



**Acid Soil/Alkaline Soil** – A pH of 7 is neutral, below 7 is acid and above 7 is alkaline.

**Aeration** – Introducing air into the soil, usually by some type of tillage or use of a core aerator.

**Aerobic** – Process of decomposition in the presence of oxygen such as in a compost pile.

**Alternate** – Arrangement of leaves from the stem of a plant in which they are not directly across from one another.

**Anaerobic** – Process of decomposition without the presence of oxygen such as in a septic tank.

**Amendment** – The addition of material such as compost, fertilizer or sand to improve the texture and nutrient content of soil.

**Angiosperms** – A class of plants that has the seeds enclosed in an ovary such as an oak acorn.

**Annual Plant** – A plant that completes its life cycle in one year or less.

**Annual growth ring** – A pair of layers of wood, one light and one dark, grown in a single season, as seen in a cross-section of the trunk of a tree or shrub.

**Arborist** – A person with special training and skills in the management and care of trees. Certified arborists can be located at [www.treesaregood.com](http://www.treesaregood.com).

**Backfill** – The soil replaced around the roots of a plant after planting.

**Balled & Burlap** – A method of transporting shrubs and trees with most of the root system enclosed in a ball of soil wrapped in burlap or similar material.

**Bare root seedling** – A seedling grown in a nursery bed that has the soil removed from the roots before packaging and shipping.

**Bark** – The outer most layer of the trunk of a shrub which provides protection and contains the phloem that conducts food down to shrub roots for storage.

**Bedrock** – Consolidated rock that lies under topsoil and subsoil in some soil types.

**Biennial Plant** – A plant that completes its life cycle in two years.

**Bleeding** – The loss of sap from a tree or shrub that has been pruned.

**Borer** – A pest which bores into the stems of plants, usually the larval stage of an insect.

**Botanical name** – the genus and species names of a plant expressed in Latin language.

**Bract** – A very small leaf, usually scale like and associated with a flower.

**Branch** – Growth off the main stem or other branches.

**Branch collar** – The swelling of a branch at the point of attachment to the tree or shrub trunk.

**Broadleaf** – Trees that have broad flat leaves rather than needles. A common term used for hardwood trees.

**Bud** – A growing point enclosed by closely overlaid rudimentary leaves from which leaves or flowers



emerge.

**Callus** – The new tissue that grows over a tree or shrub wound or cut.

**Cambium** – See Vascular Cambium

**Catkin** – The spike like flower of several hardwood trees.

**Chlorophyll** – The green pigments in plant cells necessary for the conversion of solar energy to chemical energy by the process of photosynthesis.

**Chlorosis** – A yellowing of the leaves of a plant due to a lack of chlorophyll.

**Compartmentalization** – The process of the tree or shrub growing new tissue (or callus) over a wound.

**Compost** – A mixture of decomposed organic materials such as leaves, twigs, grass clippings and kitchen waste (not meat). It is used as a fertilizer or to improve soil texture.

**Compound Leaves** – Leaves with more than one leaflet attached to a stalk.

**Cone** – The reproductive structure on evergreen plants that produce pollen or seed.

**Conifer** – A tree or shrub that is usually an evergreen that has needle or scale-like leaves and produces its seeds in a cone.

**Conk** – The visible fruiting body of a wood-destroying fungus. This indicates rot in the underlying material.

**Container grown** – A tree or shrub that is grown in a bucket-like container or bag at the nursery and is sold in the container.

**Crown** – The highest part of a tree.

**Cultivar** – One of several named varieties of a plant species, usually horticulturally bred.

**Cultural practices** – Methods used to grow trees, shrubs or other plants.

**Deciduous** – A perennial plant (tree or shrub) which is normally leafless during a part (winter) of the year

**Desiccation** – The drying up or wilting of a tree or shrub due to lack of moisture and hastened by wind.

**Dioecious** – Unisexual flowers – each sex confined to a separate plant of the same species.

**Dormant** – The stage when a plant has stopped growth and production.

**Drip line** – An imaginary vertical line from the outer most parts of the shrub or tree crown to the ground.

**Ecology** – A study of the relationships of all living things to each other and to the natural environment.

**Entire margin** – Leaf margin that is smooth, not toothed.

**Erosion** – The wearing away of soil particles by wind or water.

**Evapotranspiration** – The process of water being released through a plant's leaves combined with water evaporating from the soil in which it is growing. Used as a guide for how much water a plant needs per day/week/year.

**Evergreen** – Keeping its leaves or needles all year long, but losing some of the older leaves regularly throughout the year.

**Exotic** – Plants introduced into a community that are not native to the area.

**Extension Educators** – In Indiana, persons in each county who work for Purdue University and provide the public with unbiased research based knowledge on natural resource concerns. Your extension educator can



be located at [www.ces.purdue.edu](http://www.ces.purdue.edu).

**Feeder roots** – The small numerous roots of a tree or shrub through which water and nutrients are absorbed from the soil.

**Fertilizer** – A chemical or organic additive to the soil to increase nutrients available to plants.

**Fibrous Roots** – Portion of a root system containing many thin roots rather than a single tap root.

**Flowers** – All trees have flowers but most are not showy.

**Foliage** – The term used to describe the overall appearance of a tree or shrub.

**Glaucous** – A chalky, white appearance.

**Greenhouse effect** – The buildup of gases in the atmosphere that traps radiant heat from the sun and makes the earth's surface warmer.

**Gymnosperms** – The class of plants having seeds not enclosed in an ovary, usually on a cone such as the pines.

**Habit** – The character and shape of a tree or shrub as it matures.

**Habitat** – The specific environment of a plant or animal.

**Hardiness Zone** – An area of land defined by its range of temperatures and used to describe the hardiness or overwintering ability of plants.

**Heat island** – The build up of heat from the sun caused by pavement, buildings and other heat absorbing structures raising the local temperature.

**Hedgerow** – A group or row of trees or shrubs separating two grassy areas or fields. It can provide habitat for wildlife.

**Herbaceous plant** – A non-woody plant.

**Herbicide** – Any material that kills plants, generally used on weeds.

**Honeydew** – Sticky, sugary secretion deposited on plants by insects such as aphids and whitefly.

**Horizons** – The layers of soil.

**Humus** – The organic residue of decayed vegetable matter in soil.

**Infiltration** – The movement of water or gases into the ground or through vegetation.

**Inorganic** – Materials that were not created through living processes such as minerals, chemically derived nutrients and rock.

**Invasive species** – A non-native plant species that out-competes native plants and causes the native plant numbers to be decreased or in some cases non-existent.

**Landscape** – The term applied to the general lay of, and appearance of, an area of land.

**Lateral buds** – Buds that are found along the length of a twig (not at the tip).

**Leaching** – The process of water moving through the soil and removing soluble nutrients.

**Leader** – The primary or top stem of a plant.

**Leaf** – The part of a plant, green in color, containing the chlorophyll; where the main food manufacturing takes place.

**Leaf margin** – The outer edge of a leaf.



- Leaflets** – Small blades of a compound leaf attached to a stalk (rachis); without buds where they attach.
- Lenticels** – Small bumps or spots on twigs that serve as breathing holes for the twigs.
- Limb** – Another term used for a branch.
- Lime** – Ground limestone added to the soil to raise pH.
- Lobed margin** – A leaf margin with gaps that extend noticeably toward the center of the leaf.
- Lobes** – The rounded projecting segment or part of a leaf.
- Meristem** – A formative plant tissue where active growth or cell division takes place.
- Midrib** – Center line of a leaf.
- Mulch** – Organic or other material placed on the soil surface to control weeds, conserve moisture and to protect plants from mechanical damage. Mulch is also placed around trees and shrubs to imitate natural conditions found in woodland.
- Native plant** – A plant species normally found in a region or climatic area.
- Naturalized** – A plant that has become part of the flora of an area other than its place of origin.
- Needle-like leaves** – Very thin, sharp, pointed, pin-like leaves found on pines, firs and some other softwoods.
- Needles** – Spiny modified leaves, such as those found on pine trees.
- Nitrogen** – A key nutrient needed for plant growth. It improves leaf and stem growth.
- Node** – The place on the stem where leaves or branches are attached.
- Non-Native** – A plant species brought into an area where it does not normally grow.
- Nonpoint Source Pollution** – Pollution which cannot be traced to a direct outlet or discharge point.
- NPK** – The acronym used for the three main plant nutrients. N is for Nitrogen, P is for Phosphorus and K is for Potassium.
- Nutrients** – Various types of materials that become dissolved in water to induce plant growth.
- Opposite** – A growth pattern in which two leaves or branches arise across from one another at the same place on the stem.
- Organic Fertilizers** – Natural materials, such as manure, compost, bone meal and blood meal that nourish plants slowly as the material decays.
- Organic Matter** – Matter derived from living organisms such as leaves, peat, grass clippings and compost.
- Palmate** – The shape of a leaf where the main leaf veins begin at the same place near the leaf stem. Like the palm of a hand with the fingers spread.
- Pathogen** – A disease causing organism such as a virus or bacteria.
- Percolation** – The downward movement of water in the soil.
- Perennial Plant** – A plant that lives for more than two years.
- Petiole** – The stem or stalk of a leaf.
- Phloem** – The very inner part of the bark of a tree or shrub that contains the “tubes” to transport food manufactured in the tree leaves down to the roots for storage, or to other parts of the tree.
- Phosphorus** – A key nutrient for plant growth. It improves the plant’s root growth, flowering and fruiting.



**Photosynthesis** – The process where green plants use sunlight, carbon dioxide and water to make food (carbohydrate) and oxygen.

**Physiology** – The study of the structures and functions of a living organism.

**Pistil** – The female organ of a plant containing the stigma, style and ovary.

**Pith** – The inside or center of a twig is the “pith”. It is often a different texture and color than the rest of the wood.

**Pinnate** - Pinnate is a term used to describe the feather-like arrangement of leaflets along the mid rib of a tree leaf and comes from the Latin word *pinna* for "feather". A black walnut leaf is an example.

**Pod** – A dry fruit or seed vessel that bursts open when mature.

**Potassium** – A key nutrient for plant growth. It is also referred to as potash.

**Propagation** – In horticulture usage, this refers to the many different ways of starting new plants.

**Prostrate** – Lying on the ground, creeping.

**Pruning** – The practice of removing unwanted branches or limbs from a shrub or tree.

**Respiration** – In plants, the process where cells use food from the photosynthesis process to release stored energy.

**Rhizomes** – Thick, horizontal stems that grow below the soil surface that allow plants to spread throughout an area.

**Riparian** – The area next to a stream, river or lake.

**Root** – The part of the plant that grows into the soil that absorbs water and nutrients into the plant. The root anchors the plant into the soil.

**Root Ball** – The intact soil and roots of balled and burlapped and container grown plants.

**Root hair** – Very fine roots that actually absorb the water and nutrients from the soil.

**Scales** – The needles of an evergreen that are flattened and overlapping, looking something like the scales on a fish.

**Scarification** – The nicking, sanding, filing, or otherwise breaking through the hard protective coating of a tree seed to increase water intake and to promote quicker germination.

**Seedling** – A young shrub or tree usually less than three years old growing in a natural state or from a seed planted in a nursery.

**Shade** – The condition that results from a tree or other structure preventing sunlight from reaching a certain place. **Light** shade usually refers to a few hours of morning or late afternoon sun. **Moderate** shade is filtered light as that coming through trees with light foliage, but little or no direct sun at anytime. **Heavy** shade is that under trees with thick foliage, and is suitable for only a few plant species.

**Shearing** – Wholesale cutting back of a plant, rather than selective pruning or deadheading. Often used to regenerate plants with many small stems.

**Shrub** – A low-growing woody plant with many stems rather than one trunk.

**Silhouette** – The outline of a tree as seen from a distance.

**Simple leaves** – Leaves with one blade attached to a petiole, or stalk.



**Soil** – The surface of the earth made up of minerals and organic materials that serve as the growing medium for plants.

**Soil drainage** – The action of removing excess water from the air pores in the soil so that oxygen is available to plant roots.

**Soil Test** – An analysis of the soil used to determine soil pH and the amount of available soil nutrients.

**Spread** – Spread is the space occupied by the crown of the tree. Knowing the approximate mature spread of a tree is very important when planting a young tree so that as it matures it will not encroach into buildings, utilities, etc.

**Stamen** – The male organ of a flower, bearing the anther which produces pollen.

**Stem** – The vertical growing part of a plant. The stem is often referred to as the trunk in the case of trees.

**Stomata** – A pore on a plant's stem or leaf that controls the exchange of gases with the outside.

**Stormwater** – Water from rain or melting snow.

**Stratification** – The storage of tree seeds in warm or cold conditions to break dormancy and aid in germination.

**Sucker** – A shoot which arises from an underground shoot or root of a plant.

**Tap Root** – A thick central root of the plant that branches little if at all.

**Terminal bud** – The bud at the apex or end of a twig or branch. It is usually larger than the lateral buds.

**Tillage** – The working of the soils upper layer to improve drainage, aeration and structure.

**Toothed/serrated margin** – A leaf margin that has a coarse, fine or blunt tooth-like appearance. Some trees have leaves that are doubly toothed and others single toothed.

**Topping** – The horrible practice of lopping off a tree at random locations on limbs and branches. Sometimes the excessive loss of food producing leaves results in the death of the tree.

**Topsoil** – The upper layer of soil where most plant growth occurs.

**Transpiration** – The process of water molecules being actively cycled through a plant and released into the air through the leaves.

**Tree** – A woody plant with one to a few main stems and many branches; usually more than 10 feet tall.

**Trunk** – The vertical growing part or stem of a tree.

**Trunk flare** – The swelled portion of the tree trunk just above ground level.

**Utility** – The general term applied to electrical, water and gas distribution companies.

**Utility Easement** – A utility easement grants the utility certain rights over or on properties owned by others. These rights may include the right to occupy, construct and maintain the facilities on the easement. Maintenance may include the pruning or the complete removal of any and all vegetation.

**Vascular cambium** – A band of reproducing cells between the xylem and phloem. The vascular cambium is the source of both the xylem (inwards, towards the pith) and the phloem (outwards), and is located between these tissues in the stem and root.

**Venation** – The pattern of leaf veins.

**Water Sprout** – A weak, spindly, fast-growing branch from the limb of a tree.



**Weed** – A plant growing where humans do not want it.

**Whorl** – Three or more branches originating at the same height or node on a tree – especially noticeable in conifers.

**Windbreak** – One or more rows of trees and shrubs, usually conifers, planted generally on the west and north sides of buildings or fields to provide protection from strong winds.

**Woody plant** – A plant that has woody type cells as its inner core, usually growing on one or more stems and is much stronger or stiffer and taller than a herbaceous plant.

**Wound** – The result of removing protective bark from a tree or shrub by any type of intentional or unintentional action such as pruning or breaking off a limb in a windstorm. Also includes the damage from mechanical equipment such as mowers and string trimmers knocking off the bark.

**Xylem** – The wood of a tree, made up of strong fibers, and tube-like structures for carrying stored food energy from the roots to the branches and leaves of a tree (also called sapwood).

**This glossary developed from:**

**Botanical and Tree Glossary published by Forestry Extension at Utah State University**

**Tree Glossary and Resources prepared by South Dakota State University**

**Web searches for individual words**

**Webster's College Dictionary published by Random House**

**Field Guide to Shrubs – Brandies University**

**Glossary of Tree Terms – Arbor Day Foundation**

**Glossary by Colorado State University Cooperative Extension Service**

**Webpage of the Northern Virginia Soil and Water Conservation District**

**Knowledge of the various Plant a Million staff members**

**Glossary prepared by Bill Cook, Extension Forester – Michigan State University**