



## Department of Horticulture

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# Growing Herbs

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Herbs are plants used whole or in part for flavor, but many of these same herbs are also used for fragrance, health, ornament, and many other uses.

Records show that herb use can be traced back to the ancient Egyptians and Chinese. References in the Bible and documents from medieval monasteries show that herbs were used by most households, including those of wealthy lords and monks.

Over the years, use of herbs declined, and until recently they were relegated to a small patch growing by the back door. Today, herbs are again recognized as useful plants that make flavorful additions to culinary dishes and attractive features in gardens.

## Culture

Most herbs prefer well-drained soil and a sunny location. While only a few herbs prefer full shade, many will grow well with afternoon shade. Add organic matter if your soil is heavy or compacted. Herbs usually suffer from few pest or fungal problems and require only minimal watering when established (perennials are established by the second growing season). Fertilizer is also unnecessary for most herbs unless frequent, heavy harvests are desired.

Herbs can be grown in a designated bed, as part of a vegetable plot, or in a perennial flower border. The final location of the herbs may also be related to their ultimate use: a kitchen garden may be near the back door, a moonlight garden near a porch or screen room, or scented herbs near a pathway.

As with other garden plants, herbs can be classified as annual, biennial, or perennial.

**Annual:** Annual herbs produce foliage, flowers, and seed in one growing season and then die. For some plants, the

seeds will fall to the ground and survive the winter, sprouting new plants the next growing season. For others, seed must be collected and stored over the winter or purchased fresh every year. Examples of annual herbs include basil and cilantro. *Note: Using saved seeds from hybrid annuals (and biennials) will likely result in plants that do not retain the hybrid characteristics.*

**Biennial:** A few herbs are biennial. Biennials form leaves in the first growing season and flowers and seed in the second season, then die.

**Perennial:** Most culinary herbs are perennials. Perennials live more than two growing seasons. Perennials grown from seed may grow slowly the first year but gain vigor and maturity in the second year. The herbaceous perennial will die back over the winter and return in the spring. Woody perennials such as lavender have stems that survive and continue to grow from year to year.

## Herbs in Containers

Herbs will do well in pots, if adequate drainage is provided. Use a good-quality potting mix, and if the mix does not already include fertilizer, add slow release pellets to the potting mix or use a water-soluble product after planting. Container herbs will require more moisture than garden-grown herbs, and many will benefit from afternoon shade. Groups of pots, each planted individually with a different herb, or a larger pot planted with several herbs, work well. Group the pots as accents in the garden, or on a porch or deck. Keeping tender plants in pots also reduces shock when the plant needs to be brought indoors for winter. For convenience, group herbs with similar soil and moisture requirements together. Other grouping ideas may include combining different textures or complementary colors, or planting with a theme such as a salsa garden.

## Selected Herbs for Indiana Gardens

**Basil** (*Ocimum sp.*). Basil is an annual that needs warm soil to grow and summer temperatures to thrive. Although easy to germinate from seed, basil needs good light (more than 10 hours/day) to perform well. When established, the plants will thrive in low moisture and at high temperatures. Do not rush basil plants into the ground—it is safest to wait until a few weeks after the last average frost. Pinch the growing tips of basil frequently to ensure a bushy plant. Mulch to conserve soil moisture and temperature after the soil has thoroughly warmed. Basil also makes a good container plant.

Basil cultivars come in different colors (e.g. green and purple), different growth habits (e.g. compact, globe, and lettuce-leaf), and different flavors (e.g. camphor, lemon, and cinnamon). New cultivars of basil are often hybrids (particularly purple basil).

Fresh basil should be stored in a cool, but not cold, place as the foliage turns brown below 40°F. Basil is best preserved in vinegar or other liquids, as it neither freezes nor dries well. Purple basil will turn white wine vinegar burgundy in color. Use the vinegar to replace fresh basil in salsa and pesto. Drying basil between layers of coarse salt will give a flavored salt (discard the basil once it's dry and brown).

**Borage** (*Borago officinalis*). Borage is an annual that germinates readily from seed and often “volunteers” as self-sown plants. However, for a guaranteed supply, purchase new seeds or gather seed in the fall and sow in the spring. Although borage is not a tidy plant, it goes well in an informal perennial cottage garden or herb border. The attractive flowers are sky blue, five-petaled stars with black centers. Before opening, the flowers hang like bells and have a pink tinge. Occasionally the entire flower is pink.

**Chamomile** (*Chamaemelum nobile* and *Matricaria recutita*). Used most often for teas, both of these plants bear flowers resembling white daisies. The annual German chamomile (*M. recutita*), grows to about 18 inches in height and will self sow. The perennial Roman chamomile (*C. nobile*) is a groundcover that produces flowers atop 6-inch stalks. Both plants have foliage that is slightly apple-scented. A non-flowering chamomile, sometimes called English chamomile (*C. nobile* ‘Treneague’) can be used as a grass substitute in light traffic areas.

**Cilantro/Coriander** (*Coriandrum sativum*). Wait until after the last frost date to sow seed directly in a warm, semi-shady spot. Cut leaves when they are 4-6 inches in length, and they will produce a second cutting. The plant generally goes to seed after this second cutting. The interval between the first and second cutting is around

14-21 days, so planting a small handful of seed every two to three weeks will yield a steady supply. To recognize the bitter flower stalk, look for small, feathery leaves and a thicker stem. If you let cilantro flower, it will produce clusters of white blossoms, then form seeds that are first green and mature to a brown color. The seed is known as the spice coriander and is harvested when the seed and leaves turn brown. Some of these seeds may self sow, or they can be saved for the following season.

**Chives** (*Allium schoenoprasum*). Chives are hardy perennials that will grow in most garden soils in full sun. They primarily spread by rhizomes, so dividing the plant every few years will be beneficial. Early spring growth may be coarser in mature plants (2+ years) and produces attractive pink or lavender-colored flowers that also are edible. After the flowers have faded, cut the whole plant to within 2 inches of the ground, and tender new growth will appear within 10-21 days. When harvesting chives, encourage new growth by cutting close to the base, a few stems at a time.

Other types of chives include the late-summer, white-flowering garlic chives (*A. tuberosum*), which self-sows readily, and a curly, non-edible ornamental (*A. senescens* var. *glaucum*).

**Dill** (*Anethum graveolens*). Dill is an annual herb that grows readily from seed sown directly into the garden. Dill will freely self sow each year if left to set seed. The feathery, blue-green leaves, which are sometimes called dill feathers or dill weed, as well as the flowers and seed are all used in cooking and preserving. The stems may grow to 3 feet on larger varieties and may need staking unless you grow them in a sheltered spot away from heavy winds. Common cultivars of dill include ‘Dukat,’ which is a darker green than most, ‘Bouquet,’ and ‘Fernleaf’ which yields smaller plants.

**Lavender** (*Lavandula sp.*). Lavender will only grow in well-drained soil, so heavy or compacted soils should be amply amended with compost prior to planting. Lavender prefers a higher soil pH than most herbs, thus a little lime sprinkled around the base in the spring may be helpful. Do a soil test before amending with lime to assess the pH of your soil. Damp conditions created by bare soil and hardwood mulches can encourage fungal disease. A light-colored mulch of marble chips or gravel is helpful in keeping the plant away from damp soil surfaces.

In the spring, delay cutting lavender back until new growth is well underway. Spring growth is frequently delayed and live branches may be mistaken for dead when they are still dormant. When active growth is established, trim only in those areas where active growth occurs. Lavender rarely re-grows from older woody stems. Most lavenders grow 12-18 inches.

Of the many types of lavender, *L. angustifolia* is the only group that reliably survives Indiana winters. 'Lavender Lady' will bloom the first year from seed and grows well in northern climates. 'Hidcote' and 'Munstead' are also popular cultivars that will perform well. *L. x intermedia* ('Provence' and 'Grosso') may survive all but the coldest winters. *L. dentata* (French fringed lavender) and *L. stoechas* (Spanish lavender) will not survive harsh winters and so should be treated as annuals or overwintered inside.

**Lemon Balm** (*Melissa officinalis*). Lemon balm is a highly scented, vigorous herb that can become invasive if let go to seed. The plant is one of the earliest perennials to break dormancy in the spring, and grows up to 4 feet by mid-season. The bright green leaves should be harvested regularly and before the white flowers are borne. The flowers attract bees and butterflies, but should be removed prior to seed formation. Trimming the plant down to about 2 feet high after flowering will encourage more lush green foliage to grow.

Lemon balm usually has solid green leaves, but can also be found in golden (with a lighter, yellow-tinged leaf) and variegated forms. There is also a lime-flavored balm.

**Marjoram** (*Origanum majorana*). Also called knotted marjoram or sweet marjoram, this plant has a white flower and upright habit. It is in the same genus as oregano, but grows more slowly than the Greek oregano species and is not generally hardy in Indiana. The name knotted marjoram comes from the leaves, which unfurl from a 'knot' form. Pot marjoram (*O. onites*) is not hardy.

**Mint** (*Mentha spp.*). Of the many available species of mint, peppermint and spearmint are the most common. Pineapple mint, apple mint, chocolate mint, variegated mint, blue mints, silver mints, and many more also can be found. Most are potentially invasive perennials that should be kept in a pot, preferably away from the garden. They will spread rapidly by runners that can break to the surface many feet from the mother plant. Some also will set seed, but the seedlings are rarely good specimens. Although the pale lavender flowers are attractive, they should be removed prior to seed formation. Plants should be heavily trimmed mid-season to retain vigor and fresh leaves. Grow mints in an easterly location if possible, as they wilt and burn in hot afternoon sun. Mints, particularly spearmint, require a higher moisture level than most herbs.

**Oregano** (*Origanum spp.*). Common oregano (*O. vulgare*) and Greek oregano (*O. heracleoticum*) are both easy to grow from seed and grow sufficiently well to provide a modest harvest the first year. Common oregano has a low growing habit and white or pink flowers, while the white-flowering Greek oregano has a more upright habit (18-24 inches).

**Parsley** (*Petroselinum crispum*). Parsley is a marginally hardy biennial, so it should be sown from fresh seed each year. The seed has a tough outer shell that takes up to three weeks to soften, a process that can be hastened by soaking in warm water overnight. Once germinated, transfer the seedlings to a permanent position while still small, as parsley will develop a tap root as it matures. Rarely, parsley may survive and stay green during the first winter and send up a flower stalk in mid-spring of the second year. However, seeds from this flower stalk are unlikely to result in quality specimens. There are two types of parsley widely available: curly (*P. crispum*) and Italian (*P. crispum* var. 'Neopolitanum').

**Rosemary** (*Rosmarinus officinalis*). Rosemary is not hardy in this area and thus needs to be treated as an annual or overwintered indoors. Outdoors in the summer months, rosemary suffers from few problems, but indoors it may develop such problems as fungal disease and aphids. To help overwinter the plant indoors, give rosemary good drainage, air flow, and a sunny but cool location.

Cultivars of rosemary that are hardiest include 'Arp,' 'Salem,' and 'Hill Hardy,' and these may overwinter in a sheltered spot in mild winters. Other common forms include 'Gorizia' (coarser-leaved variety), 'Tuscan Blue,' 'Prostratus' (low-growing, creeping plant), and var. *Albus* (white flowers).

**Sage** (*Salvia officinalis*). Garden sage will grow easily from seed, and although harvest will be small the first year, this strong-flavored herb will produce sufficiently for modest kitchen use. After the second year, sage needs to be trimmed back in the spring to avoid the center of the plant becoming too woody. If left to flower, it will produce blue blooms that attract butterflies. Plan on replacing sage plants every three to five years.

Some types of sage are tender and should be treated as annuals. Among the tender sages, Pineapple sage (*S. elegans*) is very popular as it produces scarlet flowers late in the summer and has a fruit-tasting leaf. Hummingbirds and butterflies enjoy this plant, too.

Purple-leaf sage (*S. officinalis* 'Purpurascens'), golden sage (*S. officinalis* 'Aurea'), and tri-color sage (*S. officinalis* 'Tricolor') are marginally hardy throughout Indiana and may not survive in severe winters.

**French Tarragon** (*Artemisia dracuncululus* var. *sativa*). A perennial that requires at least 30 (preferably 60) days of dormancy in cold weather, French Tarragon may be weakened in warmer southern Indiana winters. Gardeners with heavy or compacted soil may have trouble keeping plants from year to year. As French tarragon does not set viable seed, the plants are propagated by root division or stem cuttings and should be purchased

from a reputable nursery. Seeds for Russian tarragon (*A. dracunculoides*) are available, but the plant is not considered sufficiently flavorful for culinary use and has few, if any, attractive features in the garden. French tarragon can be recognized by its glossy green leaves in the spring, which turn brown in mid-season. Cutting back the tarragon in mid-season will help restore the attractive green foliage.

Tarragon is most commonly preserved by infusing into vinegar and is used in many traditional European recipes.

**Thyme** (*Thymus spp.*). There are over 300 species of thyme! The most common can be divided into two groups: culinary and ornamental. Common, English, and French thyme (all *Thymus vulgaris*), which may also be mistakenly labelled Mother of Thyme, have small green leaves and an upright habit. Lemon thyme (*T. citriodorus*) also has an upright form, as well as creeping and variegated versions (*T. citriodorus* vars.). Silver thyme (*T. x argenteus*) is primarily an upright ornamental with pretty pink flowers. Thymes can also make a great lawn substitute or slope retainer. The low-growing thymes include Woolly thyme (*T. praeox*), Miniature thyme (*T. praeox minimus*), Mother of Thyme (*T. pulegioides*), and caraway thyme (*T. herba-barona*). Flowers on the thymes vary from deep rosy pink and red to lavender and white. *T. serpyllum* var. *coccineus* has a particularly pretty red bloom. Garden thyme (*T. vulgaris*) can be grown from purchased seed, but many of the cultivars can only be propagated by cuttings, division, or layering. Provide thyme with a sunny location and good drainage, and the plant will survive for many years without pest or disease problems.

## Preserving Herbs

Herbs can be preserved in three ways: freezing, drying, or in a medium such as vinegar or salt. (*Note: To prevent contamination and botulism do not preserve herbs in oil.*)

### To preserve a main harvest

- **Timing:** Both wind and heat disperse essential oils quickly, and fewer oils are produced on excessively wet days. So choose a calm, dry morning, and pick just after the dew has dried from the leaf. Most herbs will have maximum oil content just before the flower opens, so this is a good time to harvest.

- **Amount:** For a mid-season harvest do not take more than one third of the plant foliage at one time. The plant needs sufficient foliage to re-grow vigorously.
- **Inspect:** Check the foliage for insects and damaged leaves.
- **Rinse:** If necessary, rinse the foliage in tepid water, and pat dry with paper towels.

## Drying Herbs

- Bundle 6-12 stems (depending on thickness).
- Remove any foliage near the base of the stems.
- □ Secure with an elastic band (this is preferable to string as the elastic contracts with the stem as it dries).
- Hang the bundle away from sunlight in a cool location.
- **Note:** For individual leaves, place them on a screen or rack and turn frequently.
- Dehydrators can also be used to dry herbs. Follow the directions on your appliance and check frequently.
- Using a cool oven with the door open (which wastes energy) or a microwave (which can quickly over-dry herbs) are the least satisfactory ways to dry herbs.

## Freezing Herbs

Chives, tarragon and many other herbs also freeze well. For chives, snip the stems into 1/4-inch pieces, place on a baking sheet lined with waxed paper, and place in the freezer. Put the chives into a bag when frozen, and use by the spoonful as needed. Other herbs can be frozen in a similar way, after stripping the leaves from the plant stem. Young stems with leaves can be frozen together.

## Preserving Herbs in a Medium (Liquid or Salt)

Preserving herbs in a liquid is another versatile way to package your herbs for winter use. Chopped mint, tarragon, or basil covered with vinegar will be preserved for many months and ready to use. Additionally, you may can or freeze herbs in a tomato or stock base.

Another alternative for preserving herbs is to make a flavored salt. Alternate shallow layers of fresh herbs in between layers of coarse salt. When thoroughly dry, store the flavored salt in an airtight container. Discard the brown, desiccated herb.

*\* Advanced Master Gardener*

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For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.

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