

Name: _____ Location: _____
 Field: _____ Date: _____

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.

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.

Assessments are qualitative and do not represent absolute measures.

◦ *Evaluate soil health yearly to monitor changes over time. Periodic assessments in a field should be done by the same person and under similar field conditions.*

How to use this worksheet:

- Using a shovel, excavate a soil sample to a depth of 10 to 12 inches from a representative site in a field.
- Select the indicator on the worksheet that most closely corresponds with the current status of the site.
 - Rate the first 4 indicators from the sample taken.
 - Rate the next 5 indicators from observations around the field.
 - All indicators should be assessed when soil moist, but not wet..
 - Erosion and drainage should be assessed after a rainfall.
- Record notes, take photos, and locate the sites sampled on a map to keep with the scorecard for future reference. Use a separate worksheet for each field assessed.

Healthy soil practices to follow:

- Maximize plant *diversity*
- *Disturb* the soil as little as possible
- Keep *growing roots* in the soil throughout the year
- Keep the soil *covered*

Site Management Information

	Year 1 _____	Year 2 _____	Year 3 _____	Year 4 _____
Crop, plant date, corn day length				
Tillage (type and timing)				
Crop residue at planting (% cover)				
Herbicide/Pesticide applied				
Lime applied (amount)				
Fertilizer applied (amount/type)				
Manure applied (amount/type/timing)				
Harvest date, approx yield				
Cover crop, date species, rate, how				
Notes				

Massachusetts Soil Health Worksheet

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Indicator	Descriptions (give a ranking of 0-10)			Notes
	Poor (0-3)	Fair (4-7)	Excellent (8-10)	
Soil Tilth/Structure	Soil clods difficult to break, crusting, tillage creates large clods, soil falls apart in hands, very powdery	Moderate porosity, some crusting, small clods, soil breaks apart with medium pressure	Soil crumbles well, friable, porous; Soil aggregates remain intact after soil disturbance	
Color (Organic Matter)	Topsoil color similar to subsoil color	Surface color somewhat darker than subsoil	Topsoil distinctly darker than subsoil	
Roots and Shoots	Few fine roots, restricted root growth; discolored and lesions on roots	Fine roots present, but few; evidence of restricted root growth	Many fine root hairs; unrestricted root growth	
Soil Biology	0-1 earthworms in shovelful of top foot of soil; no nightcrawler mounds; spiders and ground beetles absent	2-10 earthworms in shovelful of top foot of soil; some nightcrawler mounds; spiders and ground beetles scarce	>10 earthworms in shovelful of top foot of soil; many nightcrawler mounds; spiders and ground beetles visible under residue	
Surface Condition/ Erosion	Much visual evidence of rills and some gullies; possibly significant evidence of soil movement and deposition in parts of the field	Some visual evidence of small rills and soil movement and deposition in parts of the field; some gravel or washed sand grains apparent on surface	No visual evidence of rills or soil movement and deposition in the field; few to no gravel or sand grains visible on the surface	
Surface Residue	Surface cover from living crop or dead mulch absent part of the year; cover <30% after planting	Surface cover from living crop or dead mulch only part of the year; cover 30-50% after planting	Year round surface cover from living crop or dead mulch; cover 50-100% after planting	
Compaction	Compacted soil layer observed within 4 inches of soil surface. A wire flag cannot penetrate below 4 inches on more than half of points throughout field	Compacted soil layer found within 6 to 8 inches of soil surface. A wire flag cannot penetrate below 8 inches on 30-50 percent of points	No compaction within 8 inches of soil surface. A wire flag meets no resistance to below 8 inches	
Water Infiltration/ Drainage	Water on surface for long period of time after rain or irrigation (hours to days). Excessive wet spots in field.	Water drains slowly after rain or irrigation (hours). Some ponding and wet spots in field.	No ponding after heavy rain or irrigation, water moves steadily through soil.	
Crop Vigor/ Appearance	Stunted crop growth, uneven stands, discoloration, low yields	Some uneven or stunted growth, slight discoloration, signs of stress	Healthy, vigorous, and uniform stands	