

## GLOSSARY

<b>aeration, soil</b>	exchange of air in soil with air from the atmosphere
<b>aggregate, soil</b>	many fine soil particles held in a single mass or cluster, such as granules, blocks, or prisms; aggregates produced by tillage or logging are <i>clods</i>
<b>available water capacity</b> (available moisture capacity)	the capacity of soils to hold water available for use by most plants; commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point; commonly expressed as inches of water per inch of soil
<b>bedding planes</b>	fine layers, less than 5 millimeters thick, in unconsolidated sediments
<b>bedrock</b>	the solid rock that (usually) underlies the soil and other unconsolidated material (and sometimes is exposed at the surface)
<b>boulders</b>	rock fragments larger than 2 feet (60 centimeters) in diameter
<b>chanter</b>	a thin, flat fragment of soil up to 6 inches long, composed of sandstone, shale, slate, or limestone
<b>clay</b>	1) the mineral particles in a soil that are less than .002 millimeter in diameter; 2) as a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt
<b>coarse-textured soil</b>	sand or loamy sand
<b>cobble</b>	rounded or partly rounded fragment of rock 3 to 10 inches (7.5 to 25 centimeters) in diameter
<b>complex slope</b>	irregular or variable slope - a difficult one on which to plan or construct terraces, diversions, and other water-control measures
<b>conservation tillage</b>	a tillage system that does not invert the soil but leaves a protective amount of crop residue on the surface throughout the year
<b>contiguous</b>	sharing a boundary, touching, adjacent
<b>contour strip-cropping</b>	growing crops in strips that follow the contour; strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow
<b>crop residue</b>	part of a crop left in the soil after harvest to reduce runoff and conserve soil moisture
<b>crop rotation</b>	growing different crops in succession on the same land in order to keep the soil productive
<b>depth, soil</b>	the depth to bedrock; deep soils are more than 40 inches to bedrock, moderately deep soils are 20 to 40 inches to bedrock, and shallow soils are 10 to 20 inches to bedrock
<b>diversion channel</b>	a ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.
<b>drainage class</b> (natural)	the grouping of soils according to the frequency and duration of periods of saturation or partial saturation
<b>drainage, subsurface</b>	the internal or below-surface drainage system of a soil that helps remove excess water that has infiltrated the soil

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drainage, surface	runoff or surface flow of water from an area
droughty	condition of dryness that causes much damage to crops or prevents their normal growth
erosion	the wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep
erosion, sheet	removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff
fine-textured soil	sandy clay, silty clay, and clay
flood plain	a nearly level plain that borders a stream and is subject to flooding unless protected artificially
fragipan	a loamy, brittle, subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots; when dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above; when moist, it tends to rupture suddenly under pressure rather than to deform slowly.
glacial till	unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice
grass waterway	a natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion; conducts surface water away from cropland
gravel	rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.6 centimeters) in diameter; an individual piece- a pebble; also, a root-restrictive soil layer
gravelly soil material	material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches (7.6 centimeters) in diameter
groundwater	water filling all the unblocked pores of underlying material below the water table
gully	miniature valley with steep sides cut by running water; water ordinarily runs through it only after rainfall. A gully generally is an obstacle to farm machinery and is too deep to be filled in by ordinary tillage; compare <i>rill</i> .
habitat	the place where a plant or animal naturally lives
herbicide	a chemical substance used to destroy or inhibit plant growth
horizon, master	a major horizon or layer of soil (such as A, B, or C) that can be further subdivided
horizon, soil	a layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes
inclination	slope or slant
infiltration	the downward entry of water into the surface of soil or other material
intensive cropping	the continual or very frequent use of row crops in a cropping system
land capability	determination of the best cropping system or use of land based upon its texture, drainage, slope, and organic matter content

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leaching	the removal of soluble material from soil by percolating water
loam	soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles
matrix	the surrounding soil, the dominant condition, within which contrasting features occur
medium-textured soil	very fine sandy loam, loam, silt loam, or silt
mineral soil	soil that is mainly mineral material and low in organic material; its bulk density more than that of organic soil
minimum tillage	use of only that tillage that is essential to crop production and prevention of soil damage
mottling, soil	irregular spots of different colors that vary in number and size; generally indicates poor aeration and impeded drainage
muck	dark colored, finely divided, well decomposed organic soil material
nutrient, plant	any element taken in by a plant that is essential to its growth
organic matter	plant and animal residue in the soil in various stages of decomposition
pan	a compact, dense layer in a soil that impedes the movement of water and the growth of roots
paralithic	coherent, weathered soft rock material having poorly defined and widely spaced joints
parent material (or substratum)	the unconsolidated organic and mineral material in which soil forms
percolation	downward movement of water through soil layers or material
permeability	the quality of soil that enables water to move downward through the profile. Permeability is measured in inches per hour of water moving downward through the saturated soil - from less than 0.06 inch (very slow) to more than 20 inches (very rapid).
pH value	a numerical designation of acidity or alkalinity in a soil with ultra acid being pH 3.5 or below and very strong alkaline being 9.1 or higher. Soils from pH 6.6 to 7.3 are considered neutral with pH 7.0 being precisely neutral.
plant analysis	testing of plant tissue to determine what nutrients are present and in what quantities
pollution	contamination of the environment with man-made waste
primary tillage	breaking of the soil and other operations that begin preparation of soil for planting
profile, soil	a vertical section of soil extending through all its horizons and into the parent material
relief	all elevations or inequalities of a given land surface
ridge tillage	raising crops in small, flat-topped ridges for better weed and erosion control and conservation of water
rill	a steep sided channel resulting from accelerated erosion; generally a few inches deep and not wide enough to be an obstacle to farm machinery; compare <i>gully</i>

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rock fragments	pieces of rock or mineral that have a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders
root zone	the part of the soil that can be penetrated by plant roots
rooting depth	the depth of soil in which roots are able to grow freely without restriction by rock or fragipan; a shallow root zone is root-restrictive
row crop	a crop like corn with tillage operations best handled in rows
runoff	the precipitation discharged into stream channels from an area; water that flows off the surface of the land without sinking into the soil is surface runoff; water that enters the soil before reaching surface streams is groundwater runoff or seepage flow from groundwater
sand	1) the individual rock or mineral fragments in a soil that range from 0.05 millimeter to 2.0 millimeters in diameter; most sand grains consist of quartz; 2) as a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay
saturation	complete infiltration of water into the soil spaces, eliminating the air needed for plant growth
seepage	movement of water through the soil; adversely affects the specified use
series, soil	a group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.
shale	sedimentary rock formed by the hardening of a clay deposit
silt	1) the individual mineral particles in a soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter); 2) as a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay
slope	the difference in elevation of the land surface from one location to another; usually expressed as a percentage which is the feet of rise or fall in 100 feet of horizontal distance.
sod crop	a crop such as a grass or legume that forms a dense ground cover and root growth and that requires no cultivation
soil compaction	moving of soil particles close together by equipment and other forces so that internal drainage and aeration are poor
soil test	analyzing by chemical and physical tests the makeup of a particular soil sample as one step in determining land capability
stones	rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter
stony	the condition of a soil that contains stones in numbers that interfere with or prevent tillage
strip cropping	growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion

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structure, soil	<p>the arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure: platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), and granular.</p> <p>Structureless soils are either single grain (each grain by itself, as in dune sand) or massive (the particles adhering without any regular cleavage, as in many hardpans).</p>
subsoil	B horizon of the soil, roughly just below plow depth
substratum	the part of the soil below rooting depth
subsurface layer	any surface soil horizon below the surface layer
surface layer	the soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from about 4 to 10 inches (10 to 25 centimeters); also called 'plow layer'
swampy	land saturated and/or at times partially covered with water
texture, soil	<p>the relative proportions of sand, silt, and clay particles in a mass of soil;</p> <p>The basic textural classes, in order of increasing proportion of fine particles, are sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay. The sand, loamy sand, and sandy loam classes may be further divided by specifying 'coarse', 'fine', or 'very fine'.</p>
tillth, soil	the physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration
topsoil	the upper part of the soil, which is the most favorable material for plant growth; ordinarily rich in organic matter and used to topdress road banks, lawns, and land affected by mining
water table	the upper limit of the soil that is completely covered with water
watershed	an area that drains all its ground water into a particular body of water