

Recommendations

- Evaluate soil health periodically (about every three years) to document changes.
- Periodic assessments in a field should be done by the same person, during the same season and under similar soil moisture conditions.
- For better assessments, base sampling on variability in the field such as soil, soil moisture and yield.
- Examine the distribution of indicator values. Even if most of the indicators are scored 10 (healthy), the soil may still have serious problems.
- Careful consideration should be used to identify the cause of the problem(s).
- Impaired properties may need immediate action and should be closely monitored.
- Keep completed soil health cards on file for future reference.
- For more information on soil health, contact your local USDA Natural Resources Conservation Service (NRCS) office, county agent, agribusiness or the NRCS Soil Health website

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/ga/soils/health/>

Soil Health Card for Georgia's Producers



*A Locally Adapted Tool
Designed by Producers for
Producers*



United States Department of Agriculture
Natural Resources Conservation Service

Revised September 2014
Athens, Georgia

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What is Soil Health?

The terms “soil quality” and “soil health” are used interchangeably. However, soil health refers to the function of the soil as a living ecosystem to support plants and animals. Humans also benefit from improved soil function.

Soil health is very important to all people. Healthy soil absorbs and holds more water, and has better physical, chemical, and biological properties. If we have good soil health, we will have productive land, good air and water quality as a result a healthy environment.

How to Improve Soil Health

Management greatly affects soil health. Farmers throughout Georgia are increasing the amount of soil organic matter in their land and improving the soil's health and function by following these basic principles of soil health:

1. Minimize disturbance due to tillage and overgrazing
2. Diversify the soil microbes that support plant growth by increasing plant diversity through crop rotation, multispecies cover crops and forage plantings
3. Keep living roots growing throughout the year to provide food for soil

microbes and reap the benefits of their presence

4. Keep the soil covered as much as possible to conserve soil moisture, reduce soil temperature, prevent soil erosion and suppress weed growth
5. Consider adding livestock, in a managed grazing system, to a row crop system in order to increase the cycling of plant nutrients
6. Talk with farmers using conservation tillage or managed grazing systems as they can give you some ideas about how they are changing the health of their row crop or grazing lands.

About this Card

The soil health card was designed and adapted for local use. Originally, it was developed by Georgia farmers in partnership with the Georgia Conservation Tillage Alliance.

It was developed by and for producers to identify where improvements could be made and to evaluate the effect of changes in management on soil health. Assessments are about quality and not absolute measures.

Note the before and after conditions in the field to record long-term improvements in soil health.

In addition to farmers, the card can also be used by soil conservationists, educators, students and garden clubs.

How to Use the Georgia Health Card

Tools Required: A shovel and a soil probe, or wire flag

- Turn over a shovel full of soil (about 6-8" deep) and rate each indicator by making an "X" or shading out the box that best represents the value for that indicator.
- Determine soil compaction by simply pushing the probe or wire flag into undisturbed soil and noting the resistance.

Date: _____ Evaluation by: _____ County: _____ Farm: _____ Field: _____ Crop Rotation: _____
 Tillage System: _____ Soil Moisture Level (check one) ___ Good for planting; ___ Too wet for planting; ___ Too dry for planting

Indicator	Observations	Preferred ^{1/}										Indicator Values				
		1	2	3	4	5	6	7	8	9	10	1	5	10		
1. Crop Growth														Uneven stand; stunted crop growth; discoloring common	Some uneven stand; stunted growth; slight discoloring	Even stand; vigorous and uniform crop growth
2. Soil Erosion														Excessive soil movement by water and or wind	Some visible soil movement by water and or wind	Little or no soil erosion by water and or wind
3. Crop Residue (right after planting)														0-30 percent of soil surface is covered with crop residue	50-70 percent of soil surface is covered with crop residue	>70 percent soil surface covered with crop residue
4. Winter Cover Crop														No living or dead cover on the soil surface	50-90 percent of soil surface covered by cover crop or winter weeds	>90 percent of soil surface covered with cover crop
5. Surface Soil Color														White, light gray or red	Dark gray or light brown	Dark brown or black
6. Soil Tilth/Structure														Hard to work (cloddy, hard or crusty)	Some visible crumbly structure	Easily worked (crumbly)
7. Water Infiltration and Water Holding Capacity														Excessive runoff or ponding; Very low water holding capacity	Some runoff or ponding; Poor water holding capacity	Very little runoff or ponding; Good water holding
8. Biological Activity														Little or no sign or animal life in the soil	Some living organisms or signs or animal activity in the soil	Numerous signs of animal life in the soil
9. Compaction/Crusting														Can <u>not</u> push probe or wire flag into soil; crusting is prevalent	Can push probe or wire flag in soil with force; some soil crusting	Probe or flag enters soil easily; no soil crusting
10. Soil pH ^{2/}														pH 1.0 lower than needed	pH 0.5 lower than needed	Proper pH for the crop(s)
11. Soil Fertility ^{2/}														More than two elements <u>not</u> within UGA recommendations	Two elements <u>not</u> within UGA recommendations	All elements within UGA recommendations
12. Soil Organic Matter ^{2/}														<1 percent in a soil sample	1-2 percent in soil sample	>2 percent in a soil sample
13. Other Indicator(s)																

^{1/}Ratings 1 to 10 are relative and determined by the user. ^{2/}Lab analysis is needed. Soil sample depth of six inches for conventional tillage. However, for fields that are continuously no-tilled, sample depth of six inches for P, K and organic matter and four inches for lime requirement (pH).