



# GLOSSARY OF TERMS

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| <b>Acid / alkaline / neutral soil</b> | An aspect of the soil's chemical reaction. A pH of 7 indicates the soil is neutral, neither acid nor alkaline. A pH below 7 indicates acidity, while above 7 indicates alkalinity. Most plants grow well within a pH range varying from slightly acid to slightly alkaline.   |
| <b>Aeration</b>                       | The process of loosening or puncturing the soil to increase water and air permeability.   |
| <b>Aggregation</b>                    | The process of sand, silt and clay coming together to form larger granules. Good aggregation is apparent in a crumbly soil with water-stable granules that do not disintegrate easily. Well-aggregated soil has greater water entry at the surface, better aeration, and more water-holding capacity than poorly aggregated soil. |
| <b>Annual</b>                         | A plant that completes its life cycle in one growing season or a single year.   |
| <b>Aquifer</b>                        | A sand, gravel or rock formation capable of storing or conveying water; an underground geological formation or group of formations containing usable amounts of groundwater that may supply wells or springs.   |
| <b>Available nutrients</b>            | Minerals or chemicals in the soil in a form plants can absorb and use for growth.   |
| <b>Beneficial Insect</b>              | Insects that act as pollinators, prey on pests, or perform other useful services in the garden, as opposed to those that are considered pests; examples include green lacewings, ladybugs and praying mantises  |
| <b>Berm</b>                           | A mound or bank of earth.   |
| <b>Biennial</b>                       | A plant that completes its life cycle in two years. Typically, these plants grow vegetatively during the first year, then fruit and die the second year.  |
| <b>Border</b>                         | A soil berm 15-to-18-inches tall created by tillage to keep flood irrigation water inside a portion of a pasture.   |
| <b>Broadcast seeding</b>              | The application of seed by hand or with the aid of a seed spreader.   |
| <b>Buffer strip</b>                   | A narrow area of permanent vegetation often planted along the edge of a field, typically implemented to slow water flow and wind velocity, or filter sediment and chemicals from runoff.  |

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| <b>Buffer zone</b>           | A neutral area that acts as a protective barrier separating two conflicting forces such as, an area that acts to minimize the impact of pollutants on the environment or public.  |
| <b>Capability class</b>      | A classification system that demonstrates the suitability of soils for most varieties of crops.   |
| <b>Claypan</b>               | A hard, compact layer in the subsoil primarily consisting of clay; separated from overlying materials by a sharply defined boundary in the soil profile. Claypans usually impede the movement of water, air and plant roots.  |
| <b>Clay</b>                  | Also known as “heavy” soil; a soil composed of extremely small mineral particles; sticky, heavy soil that is difficult to work. Wet clay soil dries out slowly because the downward movement of water (drainage) is slow. Clay soil expands when wet and cracks when dry. |
| <b>Complete fertilizer</b>   | Any organic or inorganic material, natural or synthetic, that supplies all three of the primary nutrient elements for plant growth: nitrogen (N), phosphorous (P) and potassium (K).  |
| <b>Compost</b>               | A soil amendment made from organic waste materials (dead leaves, etc.). Materials are stored in a manner where moisture, heat and microorganisms may break them down.   |
| <b>Conifer</b>               | A plant that produces cones; a plant belonging to the family Coniferae, such as pines, junipers and cedars.   |
| <b>Cover Crops</b>           | Species grown in order to improve soil quality, rather than to harvest something  |
| <b>Cultural resources</b>    | Achaeological and historic resources, as well as the historic, aesthetic and cultural elements of the environment.  |
| <b>Deciduous</b>             | A plant that sheds all of its leaves at a single time each year (typically autumn).   |
| <b>Dike</b>                  | An earth ridge built to guide or hold water within prescribed limits; a small levee.  |
| <b>Dissolved oxygen (DO)</b> | Oxygen dissolved in water and readily available to fish and other aquatic organisms.  |
| <b>Diversion</b>             | A channel to slow, divert or collect water and/or reduce runoff.  |
| <b>Drainage</b>              | Movement of water out of the soil profile. When this happens quickly, the soil is considered “well drained.” When this happens slowly, soil is considered “poorly drained.”   |

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| <b>Drip irrigation</b>         | A system for watering at points on or just below the soil surface so that a plant's root zone is thoroughly moistened without wasting water. This is accomplished with very low pressure over a long period of time to achieve the necessary penetration.                 |
| <b>Ecosystem</b>               | An ecosystem is a geographic area where plants, animals, and other organisms, as well as weather and landscape, work together to form a bubble of life. Ecosystems contain biotic or living, parts, as well as abiotic factors, or nonliving parts.                       |
| <b>Effluent</b>                | Discharge or emission of a liquid or gas.   |
| <b>Erosion</b>                 | The detachment and movement of soil particles caused by wind or water.  |
| <b>Eutrophication</b>          | Degradation of water quality due to the water's enrichment by nutrients.  |
| <b>Evapotranspiration (ET)</b> | Evapotranspiration is the sum of evaporation from the land surface plus transpiration from plants. The typical plant, including any found in a landscape, absorbs water from the soil through its roots. That water is then used for metabolic and physiologic functions. |
| <b>Evergreen</b>               | Plants that retain their foliage throughout the year.   |
| <b>Fallow</b>                  | The practice of leaving land either uncropped, weed-free, or with volunteer vegetation at a time when a crop would typically be grown.  |
| <b>Floodplain</b>              | The land bordering a stream, built up of sediments from stream flood deposits, and subject to inundation during flooding. Also, the surface of an alluvial fan subject to flash flooding from the canyon above.   |
| <b>Fungicide</b>               | Fungicide, also called antimycotic, any toxic substance used to kill or inhibit the growth of fungi that either cause economic damage to crop or ornamental plants or endanger the health of domestic animals or humans.  |
| <b>Green Manure</b>            | Growing plants that accumulate nutrients and organic matter, which are tilled into the earth to improve soil quality.   |
| <b>Groundwater</b>             | the water present beneath Earth's surface in soil pore spaces and in the fractures of rock formations. A unit of rock or an unconsolidated deposit is called an aquifer when it can yield a usable quantity of water.   |
| <b>Gully erosion</b>           | The process whereby water accumulates in narrow channels and, over short periods.   |

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| <b>Hard water</b>                        | Water that has a high dissolved mineral content.  |
| <b>Hardpan</b>                           | A soil layer with physical characteristics that limit root penetration and restrict water movement.   |
| <b>Heavy metals</b>                      | High density metals. In agronomic use, these include copper, iron, manganese, molybdenum, cobalt, zinc, cadmium, mercury, nickel and lead. In small quantities, these metals may supply nutrition for plants, although they become toxic when accumulated at high levels.   |
| <b>Herbaceous</b>                        | Plants that do not have woody stems, only soft green stalks, and leaves   |
| <b>Herbicide</b>                         | Pesticide used to control undesirable vegetation. An herbicide may be applied as a pre-emergent to prevent germination of weed seeds or as a post-emergent to kill weeds after growth.  |
| <b>Hydrologic cycle</b>                  | The movement of water in and on the earth and throughout the atmosphere through processes such as precipitation, evaporation, runoff and infiltration.  |
| <b>Infiltration</b>                      | The downward entry of water into the soil profile from precipitation, irrigation and runoff; also called percolation.   |
| <b>Integrated Pest Management</b>        | A strategy of controlling crop pests through biological methods and cultivation practices, as opposed to chemical pesticides  |
| <b>Insecticide</b>                       | Pesticide used to control insects.  |
| <b>Invasive species</b>                  | A non-native species. Introduction of an invasive species often results in harm to the environment. An invasive species may be a plant, animal or any other biologically viable species that enters an ecosystem beyond its native range.   |
| <b>Irrigation</b>                        | The application of water to soil to maintain desirable soil moisture for plant growth when rainfall is insufficient.  |
| <b>Irrigation Water Management (IWM)</b> | The set of irrigation strategies that landowners and growers use to save water, conserve energy and prevent contaminants from entering water supplies.  |
| <b>Leaching</b>                          | The process by which chemicals (fertilizers, pesticides, manure, etc.) are dissolved and transported through the soil by water; the washing out or flushing of a soluble substance from an insoluble one. Gardeners leach soil with water when they want to remove excess salts (see “salinity”). In high-rainfall areas, rainwater leaches both good and harmful substances from the soil. |
| <b>Load</b>                              | The quantity of a substance (possibly a contaminant) entering receiving waters.   |

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| <b>Loam</b>                                | Soil that is rich in organic material, does not compact easily, and drains well after watering; an “ideal” garden soil; a mix of sand, silt and clay.   |
| <b>Microclimate</b>                        | The climate of a small area or locality, as opposed to the climate of a county or state.  |
| <b>Monoculture</b>                         | The cultivation or growth of a single crop or organism, especially on agricultural or forestland.   |
| <b>Mulch</b>                               | Any plant residue, by-product or other suitable material that is applied to the soil surface to conserve moisture, control erosion, suppress weed growth, moderate soil temperatures, improve soil condition or assist in establishing plant cover. Examples include bark, wood chips, sawdust, straw and plastic.                                      |
| <b>Nitrogen</b>                            | One of three major elements required for plant growth; the first nutrient listed in the formulation on a fertilizer label. For example, on a fertilizer label that reads “10-8-6,” 10 is the amount of nitrogen.  |
| <b>Nonpoint source</b>                     | The entry of a pollutant into a water body from widespread or diffuse sources with no definite point of entry; the source is not a readily discernible point, like a discharge pipe.  |
| <b>Noxious weed</b>                        | Invasive plants that harm the environment. Noxious weeds choke out crops, destroy range and pasture lands, clog waterways, affect human and animal health, and/or threaten native plant communities.  |
| <b>N-P-K</b>                               | Shorthand for the ratio of nitrogen, phosphorus, and potassium, the three most important plant nutrients; the three numbers listed on bags of fertilizer correspond to the percentage of these nutrients contained in the product   |
| <b>Nutrients, Available Nutrients</b>      | Elements in the soil that can be readily absorbed and assimilated as nourishment by growing plants, e.g., nitrogen, phosphorous, iron and potassium.  |
| <b>Nutrient Management Plan</b>            | A plan used by landowners for assessing and managing how nutrients (commercial fertilizers and animal wastes) are utilized on their farm; it includes a determination of how much fertilizer is appropriate to apply on crops. For a livestock operation, it also includes an assessment of manure production, collection, storage and utilization.     |
| <b>Organic matter, soil organic matter</b> | Dead and decaying plant or animal tissues, including leaves, roots, manure, and the bodies of insects, earthworms, and microbes; compost piles are comprised primarily of organic matter, an essential ingredient of fertile soil. The organic components in soil, including undecayed and decaying plant and animal tissues, sometimes called “humus.” |

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| <b>Overstory</b>     | The larger and taller trees that occupy a forest area and shade the young trees, brush, grass, forbs, etc. that grow below.   |
| <b>Perennial</b>     | A plant that lives for more than two years. The top growth may die down each winter, followed by new growth in the spring.  |
| <b>Permeability</b>  | A characteristic of soil that aids water movement through the soil layers   |
| <b>Pesticide</b>     | A chemical used to control pests, such as animals, weeds, insects and diseases.   |
| <b>pH</b>            | A value that indicates the acidity of the soil. The scale ranges from 0 to 14, with 0 being strongly acidic, 7 neutral, and greater than 7 alkaline or basic.   |
| <b>Phosphorous</b>   | One of three major elements required for plant growth; the second nutrient listed on a fertilizer label. For example, on a fertilizer label that reads "10-8-6," 8 is the amount of phosphorus.   |
| <b>Pitch tube</b>    | A tubular mass of resin that forms on the surface of a tree's bark as the tree attempts to "pitch out" an insect.   |
| <b>Point source</b>  | The release of a substance from a pipe or discrete conveyance into a water body or a water course, e.g., a wastewater treatment plant.  |
| <b>Porosity</b>      | The volume of pores in a soil sample (non-solid volume) divided by the bulk volume of the sample; the amount of all open spaces between the solid grains of soil. Porosity determines how much water the soil can hold.                           |
| <b>Potassium</b>     | Essential nutrient involved in various metabolic functions in plants (abbreviated K on fertilizer products); greensand, kelp meal and wood ashes are the primary sources of organic potassium   |
| <b>Recharge</b>      | The periodic replacement of groundwater.  |
| <b>Recharge area</b> | A land area over which precipitation infiltrates into the soil and percolates downward to replenish an aquifer.   |
| <b>Riffle</b>        | A rocky shoal or sandbar lying just below the surface of a waterway.  |
| <b>Rill erosion</b>  | An erosion process where numerous small channels, typically a few inches deep, are formed.  |
| <b>Riparian zone</b> | The transition area between a water ecosystem and the adjacent upland area. These zones are identified by their soil characteristics or plant communities and include the wet areas near streams, ponds, lakes, springs and other surface waters. |
| <b>Runoff</b>        | That portion of precipitation or irrigation water which fails to infiltrate the soil and instead flows over the soil surface.   |

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| <b>Salinity</b>                                   | In agronomy, an excess of salts in the soil. Salinity can harm many plants, causing leaves to scorch and turn yellow and stunting plant growth.  |
| <b>Sand</b>                                       | A soil with comparatively large particles (more than 0.05 millimeters in diameter) that are rounded rather than flattened. Compared to clay soils, sandy soils contain much more soil and air, drain well and warm quickly. They also dry out quickly, which, if used for crops, necessitates frequent watering that washes out valuable nutrients. Also referred to as “light” soil with a “gritty” feel. |
| <b>Saturated zone</b>                             | A portion of the soil profile in which all large pores are filled with water.  |
| <b>Sediment</b>                                   | The soil material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by erosion (by air, water, gravity, etc.).   |
| <b>Septic tank</b>                                | A sewage disposal tank in which a continuous flow of waste materials is decomposed by anaerobic (in the absence of oxygen) bacteria.   |
| <b>Sheet erosion</b>                              | The removal of a relatively uniform, thin layer of soil from the land surface by rainfall and largely unchanneled surface runoff (sheet flow).   |
| <b>Silage</b>                                     | A mixture of raw chopped materials such as field corn, sorghum, grass, or clover that is converted into winter feed for livestock through a process of fermentation; this feed can be stored for several years with little loss of nutrients.  |
| <b>Silt</b>                                       | An intermediate soil textural class between sand and clay. Silt consists of particles between 0.05 and 0.002 millimeters in diameter, has a smooth feel, and is not sticky when moist.   |
| <b>Soil amendment</b>                             | Matter (organic or inorganic) that is added to soil to improve its texture, aeration, drainage and retention of nutrients or moisture.   |
| <b>Soil profile</b>                               | The arrangement of soil horizons (layers) below the surface of the ground.   |
| <b>Soil survey</b>                                | A detailed report on the soils in a defined area. A soil survey contains maps with soil boundaries, photos, descriptions and tables of soil properties and features. Soil surveys are used by farmers, real estate agents, land use planners, engineers and others who desire information about the soil’s properties.   |
| <b>Soil texture</b>                               | The texture of a soil resulting from the relative proportions of the various soil separates (sand, silt and clay) it contains.   |
| <b>Soluble</b>                                    | Capable of being dissolved easily.   |
| <b>State Historic Preservation Officer (SHPO)</b> | The official responsible for administering the National Historic Preservation Act and the appropriate state statutes.  |

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| <b>Strip cropping</b>                 | The practice of growing two or more crops in alternating strips along the land's contours, often perpendicular to the prevailing direction of wind or surface water flow to reduce erosion.  |
| <b>Subsoil</b>                        | (noun) The stratum of weathered material that underlies the surface soil.<br>(verb) To plow or turn up the subsoil.  |
| <b>Systemic pesticide</b>             | A pesticide that moves inside a pest through absorption; the movement is usually upward and outward. There are systemic insecticides, fungicides and herbicides.   |
| <b>Taproot</b>                        | A main root that grows straight down. Dandelions have taproots, so do oak trees. Taproots can grow very deep if there is a lack of surface water.  |
| <b>Tillage pan,<br/>plow pan</b>      | A layer or layers in the soil which are highly compacted, hardened or very high in clay content relative to the layer immediately above.   |
| <b>Tilth</b>                          | A qualitative measure of soil quality, based on parameters such as organic matter content, water-holding capacity, and texture   |
| <b>Topsoil</b>                        | The fertile, biologically-active layer of soil closest to the surface; topsoil includes organic matter, humus and a plethora of microbes, earthworms, and insects.   |
| <b>Transpiration</b>                  | The release of moisture (absorbed largely by plant roots) through leaves. Temperature and humidity affect the transpiration rate.  |
| <b>Understory</b>                     | Any vegetation (trees, shrubs, grasses, forbs, lichens, mosses, etc.) growing under a relatively continuous cover of branches and foliage formed by the overstory.   |
| <b>Unsaturated zone</b>               | A portion of the soil profile that contains both air and water. Water in this zone cannot enter a well.  |
| <b>Vole</b>                           | A small, typically burrowing, mouselike rodent with a rounded muzzle.  |
| <b>Water right(s)</b>                 | The right to draw water from a particular source, such as a lake, irrigation canal or stream.  |
| <b>Watershed<br/>(drainage basin)</b> | The land area (catchment) which captures precipitation and conveys it to a particular water body. It is bounded by ridges or "divides." A large watershed is made up of the smaller watersheds of all its tributaries.                             |
| <b>Water table</b>                    | The upper level of a saturated zone in an aquifer below the soil surface.  |
| <b>Wellhead<br/>protection</b>        | The practice of preventing pollutants from seeping into well water at or near any active or abandoned wells.   |
| <b>Wetlands</b>                       | Areas that are regularly wet or flooded; areas with a water table within the root zone or standing at or above the land surface for at least part of the growing season. These areas are host to a prevalence of water-loving plants and wildlife. |