

Becky's Botanical Glossary

The definitions below are a companion for the March 2023 article *Botany 10*. These terms are commonly used when discussing the leaves of a plant. All definitions are from the [The National Gardening Association's Dictionary of Horticulture](#) unless otherwise noted.

Leaf Parts

- apex: usually the upper 25% of the lamina (Manual of Leaf Architecture)
- blade: the lamina, or broad part, of a leaf as distinguished from the petiole, or leafstalk
- leaflet: a little leaf, one of the divisions of a compound leaf
- node: the often swollen or modified part of a stem that normally bears a leaf or a whorl of leaves
- petiole: the stalk or support that attaches the blade of a leaf to the stem
- rachilla: a secondary axis of a multiply compound leaf (Wikipedia Glossary of Plant Morphology)
- rachis: main axis of a pinnately compound leaf (Wikipedia Glossary of Plant Morphology)
- stipule: one of a pair of often leaf-like lateral appendages found at the base of the petiole of many leaves
- wing: a dry membranous expansion or thin extension of any kind
- winged petiole: with reference to leaves, a thin, narrow band that borders the petiole (www.nttlphoto.com)

Leaf Type and Arrangement

- alternate: placed at uneven sequences upon the stem, as alternate leaves which are solitary at the junction with the stem
- basal leaves: leaves growing at the base or bottom of a plant
- broadleaf: large, flat leaves (<https://basicbiology.net/>)
- cauline: of or growing on a stem, especially the upper part of a stem (<https://www.collinsdictionary.com/>)
- clasping: wholly or partially surrounding the stem
- evergreen: a plant that retains its green growth through more than one growing season
- heterophyllous: having the foliage leaves of more than one form on the same plant or stem (<https://www.merriam-webster.com/>)
- marginal petiole: petiolar insertion at the margin of the leaf (Manual of Leaf Architecture)
- needle-like: the leaves of conifers are long and thin, and are often called needles (<https://www.msncucleus.org/>)
- opposite: situated on opposite sides of an axis, as leaves when there are 2 on 1 node
- peltate central: petiole attached within the boundaries of the leaf margin and near the center of the leaf (Manual of Leaf Architecture)
- peltate eccentric: petiole attached near the edge but inside the boundaries of the leaf margin (Manual of Leaf Architecture)
- petiolate: having a petiole or stalk
- sessile: attached directly without a stalk
- whorl: a circle of radiating leaves, flowers, or other organs around a common center, on the same plane
- wing: a dry membranous expansion or thin extension of any kind

Leaf Shapes

- acuminate: having a long, tapering point
- bipinnate: doubly pinnate, or doubly divided; applied to a pinnate leaf when its divisions are themselves again divided
- cordate: heart-shaped, with a sharp tip; having a form like that of a heart
- cuneate: triangular, stem attaches to point (Wikipedia Glossary of Plant Morphology)
- elliptic: oval with a short or no point (Wikipedia Glossary of Plant Morphology)
- hastate: shaped like an arrowhead, but with the basal lobes turned outward
- lanceolate: tapering from a rounded base toward the apex, or sometimes tapering in both directions
- lobe: usually a major projection, segment, or division halfway to the middle or less of a leaf

- lobed: having a lobe or lobes
- oblong: longer than broad, and mostly parallel-sided
- obovate: inversely ovate; having the broad end upward or toward the apex
- orbicular: nearly or completely circular
- palmate: having 3 or more lobes, leaflets, or nerves radiating from a common point
- perfoliate: having a stem that seems to pass through the blade
- pinnate: resembling a feather in structure, with the parts arranged on both sides of an axis
- simple leaves: consisting of a single lamina (Manual of Leaf Architecture)
- spatulate: spoon-shaped (Wikipedia Glossary of Plant Morphology); spatula-shaped; oblong or rounded with a long narrow base (Dictionary of Horticulture)
- trifoliate: divided into three leaflets (Wikipedia Glossary of Plant Morphology)
- tripinnate: threefold pinnate, as when the leaflets of a bipinnate (doubly divided) leaf are themselves pinnate

Leaf Base and Tip

- acute: ending in a sharp point
- cordate: heart-shaped
- concave: curving toward the center of the lamina or tooth (Manual of Leaf Architecture)
- convex: curving away from the center of the lamina or tooth (Manual of Leaf Architecture)
- lobed: with several points (Wikipedia Glossary of Plant Morphology)
- truncate: with a squared off end (Wikipedia Glossary of Plant Morphology)

Leaf Margin

- crenate: having the margin cut into even and rounded notches or scallops
- dentate: having acute teeth that project outward
- doubly crenate: when the scallops have smaller ones upon them
- entire: smooth
- lobed: having a lobe or lobes
- serrate: saw-toothed, with teeth along the margin pointing toward the apex
- sinuate: having a strongly wavy margin
- sinus: an indentation or hollow in a margin
- spinescent: terminating in a spine or sharp point; tending to be spiny or thorny
- teeth: marginal projections with sinuses indented less than $\frac{1}{4}$ of the distance to the midvein or long axis of the leaf (Manual of Leaf Architecture)
- toothed: having teeth (Manual of Leaf Architecture)
- undulate: having a wavy surface or edge

Venation: the arrangement of veins in the blade of a leaf

- longitudinal: veins aligned mostly along axis of leaf (www.flora.dempstercountry.org/Leaf.Glossary.html)
- midrib: the central vein of a leaf or leaf-like part
- midvein: the central vein of a leaflet
- palmate: having 3 or more nerves radiating from a common point
- parallel-veined: having veins quite or nearly parallel
- pinnate: secondary veins paired oppositely (www.flora.dempstercountry.org/Leaf.Glossary.html)
- reticulate: netlike, resembling netting (Dictionary of Horticulture); smaller veins forming a network (www.flora.dempstercountry.org/Leaf.Glossary.html)

Leaf Texture

- ciliate: marginally fringed with hairs
- coriaceous: resembling or having the texture of leather (<https://languages.oup.com/google-dictionary-en/>)
- glabrous: smooth; having a surface devoid of hair or down
- pubescent: fuzzy; covered with down or hairs
- scabrous: rough, with rough little dots or scales
- smooth: see "glabrous"

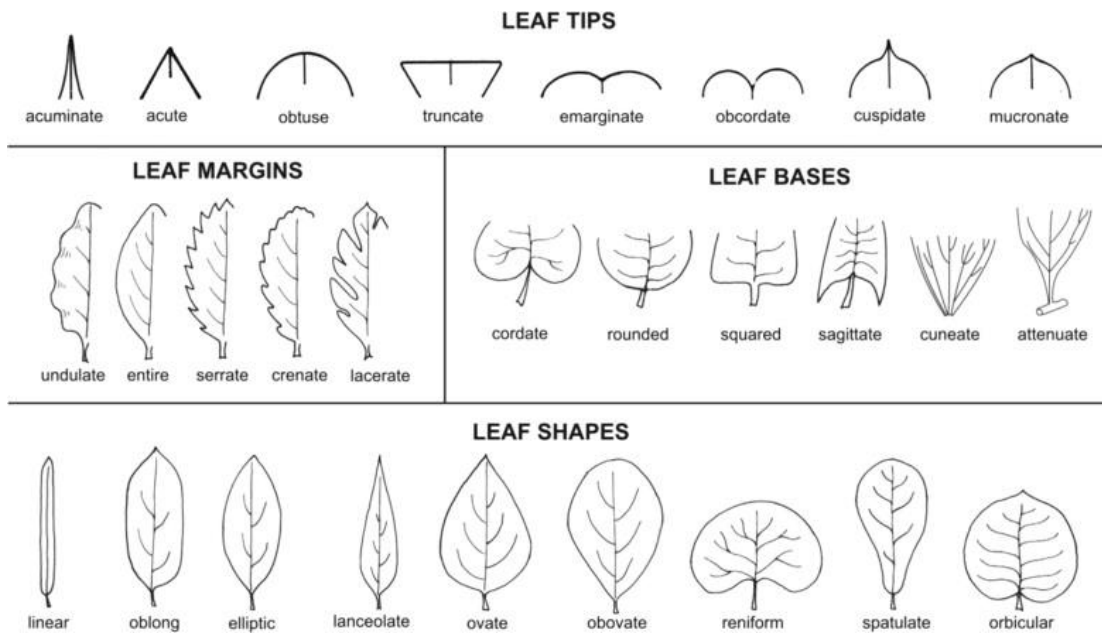
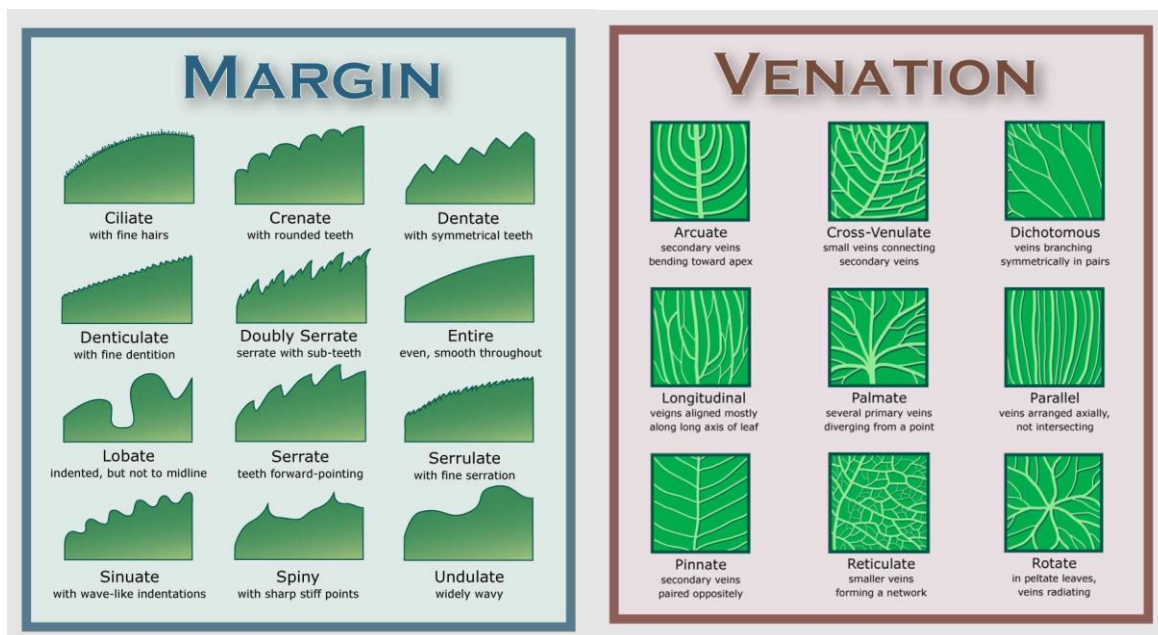


Chart above from <https://www.sciencedirect.com>

Charts below from <https://www.flora.dempstercountry.org/Leaf.Glossary.html>



SHAPE



Acicular
needle shaped



Falcate
hooked or sickle shaped



Orbicular
circular



Rhomboid
diamond-shaped



Acuminate
tapering to a long point



Flabellate
fan shaped



Ovate
egg-shaped, wide at base



Rosette
leaflets in tight circular rings



Alternate
leaflets arranged alternately



Hastate
triangular with basal lobes



Palmate
like a hand with fingers



Spatulate
spoon-shaped



Aristate
with a spine-like tip



Lanceolate
pointed at both ends



Pedate
palmate, divided lateral lobes



Spear-shaped
pointed, barbed base



Bipinnate
leaflets also pinnate



Linear
parallel margins, elongate



Peltate
stem attached centrally



Subulate
tapering point, awl-shaped



Cordate
heart-shaped, stem in cleft



Lobed
deeply indented margins



Perfoliate
stem seeming to pierce leaf



Trifoliate/Ternate
leaflets in threes



Cuneate
wedge shaped, acute base



Obcordate
heart-shaped, stem at point



Odd Pinnate
leaflets in rows, one at tip



Tripinnate
leaflets also bipinnate



Deltoid
triangular



Obovate
egg-shaped, narrow at base



Even Pinnate
leaflets in rows, two at tip



Truncate
squared-off apex



Digitate
with finger-like lobes



Obtuse
bluntly tipped



Pinnatisect
deep, opposite lobing



Unifoliate
having a single leaf



Elliptic
oval-shaped, small or no point



Opposite
leaflets in adjacent pairs



Reniform
kidney-shaped



Whorled
rings of three or more leaflets