

The Herb Society of America's Notable Native™ 2018 - Sage species

Salvia L.



Family: Lamiaceae

Latin Name: *Salvia* L. species

Common Name: Sage in many variations and chia

Growth: Herbaceous perennial to woody subshrubs and shrubs

Hardiness: Zones 3-10, by species

Light: Full sun to partial sun

Soil: Well-drained, sandy/rock filled to deep, rich loam

Water: Dry to moderate moisture

Use: Culinary, pollinator, ornamental/fragrance, medicinal, ceremonial

Propagation: Seed, division, cuttings, layering

Salvia lyrata, lyre-leaf sage, Zone 3b-9b; c. W.D. & Dolphia Bransford, Lady Bird Johnson Wildflower Center

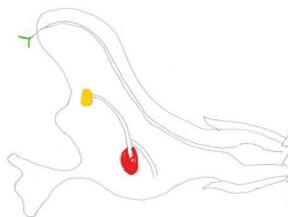
History

Described by Linnaeus in 1753, *Salvia* is one of the more widespread members of the Lamiaceae family with species found on most continents. The genus name, from Latin *salvo* or *salvus*, meaning safe, whole, or healthy and later from Middle English *sauge* or *sage*, recognizes the value for medicinal use of many species. Other uses include for cosmetic and perfumery purposes. *S. officinalis* is generally used for culinary purposes, with high content of essential oils including thujone, 1,8 cineole, bornelol, camphor, caryophyllene, and linalyl acetate.

Description

Of the ~900 species worldwide, there are 47 native to North America with an additional 15 nonnative species that have naturalized here. There are annual, biennial, and perennial herbs as well as some that are woody shrubs. There are wide variations in calyx morphology and venation, stamen form, and style shape. An identifying character of the genus is its pollination lever mechanism. Not all *Salvias* have this system, and they can vary from species to species. An example is *S. pratensis* (introduced, naturalized) in which two stamens are separated by an elongated connector that initiates the lever system.

Movement of a pollinator over the sterile lobe (red) trips the anther (yellow) onto its back, and returns to its position when the pollinator backs out releasing the anther. The stigma (green) dips toward the insects back, receiving the pollen grains.



Longitudinal section of flower with lever mechanism

The lever arm in the flower is specialized to fit the primary pollinators, including hummingbirds, in a particular habitat.

Culture & Habitat

The range of habitat types is almost as varied as the species, reaching elevations from low coastal areas to the tops of tall mountains. Hardiness zones stretch from 3 to 10. Soil types also vary from dry thin soil of prairies to humus-rich moist soils of forests and lots in between. An ornamental favorite, *S. greggii*, does well to -5°F. *S. azurea*, with beautiful azure flowers, is well-suited for zones 4-8.

It is important to pay attention to hardiness zone, but equally important is area of nativity, for a species that can take the cold can suffer greatly from too much or too little rainfall and humidity. In many cases, you can grow some species that are otherwise perennials only as an annual in your garden.



Salvia azurea, azure blue sage. Zone 7b—8a
©Katherine Schlosser.

If you live in a particularly dry area (no more than 20" rain annually), the evergreen species *S. dorrii* and *S. pachyphylla*, with silvery leaves and purple flowers, will do well.

One of the more drought resistant species is *S. lemmonii*, Lemmon's sage, named for "discoverers" Sara and John Lemmon who collected it on their honeymoon in 1881 in Arizona. It has since been recognized *Salvia microphylla*, the name it carried prior to the work of the Sara and John Lemmons. It is a great hummingbird plant with pink to red flowers, that blooms from spring to fall.

Salvia species can grow to be old and even become woody. Others are naturally short-lived, so don't despair over your gardening skills if a species doesn't survive long for you.

Uses

While the most commonly used *Salvia* for flavoring is *S. officinalis* (native to the Mediterranean area), there are a number of North American species that have also been used for flavoring foods and for beverages. Among those are *S. apiana*, *S. carduacea*, *S. columbariae*, *S. mellifera*.

S. hispanica (chia), native to southern Mexico and Guatemala (and now introduced in NY, TX and FL) is a common ingredient in *agua fresca* and is found as a nutritional ingredient in breads, power bars, bottled drinks, and more. *S. columbariae* was used with "chia pets" before *S. hispanica*.

The most common uses of *Salvia* species in North America have been for its medicinal properties, for use as an analgesic to its use for venereal disease, and are far too numerous to list here.

Cosmetic uses include shampoo, soap, and dye (*S. apiana*).

Commercial uses of *Salvia* species include their value for erosion control, as an oil plant, insecticide/repellent properties, soap, and perfume.

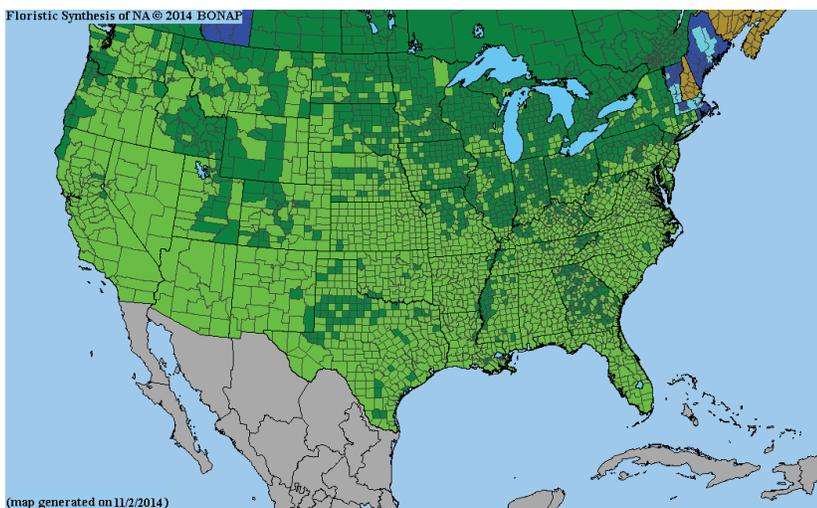
Propagation

SEED

Generally easy to germinate but slow growing, some species taking 2-3 years to reach maturity.

Outdoors—sow seed after the last frost, covering very lightly with soil.

Indoors—4-6 weeks before planting out, put seed in pots with moist (not wet), sterile seed



Salvia distribution map. Dark green = present, light green = present & not rare. Kartesz, J.T., The Biota of North America Program (BONAP). 2015. *Taxonomic Data Center*. (<http://www.bonap.net/tdc>). Chapel Hill, N.C. [maps generated from Kartesz, J.T. 2015. Floristic Synthesis of North America, Version 1.0. Biota of North America Program (BONAP).

-starting mix; keep warm and mist when dry. When two sets of true leaves emerge, gradually increase exposure to direct sunlight. When transplanting size, harden off by gradually exposing to sunlight outdoors. outdoors.

CUTTINGS

Take 3-4 inch cuttings in late summer or early Fall when growth is still soft or just beginning to harden. Remove leaves from lower half of stem. Pot in gritty soil that drains quickly. Water in and cover with plastic to make a small "greenhouse." Keep at room temperature and out of direct sunlight until rooted. Remove cover regularly to avoid excess moisture build-up.

DIVISION

Salvia can be divided in fall just as you do for other plants. It is often successful, but cuttings are easier. Some sub-shrub species, as *S. apiana*, *S. dorrii*, and *S. ballotiflora* (growing to 5' tall), may be particularly difficult to divide. Layering may be an option for these.

Plant and Seed Sources

Plant Information Online is a source to links to North American seed and nursery firms. It is a free service of the University of Minnesota Libraries.

<http://plantinfo.umn.edu>

American Beauties
www.abnativeplants.com

American Meadows
www.americanmeadows.com

Flowers By The Sea
www.fbts.com

Plant Delights Nursery, Inc.
www.plantdelights.com

Prairie Moon Nursery
www.prairiemoon.com

Richters Herbs
www.richters.com

References

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Crosswhite, Frank S. "J.G. Lemmon & Wife," Plant Explorers in Arizona, California, and Nevada, Desert Plants, Vol. 1, No. 1, Aug. 1979, p. 12.

Kintzios, Spiridon E. *SAGE: The Genus Salvia*, Agricultural Univ. of Athens, Greece. Harwood Academic Publishers, 2000.

Moerman, Daniel E. *Native American Ethnobotany*, Portland/London: Timber Press, 1998.

Walker, Jay B., Systma, Kenneth J., Staminal Evolution in the Genus *Salvia* (Lamiaceae): Molecular Phylogenetic Evidence for Multiple Origins of the Staminal Lever, *Annals of Botany*, 100:375-391, 2007. Available online at www.aob.oxfordjournals.org

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