Soil Quality Card

Date:	Crop:	Field Location:
Year of Planting:		Soil Moisture: __ good, ___ too dry, ___ too wet for planting

Soil Indicator	Points for Soil Quality				Use	Strategy	Code	Practice Name
	1	5	10	Score				
1. Does the soil have good structure?	Cloddy, powdery, massive, or flaky; dissolves in water	Some fragile crumbs when wet	Stable crumbs when wet; Stable in water		Crops & Vines	Build soil organic matter with Sod crop	328	Conservation Crop Rotation
						Avoid traffic when wet	SQL01	Controlled Traffic System
						Build soil organic matter	340	Cover Crop
						Leave crop residue; Optimize live vegetation and litter	329	Residue and Tillage Management
					Range	Prevent compaction, erosion & loss of biological crust	472	Access Control
						Manage fuels to prevent hot fires that bake soil	314	Brush Management
							394B	Firebreak, Fuel-Break
						Optimize live vegetation and litter	528	Prescribed Grazing
2. Is the soil free of compacted layers?	Wire flag bends readily; roots turned horizontally on hardpan	Some restrictions to wire flag & root growth	Wire flag penetrates through topsoil, beyond tillage layer into subsoil		Crops & Vines	Avoid traffic when wet	SQL01	Controlled Traffic System
						Reverse compaction by tillage or ripping	324	Deep Tillage
						Reduce tillage	329	Residue and Tillage Management
					Range	Avoid traffic when wet	472	Access Control
						Minimize trampling	575	Animal Trails & Walkways
						Reverse compaction	548	Grazing Land Mechanical Treatment
						Optimize plant production	528	Prescribed Grazing
3. Is the soil worked easily?	Tillage requires high horsepower, low gears, much fuel & many passes to prepare seedbed	Tillage requires medium amount of horsepower & passes	Tills easily		Crop	Avoid traffic when wet	SQL01	Controlled Traffic System
						Reduce tillage	329	Residue and Tillage Management
						Build soil organic matter with green manure, animal manure, mulch or compost	317	Composting Facility
							340	Cover Crop
							484	Mulching
							633	Waste Utilization
4. Is the soil full of living organisms?	Little or no observable life	Some (moving) soil critters	Soil is full of a variety of soil organisms		Both	Reduce amount or change pesticide	595	Pest Management
					Crop & Vines	Break disease cycle	328	Conservation Crop Rotation
						Feed soil organisms	340	Cover Crop
						Improve drainage	324	Deep Tillage
						Trap excess pesticide	393	Filter Strip
						Leave crop residue to feed critters	329	Residue and Tillage Management
5. Are earthworms abundant in the soil?	No earthworms	Few earthworms, earthworm holes or casts	Many earthworms, earthworm holes or casts		Range	Prevent compaction, erosion & loss of biological crust	472	Access Control
						Manage fuels to prevent hot fires that kill beneficial organisms	314	Brush Management
							394B	Firebreak, Fuel-Break
						Optimize live vegetation and litter to feed critters	550	Range Planting
							528	Prescribed Grazing
6. Is plant residue present and decomposing?	No residue or not decomposing for long periods	Some plant residue slowly decomposing	Residue in all stages of decomposition; earthy, sweet smell		Crops & Vines	Build soil organic matter with cover crop, mulch and crop residue	340	Cover Crop
							484	Mulching
							329	Residue and Tillage Management
					Range	Leave proper RDM	528	Prescribed Grazing

Soil Indicator	Points for Soil Quality				Use	Strategy	Code	Practice Name
	1	5	10	Score				
7. Do crops/grasses/ weeds appear healthy and vigorous?	Crop is uneven, stunted, discolored, and/or never reaches maturity	Crop is slightly uneven, discolored and stunted, and matures close to expected time	Healthy, vigorously and uniformly growing plants reach maturity at expected time		Crops & Vines	Break disease cycle	328	Conservation Crop Rotation
						Suppress disease	340	Cover Crop
						Improve drainage, eliminate compaction	324	Deep Tillage
						Optimize irrigation	449	Irrigation Water Management
					Range	Select adapted species to build soil	550	Range Planting
8. Do plant roots grow well?	Poor root growth and structure; brown or mushy roots	Some fine roots; mostly healthy	Root system fully developed with many fine roots		Crops & Vines	Reverse compaction, improve drainage	324	Deep Tillage
						Prevent compaction	SQL01	Controlled Traffic System
							340	Cover Crop with tap root
					Range	Reverse compaction	548	Grazing Land Mechanical Treatment
						Prevent compaction	472	Access Control when wet
						Plant adapted, deep-rooted species	550	Range Planting
9. Does water infiltrate quickly?	Water on surface for more than 3 days after rainfall or irrigation. Soil has impermeable crust.	Water on surface up to 3 days after rainfall or irrigation	No water on surface 24 hours after rainfall or irrigation. Soil lacks crust.		Crops & Vines	Reverse compaction	324	Deep Tillage
						Prevent compaction		Controlled Traffic System
							340	Cover Crop with tap root
							329	Residue and Tillage Management
						Leave crop residue	329	Residue and Tillage Management
					Range	Exclude grazing when wet	472	Access Control when wet
						Maintain plant cover & production to prevent crusts	528	Prescribed Grazing
10. Is water available for plant growth?	Soil does not hold water for plant growth; frequent extra irrigation necessary. Grasses dry early in season.	Soil has water available for some time after irrigation	Soil provides enough water for adequate period between irrigations. Grasses green late in season.		Crops & Vines	Prevent compaction	SQL01	Controlled Traffic System
						Build soil organic matter with crop residue, green manure, animal manure or sod crop	317	Composting Facility
							328	Conservation Crop Rotation
							340	Cover Crop with tap root
							329	Residue and Tillage Management
							633	Waste Utilization
					Range	Prevent compaction	472	Access Control
						Build soil organic matter with RDM, and planting deep rooted species	528	Prescribed Grazing
							550	Range Planting
11. Is soil pH optimal?	< 5.5 or >7.8		5.5 to 7.8 depending on crops		Crops & Vines	Apply sulfur to lower pH, or lime to raise pH according to lab. recommendations	590	Nutrient Management
12. Is soil salinity low in root zone?	> 4.0	2 to 4	0 to 2		Crops & Vines	Over-irrigate to leach salts below the root zone.	449	Irrigation Water Management (IWM)