

Section 15 of 22 (15b - Soil Quality Test Kit Guide - Interpretations) ([http://soils.usda.gov/sqi/assessment/test\\_kit.html](http://soils.usda.gov/sqi/assessment/test_kit.html))

Soil Texture (pg. 77)	% Clay (range)	Aggregate Stability Table 8 (pg. 70)				Stability Class	Slake Test (Table on pg. 21)	Irrigation Salinity (pg. 80) Classification - Table 11	EC (dS/m)	TDS (mg/l)				
		Clay (%)	Water Stable Aggregates (%)	Organic Matter (%)	Water Stable Aggregates (%)									
Sands (S)	2 - 8	Clay (%)	Water Stable Aggregates (%)	Organic Matter (%)	Water Stable Aggregates (%)	NRCs Active Carbon Test (0 - 4" depth) Range (mg/kg): 100 (Low) - 1,000 (High)	0	Soil too unstable to sample (falls through sieve).	No effects usually noticed	0.75	500			
L. Sands	2 - 14						1	50% of structural integrity lost w/in 5 seconds of insertion in water.	Can have detrimental effects on sensitive crops	0.75 - 1.50	500 - 1,000			
Fine Sands	2 - 8						2	50% of structural integrity lost w/in 5 - 30 seconds after insertion.	Can have adverse effects on many crops	1.50 - 3.00	1,000 - 2,000			
Very F. Sands	2 - 8						3	50% of structural integrity lost w/in 30 - 300 seconds after insertion.	Can be used for tolerant plants (on permeable soils)	3.00 - 7.50	2,000 - 5,000			
L. F. Sands	2 - 14						4	10 - 25% of soil remaining on sieve after 5 dipping cycles.	Salts in the soil Rating (Table 6, pg. 61)	EC range for 1:1 soil:water suspension for which yield reductions occur				
L. V. F. Sands	2 - 14						5	25 - 75% of soil remaining on sieve after 5 dipping cycles.						
S. Loam	2 - 18						6	75 - 100% of soil remaining on sieve after 5 dipping cycles.	S = Sensitive	> 0.90 dS/m				
F. S. Loam	2 - 18						5	60	0.4	53	MS = Mod. Sensitive	> 1.40 dS/m		
V. F. S. Loam	2 - 18						10	65	0.8	66	MT = Mod. Tolerant	> 2.50 dS/m		
Loam (L)	10 - 26						20	70	1.2	70	T = Tolerant	> 4.0 dS/m		
Si. Loam	2 - 26						30	74	2	75	Soil Respiration (lbs CO <sub>2</sub> -C/a/d) Class			
Silt (Si)	2 - 10						40	78	4	77				
S. C. Loam	22 - 36						60	82	8	81				
Si. C. Loam	28 - 38	80	86	12	85									
C. Loam	28 - 38	Soil Condition (Table 1, pg. 53) (Class ratings & soil conditions at optimum soil temp. & moisture)				Bulk Density (Soil Type Table 4, pg. 57)	Ideal Bulk Densities (g/cm <sup>3</sup> )	Bulk Densities that restrict root growth						
S. Clay	38 - 54	0	No soil activity	Soil has no biological activity and is virtually sterile	sands, loamy sands				< 1.6	> 1.80				
Si. Clay	42 - 58	< 9.5	Very low soil activity	Soil is very depleted of available OM and has little biological activity.	sandy loams, loams	< 1.4	> 1.80							
Clay (C)	42 - 98	9.5 - 16	Mod. low soil activity	Soil is somewhat depleted of available OM, and biological activity is low.	S. C. loams, loams, clay loams	< 1.4	> 1.75							
Infiltration Rate (inches/hr)	Infiltration Class Table 3, pg. 56	16 - 32	Medium soil activity	Soil is approaching or declining from an ideal state of biological activity.	silts, silt loams	< 1.3	> 1.75							
> 20	Very rapid	32 - 64	Ideal soil activity	Soil is in an ideal state of biological activity and has adequate OM and active populations of microorganisms.	silt loams, silty clay loams	< 1.4	> 1.65							
6 - 20	Rapid	> 64	Unusually high soil activity	Soil has a very high level of microbial activity and has high levels of available OM, possibly from the additions of large quantities of fresh OM or manure.	S. clays, silty clays, some clay loams (35-45% clay)	< 1.10	> 1.58							
2 - 6	Mod. rapid					clays (> 45% clay)	< 1.10	> 1.47						
0.6 - 2	Moderate													
0.2 - 0.6	Mod. slow													
0.06 - 0.2	Slow													
0.0015 - .06	Very slow													
< 0.0015	Impermeable													

**Kit Tests (Table of contents):** 1. Measuring Soil Quality (pg. 1); 2. Soil Respiration Test (pg. 4); 3. Infiltration Test (pg. 7); 4. Bulk Density Test (pg. 9); 5. Electrical Conductivity (EC) Test (pg.14); 6. pH Test (pg. 15); 7. Soil Nitrate Test (pg. 16); 8 Aggregate Stability Test (pg. 18); 9. Slake Test (pg. 20); 10. Earthworm Test (pg. 22); 11. Soil Physical Observations and Estimations (pg. 23); 12. Water Quality Tests (pg. 28). (Note: The NRCs Active Carbon Test is not part of this kit)

Test 1: discusses sampling and site characterization; Test 6: measures the soil's acidity or alkalinity; Test 7: measures the soil's nitrate levels; Test 10: measures the number of earthworms in the soil; Test 11: observation of soil structure/texture, root patterns, topsoil depth & penetration resistance. rudy.garcia.2009