OHIO SOIL HEALTH CARD

What Is the Ohio Soil Health Card?

The Ohio Soil Health Card evaluates a soil's health or quality as a function of soil, water, plant, and other biological properties identified by farmers. This Card was ***developed for farmers by farmers*** with assistance from Ohio State University Extension and the Natural Resources Conservation Service (USDA-NRCS). The Card is a tool to help you monitor and improve soil health based on your own field experience and a working knowledge of your soils. Regular use will allow you to record long-term trends and changes in soil health and to compare the effects of different soil management practices. This Card is most effective when filled out consistently by the same person over time. It provides a qualitative assessment of soil health, evaluation ratings do not represent an absolute measure or value. ***The purpose is not to measure one soil type against another, but rather to use indicators that assess each soil's ability to function within its capabilities and site limitations***

How Do You Use the Ohio Soil Health Card?

Step 1) The only tools required to use the Card are a pencil & a shovel or spade

Step 2) Use the chart on the back page for the best times to assess each indicator of soil quality & health

Step 3) Divide your farm & fields into separate sections for evaluation in the same way you would divide them for soil-fertility sampling: separate by factors like soil type, topography, and history of tillage, crop rotation & manure application

Step 4) Enter the **Date** & **Field Identification** information at the top of the Card

Step 5) Select 2-3 representative spots in your field & evaluate each soil **Indicator**

Step 6) Read the **Descriptive Ratings** in the rectangular boxes, and based on your judgement rate the indicator **Good**, **Fair**, or **Poor** by checking the small square in the lower left-hand corner of the box with the best description

Step 7) In the **Notes** section following each group of soil health indicators, record any observations or soil conditions that will help you review & evaluate your ratings

Step 8) Follow changes in each of the soil health indicators over time, examine current field management practices, and explore options & consider alternatives for management changes in problem areas

OHIO SOIL HEALTH CARD

Date: _____ Field Identification: _____

Indicators	Descriptive Ratings		
	Good	***Fair***	***Poor***
SOIL TILTH			
Structure	☐ Good crumb structure, tills easily leaving no clods, soil breaks apart easily	☐ Moderate crumb structure, some clods, soil breaks apart with some pressure	☐ Hard, tills with difficulty, tillage creates lots of clods
Crusting	☐ Soil maintains open/porous surface all growing season, seedling emergence not affected	☐ Some surface sealing, minimal effect on seedling emergence	☐ Soil surface seals easily after tillage and rain events, inhibits seedling emergence
Compaction	☐ Loose soil, unrestricted root penetration	☐ Firm soil, root penetration somewhat restricted	☐ Hard layers, tight soil, severely restricted root penetration
Notes:			
SOIL LIFE			
Earthworms	☐ Lots of earthworms, many holes and casts	☐ Some earthworms, few holes and casts	☐ No visible signs of earthworm activity
Smell	☐ Soil has a fresh, earthy smell	☐ Soil has little or no smell	☐ Soil has a swampy, stagnant smell
Residue Decomposition	☐ Residue at various stages of decomposition on soil surface and in the topsoil	☐ Some visible, non-decomposed residue in the topsoil	☐ Rapid decomposition with little or no visible residue in the topsoil **or** very slow decomposition with relatively unweathered residue in the topsoil
Notes:			
SOIL AIR & WATER			
Drainage	☐ Soils drain and warm quickly in spring, limited delays in field operations, good balance between air and water in the soil, yield reduction in only very wet years	☐ Soils drain and warm more slowly in spring, some delays in field operations, water-logged after heavy rains, minimal yield reduction	☐ Soils stay wet for long periods, delays in field operations, soil doesn't breathe, reduces yields

Indicators	Descriptive Ratings		
	Good	***Fair***	***Poor***
Water-Holding Capacity	☐ Soil holds water well, deep topsoil for water storage, crops seldom suffer from moderate dry spells	☐ Soil has moderate capacity to hold water, crops are not the first in the area to suffer from dry weather	☐ Soil has limited capacity to hold water, crops suffer in moderate dry spells
Water Movement	☐ Rainfall soaks in, very little runoff & erosion, water does not pond	☐ Absorbs water, but more slowly, some runoff & erosion, ponding after heavy rains	☐ Absorbs water very slowly, lots of runoff & erosion, ponding after moderate rains

Notes:

PLANT VIGOR

Uniformity in Growth & Color	☐ Uniform deep-green color, rapid growth, even stand (height and population), no visible signs of stress	☐ Some variation in color, height, and population, moderate growth, mild stress	☐ Uneven color, variable height and population, stunted and stressed, nutrient deficiency symptoms
Seedling Emergence	☐ Rapid and even emergence	☐ Some variability in emergence	☐ Slow and uneven emergence
Root Systems	☐ Healthy, uninhibited root growth, lots of fine roots	☐ Root growth somewhat restricted, some fine roots	☐ Restricted root growth, few fine roots

Notes:

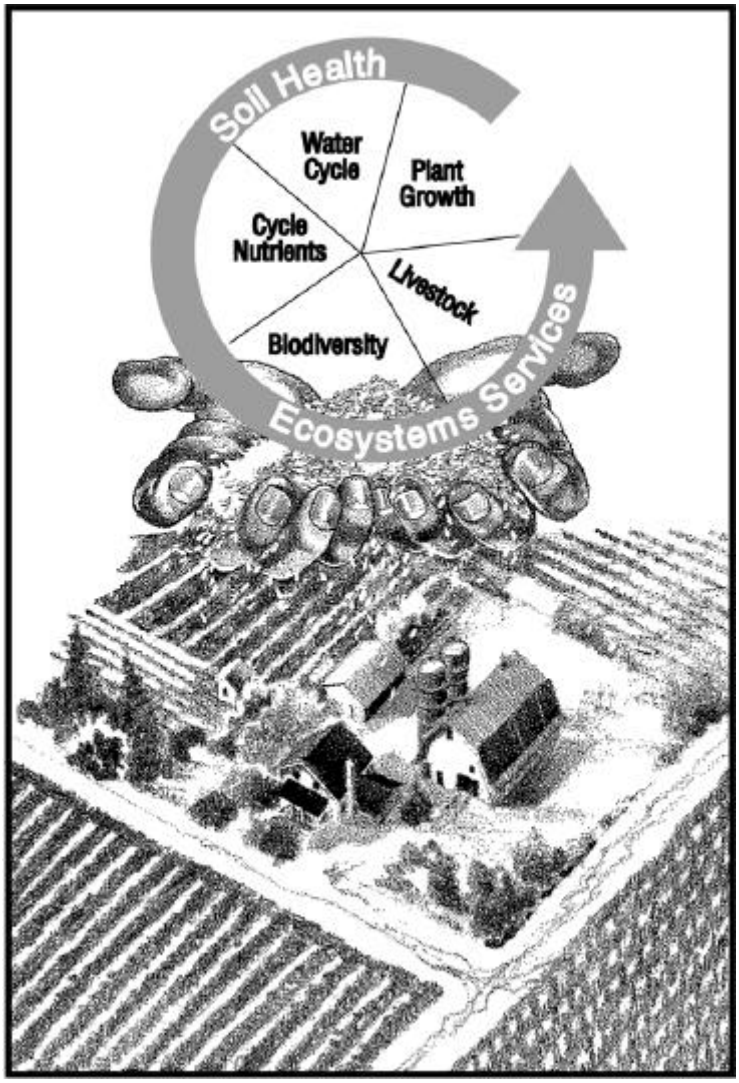
FERTILITY MANAGEMENT

Nutrient Levels	☐ Soil test levels are adequate for planned crops and yield goals, no visible signs of plant nutrient deficiency	☐ One or more soil test levels are less than adequate for planned crops and yield goals, no visible signs of plant nutrient deficiency	☐ One or more soil test levels are deficient **or** excessive for planned crops and yield goals, visible signs of plant nutrient deficiency may be present
Soil pH	☐ pH levels are within the acceptable range for the planned crops	☐ pH levels slightly above or below the acceptable range for planned crops	☐ pH levels are too high or too low for the planned crops
Organic Matter	☐ Organic matter levels are being maintained or increasing, dark, friable, with good structure	☐ Organic matter levels can be improved, some crusting and clods	☐ Organic matter levels are decreasing, light-colored, crusted, cloddy, hard

Notes:

Best Times to Assess Indicators

	Early Spring Before Planting	Growing Season			After Rainfall
		Spring	Summer	Fall	
Structure (when moist)	✓	✓	✓	✓	
Crusting		✓			✓
Compaction	✓	✓	✓	✓	
Earthworms	✓	✓		✓	✓
Smell (when moist)	✓	✓	✓	✓	✓
Residue Decomposition	✓	✓		✓	
Drainage	✓	✓	✓	✓	✓
Water Movement	✓	✓	✓	✓	✓
Water-Holding Capacity	✓	✓	✓	✓	✓
Uniform Growth & Color		✓	✓		
Seedling Emergence		✓	✓		
Root Systems		✓	✓	✓	
Nutrient Levels	✓			✓	
pH	✓	✓	✓	✓	
Organic Matter	✓			✓	



A Definition of Soil Quality

The *Ohio Soil Health Card* was created with the view that the terms 'soil health' and 'soil quality' are equivalent concepts. An 'official' definition of soil quality proposed by the *Soil Science Society of America* is:

The capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation.

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