APPENDIX A COMMON SOIL TERM DEFINITIONS

Common Soil Term Definitions

A

Acid soil - A soil material having a pH of less than 7.0.

Aggregate - A group of soil particles cohering in such a way that they behave mechanically as a unit.

Agronomy - The branch of agriculture that deals with the theory and practice of field-crop production and the scientific management of soil.

Alkali soil - A soil having a high degree of alkalinity (pH of 8.5 or higher), or having a high exchangeable sodium content (15% or more of the exchange capacity), or both.

Alluvial fan - A fan-shaped deposit of alluvium laid down by a stream where it emerges from an upland into less steeply sloping terrain.

Alluvium - Material such as clay, silt, sand, and gravel deposited by modern rivers and streams.

Amendment, soil - An alteration of the properties of a soil, and thereby of the soil, by the addition of substances such as lime, gypsum, and sawdust to make the soil more suitable for the growth of plants. (ii) Any substance used for this purpose. Fertilizers constitute a special group of soil amendments.

Angular cobbly - A descriptive term applied to coarse fragments. It is used for irregular and angular rock or mineral particles 7.5 to 25 em (3 to 10 inches) in diameter. See also coarse fragments. \

Association - A natural grouping of soil associates based on similarities in climatic or physiographic factors and soil parent materials. It may include a number of soil associates provided that they are all present in significant proportions.

Auger - A tool for boring into the soil and withdrawing a small sample for observation in the field or laboratory. The different kinds of augers include those having worm-type bits, unenclosed; those having worm-type bits enclosed in a hollow cylinder; and those having a hollow half-cylinder with cutting edge on the side that rotates around a stabilizing vane.

Available nutrient - The portion of any element or compound in the soil that can be readily absorbed and assimilated by growing plants. ("Available" should not be confused with "exchangeable. ")

B

Bearing capacity – The average load per unit area that is required to rupture a supporting soil mass.

Bedrock - The solid rock that underlies soil and the regolith or that is exposed at the surface.

Boulders - Rock fragments over 60 em (2 ft) in diameter. In engineering boulders are greater than 20 cm (8 inches) in diameter.

C

Calcareous soil - Soil containing sufficient calcium carbonate, often with magnesium carbonate, to effervesce visibly when treated with cold 0.1 N hydrochloric acid.

Capability class - A rating that indicates the capability of land for some use such as agriculture, forestry, recreation, or wildlife. In some cases, it is also used for grouping of lands that have the same relative degree of limitation or hazard.

Capillary fringe - A zone of essentially saturated soil just above the water table. The size distribution of the pores determines the extent and degree of the capillary fringe.

Category - A grouping of related soils defined at approximately the same level of abstraction. The classification categories are order, great group, subgroup, family, and series.

Chroma - The relative purity, strength, or saturation of a color. It is directly related to the dominance of the determining wavelength of light. It IS one of the three variables of color.

Class - A group of soils having a definite range in a particular property such as acidity, degree of slope, texture, structure, land-use capability, degree of erosion, or drainage. See also structure, soil and texture, soil.

Classification - The systematic arrangement of soils into categories on the basis of their characteristics. Broad groupings are made on the basis of general characteristics, and subdivisions on the basis of more detailed differences in specific properties.

Clay - As a particle-size term: a size fraction less than 0.002 mm in equivalent diameter, or some other limit (geologists and engineers). (ii) As a rock term: a natural, earthy, fine grained material that develops plasticity with a small amount of water. (iii) As a soil term: a textural class. (iv) As a soil separate: a material usually consisting largely of clay minerals but commonly also of amorphous free oxides and primary minerals.

Clay films - Coatings of oriented clays on the surfaces of soil peds and mineral grains, and in soil pores.

Clay loam - Soil material that contains 27% to 40% clay and 20% to 45% sand. Clay mineral, mineral argileux num silicates, and hydrous losilicate structure.

Coarse fragments - Rock or mineral particles greater than 2.0 mm in diameter.

Cobblestone - Rounded or partially rounded rock or mineral fragment 7.5 to 25 cm (3 to 10 inches) in diameter. See also coarse fragments. In engineering practice, cobbles are greater than 7.5 cm (3 inches) but less than 20 cm (8 inches) in diameter.

Cobbly - Containing appreciable quantities of cobblestones. The term is used to describe both soil and land.

Colluvium - A heterogeneous mixture of material that as a result of gravitational action has moved down a slope and settled at its base.

Compaction, soil - The process in which a stress applied to a soil causes densification as air is displaced from the pores between the soil grains.

Complex - A mapping unit used in detailed and reconnaissance soil surveys where two or more defined soil units are so intimately intermixed geographically that it is impractical, because of the scale used, to separate them.

Compost - Organic residues, or a mixture of organic residues and soil, that have been piled, moistened, and allowed to decompose. Mineral fertilizers are sometimes added if it is produced mainly from plant residue, it is often called "artificial manure" or "synthetic manure."

Compressibility - The susceptibility of a soil to decrease in volume when subjected to load.

Concentrated flow - The flowing of a rather large accumulated body of water over a relatively narrow course. It often causes serious erosion and gullying.

Conservation, soil - Protection of the soil against physical loss by erosion or against chemical deterioration; that is, excessive loss of fertility by either natural or artificial means. (ii) A combination of all methods of management and land use that safeguard the soil against depletion or deterioration by natural or man-induced factors (iii) The division of soil science dealing with soil conservation (i) and (ii).

Consistence - The resistance of a material to deformation or rupture. (ii) The degree of cohesion or adhesion of the soil mass. Terms used for describing consistence at various soil moisture contents are: wet soil-nonsticky, slightly sticky, sticky, and very sticky; non-plastic, slightly plastic, plastic, and very plastic moist soil-loose, very friable, friable, firm, and very firm; compact, very compact, and extremely compact. Dry soil-loose, soft, slightly hard, hard, very hard, and extremely hard. Cementation-weakly cemented, strongly cemented, and indurated. In engineering practice, "consistency" has essentially the same meaning as "consistence."

Consolidation - The gradual reduction in volume of a soil mass resulting from an increase in compressive stress.

Creep - Slow mass movement of soil and soil material down rather steep slopes primarily under the influence of gravity, but aided by saturation with water and by alternate freezing and thawing. In engineering usage, creep is any general, slow displacement under load.

Crust - A surface layer of soil, from a few millimeters to 2.5 cm (1 inch) thick, that when dry is much more compact, hard, and brittle than the material just under it.

Cryic layer - A perennially frozen layer.

Cryology - The study of the properties or snow, ice, and frozen ground.

Cryosolic - An order of mineral or organic soils that have perennially frozen material within 1 m (3 ft) of the surface in some part of the soil body, or pedon. They are the dominant soils of the zone of continuous permafrost and become less widespread to the south in the zone of discontinuous permafrost; their maximum development occurs in organic and poorly drained, fine textured materials. The vegetation associated with Cryosolic soils varies from sparse plant cover in the high arctic, through tundra, to subarctic and northern boreal forests. The active layer of these soils is frequently saturated with water, especially near the frozen layers, and colors associated with gleying are therefore common in mineral soils, even those that occur on well drained portions of the landscape. They may or may not be markedly affected by cryoturbation. The order has three great groups: Turbic Cryosol, comprising mineral soils that display marked cryoturbation and generally occur on patterned ground; Static Cryosol, mineral soils without marked cryoturbation; and Organo Cryosol, organic soils.

Cryoturbation - Frost action, including frost heaving.

Cultivation - Tillage to prepare land for seeding or transplanting, and later to control weeds and loosen the soil.

D

Degradation - The changing of a soil to a more highly leached and weathered state, usually accompanied by morphological changes such as the development of an eluviated, light-colored A (Ae) horizon.

Depleted soil - Soil that has lost most of its available nutrients.

Deposit - Material left in a new position by a natural transporting agent such as water, wind, ice, or gravity, or by the activity of man.

Disintegration - The breakdown of rock and mineral particles into smaller particles by physical forces such as frost action. See also weathering.

Disperse - To break up compound particles, such as aggregates, into the individual component particles. (ii) To distribute or suspend fine particles, such as clay, in or throughout a dispersion medium, such as water.

Drainage class, soil - The frequency and duration of wet periods under conditions similar to those under which the soil formed. The classes consist include: Excessively drained; Somewhat excessively drained;

- Well drained;
- Moderately well drained;
- Somewhat poorly drained;
- Poorly drained; and
- Very poorly drained

Dunes - Wind-built ridges and hills of sand formed in the same manner as snowdrifts. They are started by some obstruction, such as a bush, boulder, or fence that causes an eddy or otherwise thwarts the sand-laden wind. Once begun, the dunes themselves offer further resistance and they grow to form various shapes.

E

Enrichment - A technique in which environmental, including nutritional, conditions are controlled to favor the development of a specific organism or group of organisms.

Erode - To wear away or remove the land surface by wind, water, or other agents.

Erodible - Susceptible to erosion. It is expressed by terms such as highly erodible and slightly erodible.

- Natural erosion - Wearing away of the earth's surface by water, ice, or other natural agents under natural environmental conditions such as climate and vegetation, undisturbed by man. Synonymous with geological erosion.

- Normal erosion - The gradual erosion of land used by man. It does not greatly exceed natural erosion. See natural erosion.

- Rill erosion - An erosion process in which many small channels a few centimeters deep are formed; it occurs mainly on recently cultivated soils.

Erosion factor, soil - Factor which is used to quantify soil detachment by runoff and raindrop impact. These erodibility factors are indexes used to predict the long-term average soil loss from sheet and rill erosion under crop systems and conservation techniques. Factor Kw applies to the whole soil.

Evapotranspiration - The loss of water from a given area during a specified time by evaporation from the soil surface and by transpiration from the plants. Potential evapotranspiration is the maximum transpiration that can occur in a given weather situation with a low-growing crop that is not short of water and does not completely shade the ground.

Excessive drainage - Too great or too rapid a loss of water from soils, either by percolation or by surface flow. The loss is greater than that necessary to prevent the development of an anaerobic condition for an appreciable length of time.

F

Fertility, soil - The status of a soil in relation to the amount and availability to plants of elements necessary for plant growth.

Field capacity - The percentage of water remaining in the soil 2 or 3 days after the soil has been saturated and free drainage has practically ceased. The percentage may be expressed in terms of weight or volume. See also moisture tension, soil.

Fine - The fraction of mineral soil consisting of particles less than 2 mm in diameter.

Fine clay - A clay fraction of specified size less than 2 µm, usually less than 0.2 or 0.08 µm.

Fluvial deposits - All sediments, past and present, deposited by flowing water, including glaciofluvial deposits.

G

Genesis, soil - The mode of origin of the soil, especially the processes or soil-forming factors responsible for the development of the solum, the true soil, from unconsolidated parent material. (ii) The division of soil science dealing with soil genesis.

Glacial drift - All rock material carried by glacier ice and glacial meltwater, or rafted by icebergs. This term includes till, stratified drift, and scattered rock fragments.

Glaciofluvial deposits - Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and may occur in the form of outwash plains, deltas, kames, eskers, and kame terraces.

Gleysation – A soil-forming process, operating under poor drainage conditions, which results in the reduction of iron and other elements and in gray colors, and mottles.

Gleysol - A great group of soils in the Gleysolic order. A thin (less than 8 cm, or 3 inches) Ah horizon is underlain by mottled gray or brownish gleyed material, or the soil has no Ah horizon. Up to 40 cm (16 inches) of mixed peat (bulk density 0.1 or more) or 60 cm (24 inches) of fibric moss peat (bulk density less than 0.1) may occur on the surface.

Granular – A rock texture resulting from the aggregation of mineral grains of approx. equal size. The term may be applied to a sedimentary or metamorphic rock, but is typically. used to describe an equigranular, holocrystalline igneous rock whose particles range in diameter from 0.05 to 10 mm.

Gravel - Rock fragments 2 mm to 7.5 cm (3 inches) in diameter.

Gravelly - Containing appreciable or significant amounts of gravel. The term is used to describe soils or lands.

H

Horizon, soil - A layer of soil or soil material approximately parallel to the land surface; it differs from adjacent genetically related layers in properties such as color, structure, texture, consistence, and chemical, biological, and mineralogical composition. A list of the designations and some of the properties of soil horizons and layers follows.

- O-An organic layer developed mainly from mosses, rushes, and woody materials. Of-The least decomposed organic layer, containing large amounts of well-preserved fiber, and called the fibric layer.
    - Om-An intermediately decomposed organic layer containing less fiber than an O layer and called the mesic layer.
    - Oh-The most decomposed organic layer, containing only small amounts of raw fiber and called the humic layer. L-F-H-Organic layers developed primarily from leaves, twigs, and woody materials, with a minor component of mosses. L-The original structures of the organic material are easily recognized. F-The accumulated organic material is partly decomposed. H-The original structures of the organic material are unrecognizable.
- Mineral horizons and layers contain less than 17% organic carbon.
    - **A**-A mineral horizon formed at or near the surface in the zone of removal of materials in solution and suspension, or maximum in situ accumulation of organic carbon, or both.
    - **E** -The E horizon appears lighter in color than an associated A horizon (above) or B horizon (below). An E horizon has a lower clay content than an underlying B horizon, and often has a lower clay content than an overlying A horizon, if an A is present.
    - **B**-A mineral horizon characterized by one or more of the following:
        - 1) An enrichment in silicate clay, iron, aluminum, or humus.
        - 2) A prismatic or columnar structure that exhibits pronounced coatings or stainings associated with significant amounts of exchangeable sodium.
        - 3) An alteration by hydrolysis, reduction, or oxidation to give a change in color or structure from the horizons above or below, or both.
    - **C**-A mineral horizon comparatively unaffected by the pedogenic processes operative in A and B, except gleying, and the accumulation of carbonates and more soluble salts.
    - **R**-Underlying consolidated bedrock that is too hard to break with the hands or to dig when moist.

Hue - The aspect of color that is determined by the wavelengths of light, and changes with the wavelength. Munsell hue notations indicate the visual relationship of a color to red, yellow, green, blue, or purple, or an intermediate of these hues.

Humic Gleysol - A great group of soils in the Gleysolic order. A dark-colored A (Ah or Ap) horizon more than 8 em (3 inches) thick is underlain by mottled gray or brownish gleyed mineral material. It may have up to 40 em (16 inches) of mixed peat (bulk density 0.1 or more) or up to 60 cm (24 inches) of fibric moss peat (bulk density less than 0.1) on the surface. This group includes soils formerly classified as Dark Gray Gleysolic and Meadow.

Hydric soil - Soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

Hydrogenic soil - Soil developed under the influence of water standing within the profile for prolonged periods; it is formed mainly in cold, humid regions.

Hydrologic cycle - The conditions through which water naturally passes from the time of precipitation until it is returned to the atmosphere by evaporation and is again ready to be precipitated.

Hydrologic group, soil - Soils are classified by the Natural Resource Conservation Service into four Hydrologic Soil Groups based on the soil's runoff potential. The four Hydrologic Soils Groups are A, B, C and D. Where A's generally have the smallest runoff potential and Ds the greatest.

I

Igneous rock - Rock formed by the cooling and solidification of magma. It has not been changed appreciably since its formation.

Immature soil - A soil having indistinct or only slightly developed.

Infiltration - The downward entry of water into the soil.

Inorganic soil - A soil made up mainly of mineral particles.

Intra-permafrost taliks - Permanently unfrozen zones within permafrost terrain.

Irrigation - The artificial application of water to the soil for the benefit of growing crops.

L

Land classification - The arrangement of land units into various categories based on the properties of the land or its suitability for some particular purpose.

Lithic layer - Bedrock under the control section of a soil. In Organic soils, bedrock occurring within a depth of between 10 cm (4 inches) and 160 cm (64 inches) from the surface.

Loam - A soil textural class intermediate in texture and properties between fine-textured and coarse-textured soils. It includes all textural classes having "loam" or "loamy" as a part of the class name, such as clay loam or loamy sand.

M

Management, soil - The total of all tillage operations, cropping practices, fertilizer, lime, and other treatments conducted on or applied to a soil for the production of plants.

Mass wasting - A general term for a variety of processes by which large masses of earth material are moved by gravity from one place to another.

Matrix, soil - The main soil constituent or material that encloses other soil features, for example, concretions embedded in a fine-grained matrix.

Medium texture - Intermediate between fine-textured and coarse-textured soils. It includes the following textural classes: very fine sandy loam, loam, silt loam, and silt.

Metamorphic - Rock derived from preexisting rocks, but differing from them in physical, chemical, and mineralogical properties as a result of natural geological processes, principally heat and pressure, originating within the earth. The preexisting rocks may have been igneous, sedimentary, or another form of metamorphic rock.

Mineral soil - Any mineral occurring as a part of or in the soil. (ii) A natural inorganic compound with definite physical, chemical, and crystalline properties (within the limits of isomorphism) occurring in the soil. See also clay mineral.

Mineralization - The conversion of an element from an organic form to an inorganic state as a result of microbial decomposition.

Moisture regime, soil - Regimes defined based on the watertable level and the presence or absence of available water. All moisture regimes, except aquic, are based on regional climate. Aquic moisture regimes are based on the length of the period that the soil was saturated. The soil moisture regime classes include:

- Aquic (or Perudic): Saturated with water long enough to cause oxygen depletion;
- Udic: Humid or subhumid climate;
- Ustic: Semiarid climate;
- Aridic (or Torric): Arid climate; and
- Xeric: Mediterranean climate (moist, cool winters and dry, warm summers).

Mottles - Spots or blotches of different color or shades of color interspersed with the dominant color.

Munsell color system - A color designation system specifying the relative degrees of the three simple variables of color: hue, value, and chroma. For example: 10YR 6/4 is the color of a soil having a hue of 10YR, value of 6, and chroma of 4. These notations can be translated into several different systems of color names. See also chroma, hue, and value, color.

N

Native vegetation - All the plant species that occur naturally in a particular habitat

Non-cohesive soil particles - A soil such as gravel or sand in which the particles do not stick together, as opposed to a sticky clay or claylike silt.

O

Order, soil – The most general level of classification in the USDA system of Soil Taxonomy is the Soil Order. Each order is based on one or two dominant physical, chemical, or biological properties that differentiate it clearly from the other orders. The 12 soil orders all end in "sol" which is derived from the Latin word "solum" meaning soil or ground. Most of the orders also have roots that tell you something about that particular soil. The 12 soil orders are presented below in the sequence in which they “key out” in the U.S. Department of Agriculture’s dichotomous Soil Taxonomy system.

- Gelisols: Frozen
- Histosols: Organic, wet
- Spodosols: Sandy, acidic
- Andisols: Volcanic ash
- Oxisols: Very weathered
- Vertisols: Shrink and swell
- Aridisols: Very dry
- Ultisols: Weathered
- Mollisols: Deep, fertile
- Alfisols: Moderately weathered
- Inceptisols: Slightly developed (young)
- Entisols: Newly formed

Organic matter, soil - The organic matter component of soil, consisting of plant and animal residues at various stages of decomposition, cells and tissues of soil organisms, and substances synthesized by soil organisms.

P

Pans - Horizons or layers in soils that are strongly compacted, indurated, or very high in clay content. See also caliche, claypan, fragipan, genetic pan, iron pan, and pressure or induced pan.

Parent material - The unconsolidated and more or less chemically weathered mineral or organic matter from which the solum of a soil has developed by pedogenic processes.

Particle size - The effective diameter of a particle measured by sedimentation, sieving, or micrometric methods. Has been called grain size.

Peat - Unconsolidated soil material consisting largely of undecomposed, or only slightly decomposed, organic matter.

Percolation (of soil water) - The downward movement of water through soil; specifically, the downward flow of water in saturated or nearly saturated soil at hydraulic gradients of 1.0 or less.

Periglacial - Indicative of all cold-climate processes, whether or not they occur in the immediate vicinity of glaciers.

Permafrost - Perennially frozen material underlying the solum resulting in the ground (soil or rock including ice and organic material) remaining at or below 0 °C for at least two consecutive year.

Permafrost table - The upper boundary of permafrost, usually coincident with the lower limit of seasonal thaw. See also permafrost.

Permeability, soil - The ease with which gases and liquids penetrate or pass through a bulk mass of soil or a layer of soil. Because different soil horizons vary in permeability, the specific horizon should be designated.

pH - The negative logarithm of the hydrogen-ion activity of a soil. The degree of acidity or alkalinity of a soil as determined by means of a glass, quinhydrone, or other suitable electrode or indicator at a specified moisture content or soil-water ratio, and expressed in terms of the pH scale.

Physical weathering - The breakdown of rock and mineral particles into smaller particles by physical forces such as frost action and wind. See also weathering.

Pingos - are formed by annual freeze-thaw cycles at the site of drained lakes or river channels. Two types of pingos exist originating from closed systems (hydrostatic pingos) and open systems (hydraulic

pingos). Hydrostatic pingos form when the permafrost level rises beneath the drained water body during which free water is expelled upward. The pressure from the expelled water forces the ground upward as ice is formed in its place. Hydraulic pingos form as a result of groundwater entering the system from an outside source such as natural aquifers in subpermafrost or intrapermofrost conditions.

Plastic limit (Atterberg limit) - (i) The water content corresponding to an arbitrary limit between the plastic and the semisolid states of consistence of a soil. (ii) The water content at which a soil will just begin to crumble when rolled into a thread approximately 3 mm in diameter.

Pore space - The total space not occupied by soil particles in a bulk volume of soil.

Potential acidity - In a soil, the amount of exchangeable hydrogen ion that can be made free or active in the soil solution by cation exchange. It is usually expressed in milliequivalents per unit mass of soil.

Prime Farmland/Soils of Local Importance - Lands highly suited to agriculture as prime, unique, and soils of statewide or local importance

Productive soil - A soil in which the chemical, physical, and biological conditions are favorable for the economical production of crops suited to a particular area.

R

Relief - Elevations or inequalities of a land surface, considered collectively. Land having no unevenness or differences of elevation is called level; gentle relief is called undulating, strong relief, rolling, and very strong relief, hilly

Residual soil - Soil formed from, or resting on, consolidated rock of the same kind as that from which it was formed and in the same location.

Residuum - The soil and subsoil that forms as the result of long weathering over carbonate rocks (limestone and dolomite) bedrock.

Runoff - The portion of the total precipitation on an area that flows away through stream channels. Surface runoff does not enter the soil. Groundwater runoff or seepage flow from groundwater enters the soil before reaching the stream.

S

Saline soil - A non-alkali soil that contains enough soluble salts to interfere with the growth of most crop plants. The conductivity of the saturation extract is greater than 4 mmhos/cm, the exchangeable-sodium percentage is less than 15, and the pH is usually less than 8.5.

Salinity, soil - The amount of soluble salts in a soil, expressed in terms of percentage, parts per million, or other convenient ratios.

Sedimentary rock - A rock formed from materials deposited from suspension or precipitated from solution and usually more or less consolidated. The principal sediment of the soil.

Series, soil – A category in the of soil classification. This is the basic unit of soil classification, and consists of soils that are essentially alike in all major profile characteristics except the texture of the surface

Soil - The unconsolidated material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

Solifluction - A type of creep that takes place in regions where the ground freezes to a considerable depth and as it thaws during the warm seasons the upper thawed position creeps downhill over the frozen material. The soil moves as a viscous liquid down slopes of as little as 2 or 3 degrees and may carry rocks of considerable size in suspension.

Stratification - The arrangement of sediments in layers or strata marked by a change in color, texture, dimension of particles, and composition. Stratification usually means layers of sediments that separate readily along bedding planes because of different sizes and kinds of material or some interruption in deposition that permitted changes to take place before more material was deposited.

Structure, soil - The combination or arrangement of primary soil particles into aggregates.

Subsidence - Sinking of the Earth's surface in response to geologic or man-induced causes

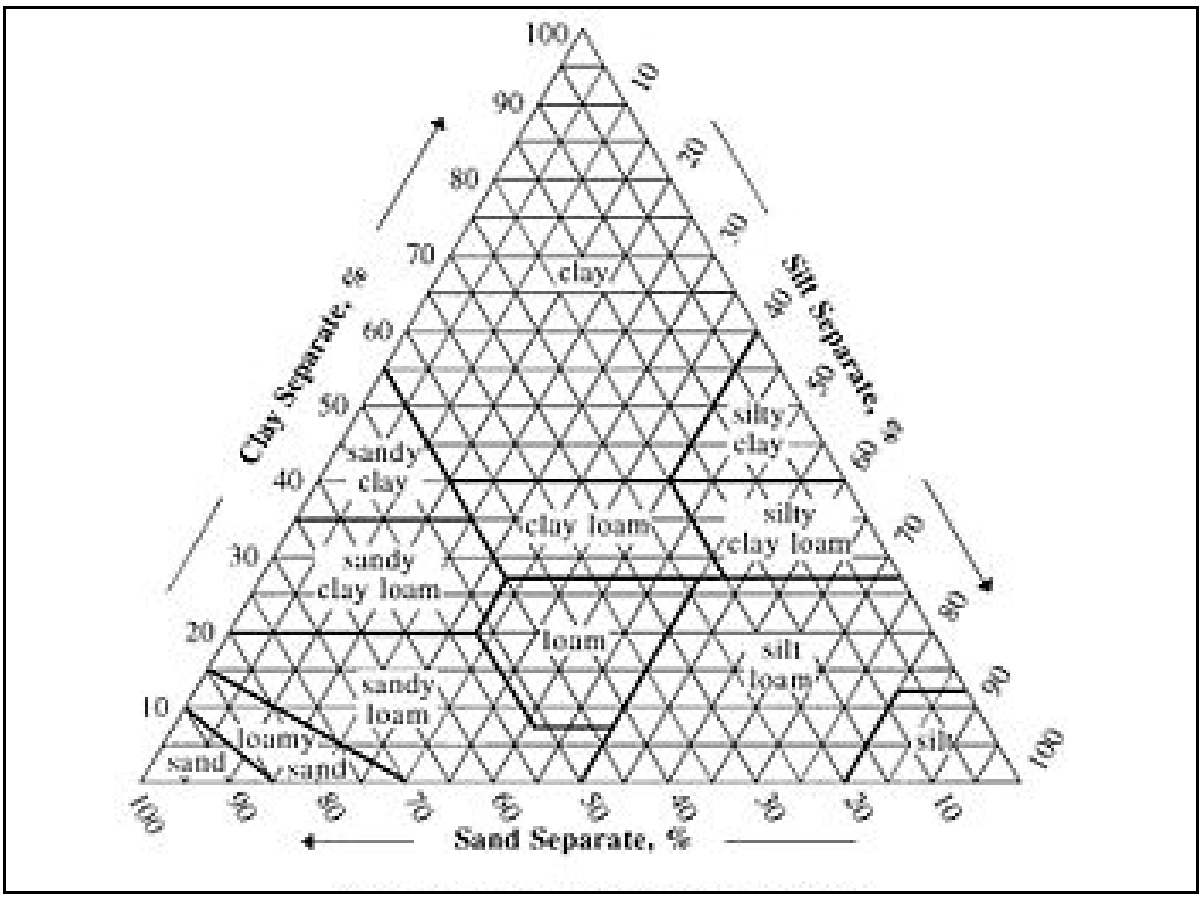
T

Temperature regime – System based on mean annual soil temperatures. Soil temperatures are taken at a depth of 50 cm from the soil surface, using the Celsius (centigrade) scale. These regimes greatly affect the use and management of soils, particularly for the selection of adapted plants. The ten soil temperature regimes are:

- CryicFrigid;
- Hyperthermic;
- Isofrigid;
- Isohyperthermic;
- Isomesic;
- Isothermic;
- Mesic;
- Pergelic; and
- Thermic

The pergelic soil temperature regime has mean annual soil temperatures of less than 0 °C at 50 cm below the surface. In this temperature regime, permafrost is present.

Texture, soil – A qualitative classification tool used in both the field and laboratory to determine classes for agricultural soils based on their physical texture. The classes are distinguished in the field by the "textural feel" which can be further clarified by separating the relative proportions of sand, silt and clay using grading sieves. Soil textures are classified by the fractions of each soil separate (sand, silt, and clay) present in a soil. Classifications are typically named for the primary constituent particle size or a combination of the most abundant particles sizes, e.g. "sandy clay" or "silty clay". A fourth term, loam, is used to describe a roughly equal concentration of sand, silt, and clay, and lends to the naming of even more classifications, e.g. "clay loam" or "silt loam". In the United States, twelve major soil texture classifications are defined by the USDA. Determining the soil textures is often aided with the use of a soil texture triangle shown below



Till - Unstratified glacialdrift deposited directly by the ice and consisting of clay, sand, gravel, and boulders intermingled in any proportion.

Thaw-sensitive – Soils that upon thawing may experience substantial thaw-settlement and reduced strength to a value much lower than that for similar material in an unfrozen condition.

Thaw-stable – Soils that do not subside or have a change in volume upon saturation or thawing.

Thermal erosion - The result of melting and weakening permafrost due to moving water. It can occur both along rivers and at the coast.

Thermokarst - A land surface characterized by very irregular surfaces of marshy hollows and small hummocks formed as ice-rich permafrost thaws.

Topsoil - The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.