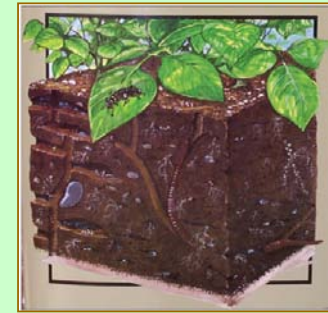




Louisiana Soil Quality Card



How to Use the Soil Quality Card:

Tools Required: (1) shovel; (2) soil probe, metal rod, or wire flag

Procedure: Turn over a shovel full of soil (6-8" deep) and rate each indicator by marking or shading the box that best represents the value for that indicator.

Determine soil compaction by pushing probe, rod, or wire flag into undisturbed soil and noting the resistance

Date: _____ Evaluation by: _____ Parish: _____ Farm: _____ Field: _____ Crop Rotation: _____

Tillage System: _____ Soil Moisture Level (check one): ___ Good for planting ___ Too wet for planting ___ Too dry for planting

SOIL TILTH	OBSERVATIONS	Poor → Good	Poor	Fair	Good
Structure & Consistence <i>(best evaluated in fall of the year)</i>			Hard or very firm; tills with difficulty; tillage creates lots of clods; soil breaks apart by applying strong force	Moderately firm; tillage creates some clods; soil breaks apart by applying moderate force	Loose or friable; tills easily leaving no clods; soil breaks apart easily
Crusting <i>(best evaluated after heavy rain)</i>			Soil surface seals easily after tillage and rain events; seedling emergence is inhibited	Some surface sealing after rain; minimal effect on seedling emergence	Soil maintains open/porous surface all growing season; seedling emergence not affected
Compaction <i>(evaluate anytime, but with comparable moisture content)</i>			Very firm soil; severely restricted root penetration	Firm soil; root penetration somewhat restricted	Loose soil; unrestricted root penetration
SOIL LIFE	OBSERVATIONS	Poor → Good	Poor	Fair	Good
Earthworms <i>(evaluate anytime during growing season)</i>			No visible signs of earthworm activity	Some earthworms; few holes and casts	Lots of earthworms; many holes and casts
Smell <i>(evaluate anytime during growing season)</i>			Soil has a swampy, stagnant smell	Soil has little or no smell	Soil has a fresh, earthy smell
Residue <i>(evaluate immediately prior to planting)</i>			Little or no visible residue in the soil or on the soil surface; residue present is relatively undecomposed	Some residue visible in the soil or on the soil surface; residue is not well decomposed	Residue in the soil and on the soil surface; residue is at various stages of decomposition

SOIL AIR & WATER	OBSERVATIONS	Poor → Good	Poor	Fair	Good
Drainage <i>(evaluate after rain event ends)</i>			Soils drain very slowly and stays wet for long periods; frequent delays in field operations; air movement in the soil is restricted; frequent yield reduction	Soils drain moderately slowly; occasional delays in field operations; unequal balance of air and water in the soil; water-logged after heavy rains; minimal yield reduction	Soils drain quickly; limited delays in field operations; good balance between air and water in the soil; yield reduction only in very wet years
Water-Holding Capacity <i>(evaluate two weeks after last rain event)</i>			Soil has limited capacity to hold water; crops suffer in moderate dry spells	Soil has moderate capacity to hold water; crops are not the first in the area to suffer from dry weather	Soil holds water well; crops seldom suffer from moderate dry spells
Infiltration & Runoff <i>(evaluate immediately after rain event)</i>			Water soaks in soil surface very slowly; lots of surface runoff; ponding after moderate rains	Rainfall soaks in soil surface at moderate rate; some surface runoff; ponding after heavy rains	Rainfall soaks in at a rapid rate; very little surface runoff; no ponding
Soil Erosion <i>(evaluate anytime, but best after rain event)</i>			Severe sheet & rill erosion and/or gullies	Moderate sheet & rill erosion with no gullies	Little or no erosion
PLANT VIGOR	OBSERVATIONS	Poor → Good	Poor	Fair	Good
Uniformity in Growth & Color <i>(evaluate during early stages of plant growth)</i>			Uneven color; variable height and population; stunted and stressed; nutrient deficiency symptoms	Some variation in color, height, and population; moderate growth; mild stress	Uniform deep-green color; rapid growth; even stand (height and population); no visible signs of stress
Seedling Emergence			Slow and uneven emergence	Some variability in emergence	Rapid and even emergence
Root Systems <i>(evaluate at plant maturity)</i>			Restricted root growth; few fine roots	Root growth somewhat restricted; some fine roots	Healthy, uninhibited root growth; lots of fine roots
FERTILITY MANAGEMENT	OBSERVATIONS	Poor → Good	Poor	Fair	Good
Nutrient Levels <i>(review soil test results)</i>			Soil tests indicate one or more nutrients are deficient/excessive for planned crops and yield goals; frequent signs of plant nutrient deficiency	Soil tests indicate one or more nutrients are less than adequate for planned crops and yield goals; infrequent signs of plant nutrient deficiency	Soil test levels are adequate for planned crops and yield goals; no visible signs of plant nutrient deficiency
Soil pH <i>(review soil test results)</i>			pH levels are too high or too low for the planned crops	pH levels slightly above or below the acceptable range for planned crops	pH Levels are within the acceptable range for the planned crops
Organic Matter <i>(1. review soil test results; 2. evaluate color and physical features anytime)</i>			Organic matter levels are low or decreasing; soil surface is light-colored, crusted, cloddy, hard	Organic matter levels can be improved; some crusting and clods	Organic matter levels are adequate and being maintained or are increasing; soil surface is dark, friable, with good structure
Notes:			This card was developed cooperatively by the Natural Resources Conservation Service, the LSU Agricultural Center, and the Louisiana Department of Agriculture and Forestry.		
			