

Hamilton County

4-H

Wildflower Project
Glossary

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Acidic: Measuring below 7.0 on the logarithmic pH scale that spans 0-14. Vinegar is acidic. Bog and woodland soils are typically acidic. The pH affects flower color. e.g., spring beauties are whiter in acidic soil.

Alkaline: Measuring above 7.0 on the logarithmic pH scale that spans 0-14. Soap is alkaline. Prairie soils are typically alkaline. The pH affects flower color. e.g., spring beauties are pinker in alkaline soil.

Alternate: Borne singly at each node, as leaves on a stem, not opposite each other.

Angiosperm: A plant producing flowers and bearing ovules (seeds) in an ovary (fruit).

Annual: A plant, which germinates from seed, flowers, sets seed, and dies in one year.

Anther: The pollen-bearing portion of the stamen.

Aquatic Plants: Growing in water.

Axil: The base of the angle between the leaf and the stem to which it is attached.

Barb: A stiff hooked bristle.

Basal: Positioned at or arising from the base, as leaves arising from the base of the stem.

Biennial: A plant requiring two years to complete its life cycle, usually forming a basal rosette of leaves the first year and flowers and fruits the second year.

Binomial system of Nomenclature: An accepted singular scientific name (common names used locally can vary). The scientific name is in Latin. The first term is capitalized and refers to the Genus the plant is grouped in and the second name is the species name referring to that singular species. The 4-H program recognizes Kay Yatskievych and her recent work *Field Guide to Indiana Wildflowers* as the authority on current accepted nomenclature for Indiana's Wildflowers.

Blade: The broad part of a leaf or petal.

Bog: A wetland in a depression where water has accumulated from direct precipitation and runoff (not groundwater), and is typically mineral poor and acidic. Sphagnum moss and other acid loving plants dominate the community.

Bract: A reduced leaf or leaf-like structure at the base of a flower or inflorescence, in conifers, one of the main structures arising from the cone axis.

Bristle: A short, stiff hair or hairlike structure.

Bulb: An underground bud with thickened fleshy scales, as in the onion.

Bulblet: A small bulb; a bulblike structure borne above ground, usually in a leaf axil.

Calyx: (plural: calyces, calyxes) Collective name for all the sepals of a flower. The most outer whorl of flower parts.

Capsule: A dry fruit that splits open at maturity into two or more sections.

Carpel: A modified leaf that forms a pistil. Carpel number of a compound pistil is determined by counting the number of styles and stigmas.

Chlorophyll: The green pigment (color) of plants associated with photosynthesis.

Clasping leaf: Wholly or partly surrounding the stem.

Cleft: Cut or split about halfway to the middle or base. Deeply lobed about halfway to mid-vein.

Cold frame: A box constructed to protect plants from freezing temperatures with a translucent cover to capture solar radiation.

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Community: The various plants repeatedly found growing together that reflect the surrounding conditions such as light, moisture, temperature, nutrients, soil, etc. For example: plants consistently found in dry northern forest edges would be different from species typically found in wet forest edges with southern exposures.

Composite: A plant belonging to the botanical Family Compositae now referred to as Asteraceae or the Aster Family. Loosely referring to the dense head of disc flowers in the center of the Aster-type flower and the surrounding ray flowers.

Compound: With two or more like parts in one organ.

Conifers: Cone-bearing gymnosperms.

Cordate: Heart-shaped, usually regarding the base of a leaf.

Corolla: Collective name for all the petals of a flower; the inner perianth whorl.

Corymb: A flat-topped or round-topped inflorescence, usually with alternate pedicels where the lower pedicels are longer than the upper in order to achieve equivalence (same height) at the inflorescence.

Creeping: Growing along the surface of the ground, or just beneath the surface, and producing roots, usually at the nodes.

Cross-pollination: The transfer of pollen from the anther of one plant to the stigma of another.

Cyme: A flat-topped or round-topped branched flower cluster in which the terminal flower blooms first.

Damping Off: A fungal disease causing the stem to close, and the plant then dies.

Disk: The central part of the flowering head in the family Asteraceae (Compositae).

Divided (leaf): Cut or lobed to the base or to the midrib.

Downy: Covered with soft, fine hairs.

Drupe: A fleshy fruit surrounding a usually single seed, as in a peach or cherry.

Egg-shaped: Broader at one end than the other, usually 1 1/2-2 times longer than wide.

Elliptical: or elliptic. In the shape of an ellipse, or narrow oval; broadest at the middle and narrower at the two equal ends.

Entire: Not toothed, notched, or divided, as the continuous margins of some leaves.

Epiphyte: A plant that grows upon another plant but does not draw food or water from it.

Family: A group of related plants further divided into Genera, which are finally divided into species.

Fen: A wetland where groundwater (usually mineral rich) flows to the surface and spreads through an organic substrate (typically sedge peat, as opposed to sphagnum peat in a bog) in a diffuse manner. Alkaline loving plants normally occur in fens (at least in Indiana).

Filament: A thread-like structure. The stalk of the stamen that supports the anther.

Flower: The reproductive portion of a seed-bearing plant, usually with showy or colorful parts.

Follicle: A dry fruit composed of a single carpel (carpel: modified leaf) and opening along a single side, as in a milkweed pod.

Last updated 2005. All definitions have been made with reference to the previous *4-H Wildflower Project glossary and Plant Identification Terminology: An Illustrated Glossary* by James G. Harris and Melinda Woolf Harris, Second Edition, ©2001, Spring Lake Publishing.

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Fungus: plural Fungi. Single or multicellular organisms that absorb nutrients from living or non-living organic sources, e.g., yeasts, molds, smuts, and mushrooms. Important decomposers. Unable to manufacture their own food, fungi release digestive enzymes into the surroundings to absorb nutrients.

Genus (plural: genera): The most closely related group of organisms, as species is the next and final classification in taxonomy. Genus is the first word in the two-worded Latin scientific name of an organism. It is always capitalized and put in *Italics* or underlined along with the species name. When writing always fully write the scientific name at first mention. For example, our state tree the Tulip tree, *Liriodendron tulipifera*, is always fully written at first mention and can be subsequently referred to as *L. tulipifera* within the same text. Some Genera have only one species.

Germinate: To sprout from seed or spore.

Glabrous: Smooth; hairless.

Globular: or Globose. Globe-shaped; spherical.

Glucose: A sugary food produced by photosynthesis.

Grasslands: An area of prairie or meadow grasses, relatively dry most of the year. A conspicuous absence of woody plants.

Gymnosperm: Non-flowering plant that produces seeds; pines, redwoods, cycads, firs, hemlocks, spruces, cedars, junipers, *Ginkgos*.

Habitat: The natural place where an organism lives.

Hairy: Covered with hairs, fuzzy. See antonym: glabrous.

Halberd-shaped: or Hastate. Arrowhead-shaped, but with the basal lobes turned outward rather than downward.

Head: A dense terminal cluster of flowers joined together. Sunflowers for instance; each seed in the head came from an individual flower.

Indigenous: Native to a particular area, there naturally, not introduced by man.

Indistinguishable: Used to describe flowers with no visible petals or petal-like parts, or so tiny as to make it impossible to determine the number or arrangement.

Inflorescence: The flowering part of a plant; a flower cluster; the arrangement of the flowers on the flowering axis. Flower.

Introduced: Not native to a particular region, exotic.

Involucre: A whorl of bracts under a flower or flower cluster.

Irregular: A flower in which all parts are not similar in size, shape, or arrangement. See: regular and zygomorphic.

Joint: The point on a stem where two parts are joined, node.

Lance-shaped (leaf): or Lanceolate. A leaf that is about 3 or more times longer than it is wide, and broader at one end, tapering at the other.

Leaf: An expanded extension of the stem. Usually the photosynthetic organ of a plant.

Leaflet: One segment of a compound leaf (a leaf that is further divided into separate small leaflets; as in a walnut or honey locust leaf).

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Legume: Belonging to the Leguminosae (Fabaceae) family, or a dry fruit from this family. As a pea pod.

Linear: Resembling a line; long and narrow with more or less parallel sides.

Lip: The upper or lower part of some irregular flowers. The exceptional petal of the Iris or Orchid.

Lobe: A rounded segment of a leaf or flower. Larger than a tooth.

Margin: The edge, as in the outer edge of a leaf.

Marsh: A wetland type dominated mostly by herbaceous vegetation (non-woody plants), such as cattail, sedge, grass, rush, etc.

Meiosis: A cell division that reduces the amount of genetic material in each resulting daughter cell to half that in the original cell.

Midrib: The central vein of a leaf or leaflet.

Mint: Any of various aromatic plants with a square stem.

Mitosis: A cell division that produces two daughter cells with an equal amount of genetic material as the original cell.

Natives: The plants naturally occurring in an area, indigenous, originated in that area, not introduced by man.

Naturalized: Plants introduced from elsewhere, but now established. e.g. Queen Anne's Lace.

Nectar: A sticky sugary fluid produced by plants to attract pollinators.

Neutral (flower): As in neuter, lacking functional stamens or pistils.

Node: The position on a stem where leaves or branches originate.

Oblong (leaf): Two to four times longer than broad with nearly parallel sides.

Opposite leaf arrangement: Borne across from each other at the same node, arranged in pairs on the stem.

Organ: A plant part with a specific function e.g. leaf.

Oval: Broadly elliptical, the width over one-half the length.

Ovary: The expanded basal end of the pistil that contains the ovules.

Ovate: Egg shaped in outline and attached at the broad end.

Ovules: An immature seed, unfertilized precursor to the seed.

Palmate (leaf): Leaflets radiating from a central point like the fingers of a hand.

Panicler: A branched inflorescence, usually broadest at the base and tapering upwards.

Parasite: An organism that obtains its food or water, at least partly, from a host organism. See epiphyte and saprophyte.

Pedical: The stalk of a single flower in an inflorescence..

Perennial: A plant that lives three or more years.

Perianth: The floral envelope, sepal and petals. The calyx and corolla, especially when they are similar in appearance.

Petal: An individual member or segment of the corolla, usually a color other than green.

Petiole: A leaf stalk.

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Photosynthesis: The process by which plants use sunlight to convert water and carbon dioxide into glucose, a food for plants.

Pinnate (leaf): Resembling a feather, as in a leaf that has leaflets arranged on opposite sides of a stalk.

Pistil: The female reproductive organ of a flower, typically consisting of a stigma, style, and ovary.

Pistillate: Bearing a pistil or pistils, but lacking stamens.

Pod: Any dry fruit, especially a legume or follicle. A seedcase.

Pollen: The yellow powder-like male sex cells on the stamens of flower.

Pollination: The transfer of pollen from the anther to the stigma.

Pollinators: An animal that moves pollen and can effect pollination, e.g., bats, bees, butterflies, hummingbirds, moths, beetles, thrips, flies, wasps, and slugs. Pollinators are keystone species, that is, species upon which the persistence of a large number of other species depend.

Propagate: To reproduce.

Prostrate: Lying flat on the ground.

Pubescent: Covered with soft, short hairs.

Raceme: A flower cluster in which single flowers grow individually on small stems arranged in intervals along a single larger stem. As in a lily-of-the-valley.

Ray: One of the stalks of the umbel or the petal of flower in the Aster Family. (Compositae).

Recurved: Curved backward or downward.

Reflexed: Bent backward or downward.

Regular: Radially symmetrical. All parts similar in size and arrangement on the receptacle. Any plane passing through any direction in the center will produce a mirror image on either side. Such as a sunflower and others in the Aster family.

Rhizome: A horizontal underground modified stem.

Rib: The main longitudinal vein in a leaf.

Root: The part of a plant, usually below ground, that holds the plant in position, draws water and nourishment from the soil, and stores food.

Rosette: A cluster of leaves radiating from the plant stem usually at ground level.

Runner: A slender stolon or stem running along the ground rooting at the nodes or at the tip.

Saprophyte: A plant living on dead organic matter, lacking chlorophyll.

Scarify: Sanding, nicking, or chipping a hard seed covering.

Sepal: A segment of the calyx. e.g., one of the green, leaf-like petals under the head of a rose.

Serrate: Saw-like; toothed along the margin.

Sessile: Attached directly, without a stalk. As in leaves lacking petioles.

Sheath: The portion of one plant organ that surrounds another. As the base of a grass leaf surrounding the stem.

Simple: Undivided, composed of a single part, no subdivisions. As in a leaf with no leaflets.

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- Smooth:** With an even surface. No roughness or protuberances (projections).
- Spadix:** A spike with small flowers crowded on a thickened axis. As in skunk cabbage, the central club like structure is the spadix and it is crowned with minute flowers.
- Spathe:** A large bract or pair of bracts under or enclosing a flower. As in Jack-in-the-Pulpit.
- Species:** The most distinct classification for an organism. The second name in the Latin scientific name. When writing the two term scientific name the species always follows genus and is never capitalized: *Genus species*.
- Spike:** A long flower cluster with sessile flowers. As in Culver's Root or lupine.
- Spore:** A reproductive cell that can grow into a new individual without fertilization. As in fern spore.
- Spur:** A tubular hollow projection on a flower. As in columbine.
- Stamen:** The male reproductive organ of a flower, consisting of the anther and filament.
- Staminate:** Bearing stamens but not pistils, as a male flower that does not produce fruit or seeds.
- Stem:** The part of the plant, usually above ground, bearing the nodes, leaves, and buds.
- Stigma:** The portion of the pistil that is receptive to pollen.
- Stipule:** One of a pair of leaf-like appendages found at the base of the petiole in some leaves.
- Stolon:** A horizontal stem creeping along the ground and rooting at nodes or the tip, giving rise to a new plant.
- Stratify:** Cold treatment given to seeds for a given period of time to facilitate germination.
- Style:** The stalk of the pistil connecting the stigma to the ovary. Usually narrowed.
- Swamp:** A wetland dominated by woody plants, namely trees and shrubs, for example, bald cypress, swamp cottonwood, pumpkin ash, buttonbush, and swamp rose.
- Tendrils:** A slender, twining organ, a modified leaf or branch, used to grasp support for climbing. As in wild grapes.
- Terminal:** At the tip.
- Tooth:** Any small lobe or point along a margin.
- Toothed (leaf):** Having small indentations along the margin, as a steak knife.
- Trailing:** Prostrate (running along the ground) and creeping but not rooting.
- Trifoliolate:** With three leaves or leaflets. e.g., Poison Ivy!
- Tuber:** The thickened portion of a rhizome (underground stem) bearing nodes and buds; modified for food storage. As in potato.
- Umbel:** A flower cluster with all the flower stalks radiating from the same point, like an umbrella.
- Vein:** A vascular bundle (a cluster of fibers and vessels) through which fluid flows. Visible in leaves. Forms the framework of a leaf.

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Wetlands: An area of land where water flows off so slowly that the soil remains wet for long periods of time. As a result, only plants that prefer (or tolerate) "wet feet" can grow in such conditions.

Whorled: Three or more parts arranged in a circle around a central point. A ring-like arrangement of similar parts.

Wing: A thin membranous flap extending along a stem, stalk or other part of a plant.

Xeric: Of dry areas.

Zygomorphic: Bilaterally symmetrical, so that a line drawn through the middle of the structure along only one plane will produce a mirror image on either side.