



United States Department of Agriculture



# Resources for Improving Soil Health on Leased Land

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# Dust Bowl- 1935





# Soil Health Card

Indicator	Poor	Medium	Good
Earthworms	0-1 worms in shovelful of top foot of soil. No casts or holes.	2-10 in shovelful. Few casts, holes, or worms.	10+ in top foot of soil. Lots of casts and holes in tilled clods. Birds behind tillage.
Organic Matter Color	Topsoil color similar to subsoil color.	Surface color closer to subsoil color.	Topsoil clearly defined, darker than subsoil.
Organic Matter Roots/Residue	No visible residue or roots	Some residue few roots	Noticeable roots and residue
Subsurface Compaction	Wire breaks or bends when inserting flag.	Have to push hard, need fist to push flag in.	Flag goes in easily with fingers to twice the depth of plow layer.
Soil Tilt Mellowness Friability	Wire breaks or bends when inserting flag.	Somewhat cloddy, balls up, rough pulling seedbed.	Soil crumbles well, can slice through, like cutting butter. Spongy when you walk on it.
Erosion	Looks dead. Like brick or concrete, cloddy. Either blows apart or hard to pull drill through.	Few rills or gullies, gullies up to two inches deep. Some swift runoff, colored water.	No gullies or rills, clear or no runoff.
Water Holding Capacity	Large gullies over 2 inches deep joined to others, thin or no topsoil, rapid run-off the color of soil.	Water runs out after a week or so.	Holds water for a long period of time without puddling.
Drainage, Infiltration	Plant stress two days after a good rain.	Water lays for short period of time	No ponding, no runoff, water moves through soil steadily



# Conservation Practices to Improve Soil Health on Cropland



## Soil Health Improving Practices

What is it?		What does it do?	How does it help?
<p><b>Conservation Crop Rotation</b></p> <p>Growing a diverse number of crops in a planned sequence in order to increase soil organic matter and biodiversity in the soil.</p>		<ul style="list-style-type: none"> <li>Increases nutrient cycling</li> <li>Manages plant pest (weeds, insects, and diseases)</li> <li>Reduces sheet, rill, and wind erosion</li> <li>Holds soil moisture</li> <li>Adds diversity so soil microbes can thrive</li> </ul>	<ul style="list-style-type: none"> <li>Improves nutrient use efficiency</li> <li>Decreases use of pesticides</li> <li>Improves water quality</li> <li>Conserves water</li> <li>Improves plant production</li> </ul>
<p><b>Cover Crop</b></p> <p>An un-harvested crop grown as part of planned rotation to provide conservation benefits to the soil.</p>		<ul style="list-style-type: none"> <li>Increases soil organic matter</li> <li>Prevents soil erosion</li> <li>Conserves soil moisture</li> <li>Increases nutrient cycling</li> <li>Provides nitrogen for plant use</li> <li>Suppresses weeds</li> <li>Reduces compaction</li> </ul>	<ul style="list-style-type: none"> <li>Improves crop production</li> <li>Improves water quality</li> <li>Conserves water</li> <li>Improves nutrient use efficiency</li> <li>Decreases use of pesticides</li> <li>Improves water efficiency to crops</li> </ul>
<p><b>No Till</b></p> <p>A way of growing crops without disturbing the soil through tillage.</p>		<ul style="list-style-type: none"> <li>Improves water holding capacity of soils</li> <li>Increases organic matter</li> <li>Reduces soil erosion</li> <li>Reduces energy use</li> <li>Decreases compaction</li> </ul>	<ul style="list-style-type: none"> <li>Improves water efficiency</li> <li>Conserves water</li> <li>Improves crop production</li> <li>Improves water quality</li> <li>Saves renewable resources</li> <li>Improves air quality</li> <li>Increases productivity</li> </ul>

# Conservation Practices to Improve Soil Health on Cropland



## Soil Health Improving Practices

What is it?	What does it do?	How does it help?
<p><b>Mulch Tillage</b></p> <p>Using tillage methods where the soil surface is disturbed but maintains a high level of crop residue on the surface.</p> 	<ul style="list-style-type: none"> <li>• Reduces soil erosion from wind and rain</li> <li>• Increases soil moisture for plants</li> <li>• Reduces energy use</li> <li>• Increases soil organic matter</li> </ul>	<ul style="list-style-type: none"> <li>• Improves water quality</li> <li>• Conserves water</li> <li>• Saves renewable resources</li> <li>• Improves air quality</li> <li>• Improves crop production</li> </ul>
<p><b>Nutrient Management</b></p> <p>Managing soil nutrients to meet crop needs while minimizing the impact on the environment and the soil.</p> 	<ul style="list-style-type: none"> <li>• Increases plant nutrient uptake</li> <li>• Improves the physical, chemical, and biological properties of the soil</li> <li>• Budgets, supplies, and conserves nutrients for plant production</li> <li>• Reduces odors and nitrogen emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Improves water quality</li> <li>• Improves plant production</li> <li>• Improves air quality</li> </ul>
<p><b>Pest Management</b></p> <p>Managing pests by following an ecological approach that promotes the growth of healthy plants with strong defenses, while increasing stress on pests and enhancing the habitat for beneficial organisms.</p> 	<ul style="list-style-type: none"> <li>• Reduces pesticide risks to water quality</li> <li>• Reduces threat of chemicals entering the air</li> <li>• Decreases pesticide risk to pollinators and other beneficial organisms</li> <li>• Increases soil organic matter</li> </ul>	<ul style="list-style-type: none"> <li>• Improves water quality</li> <li>• Improves air quality</li> <li>• Increases plant pollination</li> <li>• Increases plant productivity</li> </ul> <div data-bbox="1535 1299 1835 1399" data-label="Page-Footer"> <p>United States Department of Agriculture Natural Resources Conservation Service</p> </div>



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# Charles County, MD



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# Charles County, MD

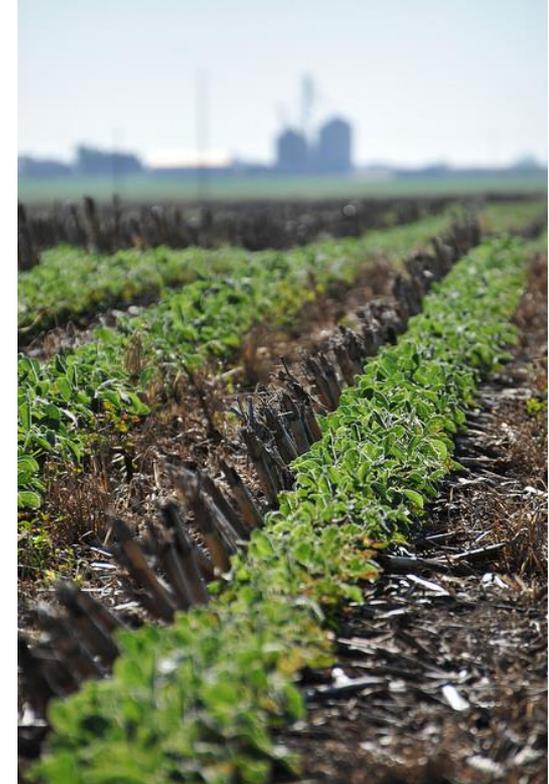


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# Soil Health on Leased Land

- **Tenants and Lessee's may receive financial assistance to implement conservation practices on the land they farm**
  - Must provide a written lease or written assurance of control of land from the landowner.
  - In addition to control, tenants must provide written concurrence of the landowner to apply a structural or vegetative practice.
- **At least five years of soil health improving practices provides the most benefit to your land**



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# Questions?



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