

10 Indicators of Soil Quality

Assign a value from 1 to 10 for each indicator, and then average all 10 indicators. Farms with overall values lower than 5 in either soil quality or crop health are considered below the threshold of sustainability and in need of rectifying measures.

INDICATOR	ESTABLISHED VALUES*	CHARACTERISTICS
Structure	1	Loose soil with no visible aggregates
	5	A few aggregates that break with little pressure
	10	Well-formed aggregates that break with difficulty
Compaction/ Infiltration	1	Compacted soil; accumulating water
	5	A thin compacted layer; slowly infiltrating water
	10	No compaction; easily infiltrating water
Soil depth	1	Exposed subsoil
	5	A thin layer of superficial soil
	10	Superficial soil that is >4 inches (10 cm.) deep
Status of residues	1	Slowly decomposing organic residues
	5	Last year's decomposing residues still present
	10	Residues in various stages of decomposition or all residues well-decomposed
Color, odor and organic matter	1	Pale; chemical odor; no humus
	5	Light brown; odorless; some humus
	10	Dark brown; fresh odor; abundant humus
Water retention (moisture level)	1	Dry soil
	5	Limited moisture
	10	Reasonable moisture
Root development	1	Poorly developed; short roots
	5	Roots with limited growth; some fine roots
	10	Healthy, well-developed roots; abundant fine roots
Soil cover	1	Bare soil
	5	<50% covered with residues or live cover
	10	>50% covered with residues or live cover
Erosion	1	Severe, with small gullies
	5	Evident but with few signs
	10	No major signs
Biological activity	1	No signs
	5	A few earthworms and arthropods
	10	Abundant organisms

*1=least desirable, 5=moderate, 10=preferred.