

Soil Health Card for Oklahoma

“**Soil Health**” is the capacity of the soil to function, cycle nutrients to sustain plant and animal productivity, and to maintain or improve water quality.



Soils Staff with the Oklahoma Natural Resources Conservation Service (NRCS) developed the soil health card and Soil Health Worksheet software. The card is a field tool for Oklahoma NRCS planners but can also be used by farmers, gardeners, educators and Cooperative Extension educators. The software gives ratings; helps identify problems and practices to improve soil health.

Management greatly affects soil quality. By monitoring the same site in a field over time, you will develop a record of soil management practices and how changes are affecting the soil.

Soil Health is very important to everyone. A healthy soil means greater production, cleaner water, cleaner air and a cleaner environment.

RECOMMENDATIONS

- **Assessments are qualitative and do not represent absolute measures.**
- **Evaluate soil health about every two or three years to document changes.**
- **Periodic assessments in a field should be done by the same person and under similar conditions, follow the Assessment Calendar for correct timing.**

Assessment Calendar	
Soil Structure/Aggregate Stability	Anytime
Organic matter	During Growing season
Compaction	Spring but can be anytime
Earthworms, etc.	When soil is moist
Water infiltration	Ring Data or After rainfall events of 1 inch or more
Plant Health	During Growing season
Percent Cover	Anytime
Erosion	After harvest, heavy rainfall events, during high wind periods
Salinity	During Growing season
Soil pH	Soil test analysis needed

How to Use the Card

Equipment Needed:
Shovel

Excavate a soil sample to a depth of 10 to 12 inches from a representative site or sites in the field.

On the score card rate each of the indicators on a scale of 1 to 10 by placing an X in the box to the corresponding number.

Rate the first four indicators from the sample taken.

Rate the next five from observations around the site.

Rate the soil pH from a soil test analysis.

Other notes such as cropping and tillage systems, inputs and other observations can be obtained from the producer.

Card and Software developed by Troy Collier and Steven McGowen, Woodward Technical Service Office, Woodward, Oklahoma.

SOIL HEALTH CARD

Date _____ Crop _____ Yield _____

Field Location _____ Owner/Producer _____

Indicator	Preferred										Observations	Rating the Indicator			
	1	2	3	4	5	6	7	8	9	10		LOW 1-4	MEDIUM 5-7	HIGH 8-10	
Soil Structure/ Aggregate Stability											Soil clods difficult to break, crusting. Slake Test <10% of soil remaining on sieve after 5 dipping cycles	Soil has some clods that break with some difficulty. Some crusting, Slake Test 10 to 25% of soil remaining on sieve after 5 dipping cycles	Soil that crumbles well, has well defined structure. Slake Test 25 to 100% of soil remaining on sieve after 5 dipping cycles		
Organic Matter											Little to no visible roots or residue, light colored surface	Some roots, some residue, light brown or medium colored surface	Soil has many roots, residue in many stages of decomposition, dark colored surface		
Compaction											Hard layers, tight soil, limited root penetration below 8 inches, roots turn at 90 degree angles	Firm soil, some restriction of roots, moderate shovel resistance	Loose soil, no root restrictions, mostly vertical root plant growth		
Earthworms and other Life											None to a few worms, insects or other soil life	Some worms, insects or other soil life	Many worms, insects or other soil life		
Water Infiltration											Water on surface for a long period after rains or irrigation, high runoff, infiltration test >300 minutes per inch	Water drains slowly after rain or irrigation, some ponding, moderate runoff, infiltration test 30 to 300 minutes per inch	Water moves steadily through the soil, little or no runoff, infiltration test <30 minutes per inch		
Plant Health											Stunted growth, uneven stands, discoloration, low yields	Some uneven or stunted growth, slight discoloration, signs of stress	Healthy, vigorous and uniform stand		
Percent Cover											Less than 30 percent ground cover	30 to 60 percent ground cover	Greater than 60 percent ground cover		
Erosion											Signs of severe wind stress or gullies throughout field	Some deposition, few gullies, sign of sheet and rill erosion, some colored runoff	No visible soil movement, no rills, clear or no runoff		
Salinity											Visible salts/alkali, bare areas, EC greater than 8 dS/m	Stunted growth, saline spots, EC 2 to 8 dS/m	No visible salt, or plant damage, EC less than 2 dS/m		
Soil pH											pH greater than 1.0 unit higher or lower than needed for the crop	pH 1.0 unit higher or lower than needed for the crop	pH proper for the crop		
Other:(write in)															

Field Notes/Inputs

Cropping System/Rotation _____ Support Conservation Practices _____

Tillage system _____ OTHER OBSERVATIONS: _____

Fertilizer inputs _____

Pesticides _____

Data Collected by _____