production with minimal disturbance of the soil.







Healthy Soils are ecosystems with living organisms that decompose plant materials, store and slowly release nutrients. They also produce substances that enhance soil structure.





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What do I need to get started?

In most cases, transitioning to reduced tillage systems require modification to existing equipment or acquiring new equipment. This would mean abandoning conventional tillage tools such as plows, disks, and harrows. In addition planters must be properly equipped to slice through plant residues and plant seed in narrow trenches sufficiently deep for proper placement of seed and fertilizer.

- Other common components of reduced tillage systems include:
 - > No till grain drills to plant cover crops.
 - Use of cover crops to further enhance soil conditions, add diversity, and maintain the soil covered.
 - Rolling cover crops to reduce herbicide use and maximize surface residues.

Healthy Soils is not just about reducing tillage To Maintain Healthy Agricultural Soils:

- Maintain Living Plants with Living Roots on the field throughout the year.
- Maintain Diversity by rotating crops, and using multi-species cover crops.
- Maintain Surface Residues Surface residues protect the top soil from the sun, wind and rain.
 Plant residues lower temperture and evaporation, provide habitat and food for soil organisms, and enhance biogeochemical nutrient cycling. This results in improved soil structure and nutrient reserves.









Technical and Financial Assistance is Available

Your local Natural Resources Conservation Service office has experienced conservationists that can assist you to plan and implement a reduce tillage system. They can also help you develop a conservation plan to solve other problems you have identified on your farm. Financial assistance is also available. For more information contact:

- New London and Middlesex Counties (860) 887-3604
- Fairfield and New Haven Counties (203) 287-8038
- Litchfield County (860) 626-8258.

- Hartford and Tolland Counties (860) 688-7725
- Windham County (860) 779-0557