



William T. Kemper Center for Home Gardening

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Herbs

Herbs have been cultivated since the beginning of civilization. Some of the oldest writings include clay tablets from Samaria, 2,200 BC, listing more than 1,000 medicinal herbs and a Chinese herbal dating to 5,000 BC, which describes many herbs that are still in use today.

During the Dark Ages, inquisitors would have banished herbs if it were not for the work of monks. Manuscripts of early herbal lore were preserved and written by hand in medieval monasteries. There, herbs were valued for their religious and medicinal significance. With the invention of the printing press and the increased trade between cultures, many of the preserved collections of herbal lore became widely available.

One of the most popular herbals ever produced, *The English Physician*, was written by Nicholas Culpeper in 1652. Drawing on his experience as an astrologer-physician, *Culpeper's Herbal* as the book is more generally known, combines traditional medicine with folklore, astrology and magic. The colonists in North America consulted *Culpeper's Herbal* as a medical reference, as well as an astrological planting guide.

Herbs served a variety of functions in the pioneer home, including curing illness and disease, dyeing fabric and repelling insects. Herbs were also a major source of seasoning for food and were often used to cover the bad taste of meat in the days before refrigeration.

Today, herbs are enjoying resurgence in popularity as a growing number of consumers are turning to herbs and herbal products for increased health and vitality. Herbs are valued for their aesthetic beauty in the home as well, lending their color, scent and texture to home craft products.

Herbs in the Landscape

Herbs are plants that are prized for their culinary, cosmetic or medicinal value. In the garden, herbs may be planted in a formal design such as an intricate knot garden, wagon wheel or ladder garden; or, they may be planted free-form for a more informal look. Herbs may also function in the landscape as ground covers, borders and as hedges. For the gardener with limited space, herbs are excellent plants for containers. They are especially attractive when spilling out of window boxes, strawberry jars, suspended in hanging baskets or as topiaries.

Herbs are a good choice for the environmentally-minded gardener as they generally require little water and fertilizer. They are relatively free of pest and disease problems and often act as natural insect repellents in the vegetable garden. When integrated into the lawn, herbs lessen the dependency on herbicides and fertilizers. They are beneficial in the flower garden as well, attracting pollinators such as butterflies, bees and hummingbirds.

General Culture

Herbs are among the easiest plants to grow and thrive with minimal care. All that most herbs require for healthy growth is a sunny location and well-drained soil. With the exception of a few herbs, such as the mints which will tolerate moderate shade, most herbs require a minimum of six to eight hours of full sunlight each day.

A soil pH between 6.5 and 7.0 will produce the best herbs. To improve the drainage of the average garden soil, incorporate several bushels of organic matter such as compost or peat moss to each 100 square feet of garden area. Poorly drained sites may also be improved with underground drainage tiles or a raised bed.

In general, herbs require much less fertilizer than heavier feeding vegetables. Overfertilizing will promote excessive leaf growth and diminish the manufacture of the essential oils that give herbs their distinct aroma and flavor. There are three herbs that require a bit of extra fertilization to maximize their output. Basil, parsley and dill will benefit from supplemental side dressings with a liquid fertilizer such as fish emulsion or a balanced general purpose, water-soluble fertilizer (such as 12-12-12), approximately every two to three weeks.

Propagating Herbs

There are five basic techniques for propagating herbs at home: cluster sowing, spot sowing, direct sowing, stem cuttings and root division.

Cluster Sowing (Indoors) - Cluster sowing indoors permits herbs to grow in a fairly thick stand. Cluster sow by evenly spreading 15-25 seeds across the surface of a four-inch clay pot filled with moistened potting mix. Cover the seeds with a fine layer of sand and place the pot in natural light but out of full direct sunlight. In the home, pots may be placed on the top of the refrigerator to provide bottom heat, hastening germination. Cover with a plastic bag to retain moisture or mist daily until germination. The following herbs are best propagated by cluster sowing indoors:

Catnip, *Nepeta cataria*
Chives, *Allium schoenoprasum*
Marjoram, *Origanum majorana*
Roman Camomile, *Anthemis nobilis*
Thyme, *Thymus vulgare*

Spot Sowing (Indoors) - The spot sowing technique is identical to cluster sowing except that only three to five seeds are sown per pot. When seedlings are between one and two inches tall, remove all but the hardiest and nurture the remaining seedlings to maturity. Spot sow the following herbs:

Basil, *Ocimum basilicum*
Borage, *Borago officinalis*
Burnet, *Sanguisorba minor*
Caraway, *Carum carvi*
Chervil, *Anthriscus cerefolium*
Coriander, *Coriander sativum*
Cumin, *Cuminum cyminum*
Horehound, *Marrubium vulgare*
Hyssop, *Hyssopus officinalis*
Lavender, *Lavendula* sp.
Lemon Balm, *Melissa officinalis*

Lovage, *Levisticum officinale*
Mullein, *Verbascum thapsus*
Poppy, *Papaver rhoeas*
Rue, *Ruta graveolens*
Yarrow, *Achillea filipendulina*

Direct Sowing (Outdoors) - A few herbs do not transplant well and should be sown directly into the garden. Be certain to wait after all the danger of frost has passed. Propagate these herbs by cluster sowing outdoors:

Anise, *Pimpinella anisum*
Dill, *Anethum graveolens*
Fennel, *Foeniculum vulgare*
Nasturtium, *Tropaeolum majus*
Parsley, *Petroselinum crispum*
Pennyroyal, *Mentha puleguim*
Mustard, *Brassica juncea*

Stem Cuttings - To make stem tip cuttings, use a razor blade to take a three-to four-inch tip cutting just below a growing node on the parent plant. Strip the leaves on the bottom of the cutting leaving a 3/4" - 1" bare stem. Insert the stem into a small clay or plastic pot filled with one part sand and one part perlite. Water the rooting medium thoroughly and do not allow it to dry out. Mist daily until roots form. If desired, a rooting hormone may be applied to the stripped end of the stem cutting to stimulate new root formation. Take stem cuttings from the following herbs:

Artemisia, *Artemisia* sp.
Bay, *Laurus nobilis*
Santolina, *Santolina* sp.
Sage, *Salvia officinalis*
Woodruff, *Galium odoratum*
Lavender, *Lavendula* sp.
Lemon Verbena, *Aloysia triphylla*
Scented Geraniums, *Pelargonium* sp.
Rosemary, *Rosmarinus officinalis*

Root Division - The best time to take root divisions of your perennial herbs is approximately four to six weeks before the spring frost date. To obtain a root division, dig up the parent plant and cut or pull apart into pieces. Transplant your new root division and water in thoroughly. Perennial herbs that are propagated by division include:

Artemisia, *Artemisia* sp.
Bee Balm, *Monarda* sp.
Catmint, *Nepeta mussinii*
Catnip, *Nepeta cataria*
Comfrey, *Symphytum officinale*
Garlic Chives, *Allium tuberosum*
Sweet Woodruff, *Galium odoratum*
Lemon Balm, *Melissa officinalis*
Lamb's Ear, *Stachys lanata*
Mint, *Mentha* sp.
Oregano, *Origanum vulgare*
Tansy, *Tanacetum vulgare*

Tarragon, *Artemisia dracunculus*
Yarrow, *Achillea filipendulina*

Harvesting Herbs

The leaves of fresh culinary herbs may be harvested at any time during the growing season. For optimal flavor, pick the most tender, young growing tips first. Frequent harvesting of the growing tips will also benefit your herb plant, stimulating bushy growth. Be certain not to harvest too many leaves at once as it may hinder the growth of your plant.

The best time for harvesting herbs that you intend to preserve is when they contain the optimum amount of essential oils. For most herbs, this occurs when the flower buds are just beginning to open. (Mints are an exception, having the most oil in the leaves when the spikes are in full bloom.) Cut herbs on a dry, sunny morning soon after the dew has evaporated from the leaves. When harvesting a large quantity of herbs, use an open-weave basket or a container that allows for good air flow.

Most of the annual herbs may be harvested by cutting stems four to six inches from the ground level at least twice during the growing season. Established perennials can be harvested a couple of times during the growing season as well. To harvest perennial herbs, cut plants back to approximately one-half of their height. Discontinue harvesting perennial herbs approximately one month before the end of the growing season as this may weaken them as they get ready to go into winter.

Herbs grown for their seeds, such as dill, caraway and coriander, should be harvested when the seeds turn light brown or gray. To harvest, cut the heads of plants containing the seeds leaving a short stem. To dry seeds, place the seed heads upside down in a paper bag with the stems up. After two weeks, the seeds will dry and drop off, collecting in the bottom of the bag.

Preserving and Storing

If the right conditions can be provided, air-drying is the easiest way to preserve herbs. A dark, well-ventilated room with temperatures that range between 70 and 90 degrees F is an ideal location in which to dry herbs. To air-dry, tie herbs in small bunches with string or rubber bands and hang upside down. In approximately two weeks, when the bunches are crispy dry, remove the leaves from the stems. Place herbs in an air-tight glass container and store in a dark, cool area.

Drying screens or window screening covered with cheesecloth may also be used to air-dry herbs. To dry herbs with large leaves, strip the foliage from the stems and spread the leaves in a thin layer on the drying screen. When drying herbs with smaller leaves, such as thyme, dry whole sprigs. Check herbs in approximately 7 to 10 days and store herbs as noted above.

Oven drying is the quickest method for preserving herbs. Oven drying allows the herbs to dry quickly and retain their aromatic oils. Spread the herbs on a cookie sheet and dry them in the oven at approximately 100 degrees F. Stir herbs once every half hour. Herbs should be completely dry in three to six hours. Allow herbs to cool before placing them in airtight containers for storage.

Some herbs are better preserved by freezing. A few herbs, such as basil, contain enzymes that quickly blacken cut surfaces. These herbs should be blanched in boiling water for a few seconds to destroy the enzyme. After submerging in boiling water, dip herbs in ice water to cool. Blot dry and place the herbs in air-tight plastic bags. Label the outside of the bag and place in the freezer. Dill, chives, mint and parsley can be frozen without blanching.

Growing Herbs Indoors

Perhaps the greatest challenge when growing herbs indoors is providing them with sufficient sunlight. Herbs do best when grown in a very sunny window that receives between six and eight hours of direct sunlight each day (typically a southern or southwestern exposure). When growing herbs under natural light, be certain to rotate the pot every three to four days to insure uniform growth of the plant.

If your most convenient window location does not attract enough sunlight, you can supplement natural lighting with fluorescent light. In general, for every hour of required sunlight, expose the plants to two hours of fluorescent light. Herbs grown entirely under fluorescent lights will require between 14 - 16 hours of artificial lighting. Place herb plants no closer than five or six inches, and no farther than 15 inches from the light source.

Herbs demand good drainage for healthy growth. A potting mix of equal parts sand, commercial potting mix, peat moss and perlite will provide an excellent medium for growing herbs indoors. When potting up your herbs, choose clay pots as they are more porous than plastic pots, allowing for better soil drainage.

Be certain not to locate your indoor herb garden near a heat source, such as a radiator or heat vent as herbs prefer temperatures below 70 F. If the air is dry where you live, place the herb pots in a tray of stones and keep the tray filled with water just up to the bottom of the pot. Providing ample humidity will promote good herbal growth while keeping the foliage succulent and tasty.

When grown in containers, most herbs will benefit from an occasional feeding with a liquid fertilizer such as fish emulsion, seaweed or a general purpose, water-soluble fertilizer (such as 12-12-12). In general, feed herbs every two weeks according to the manufacturer's instructions. Be certain not to overfeed your herbs as too much fertilizer is far more likely to damage your herbs than too little.

Culinary Herbs For The Indoor Garden

The most popular reason for growing herbs indoors is for their culinary use. In the kitchen, herbs accent and enhance the flavor of food. Herbs can also be used as garnishes, in drinks, in finger bowls or as edible centerpieces. These culinary herbs are easily propagated and well-suited to the indoor garden: chives, thyme, basil, parsley, rosemary, sage, oregano and mint.

Chives are perennial plants that grow from eight to ten inches tall. Chives prefer a nice sunny location and do very well in windowsill containers. Feed chives every couple of weeks with a liquid fertilizer and provide the plant plenty of moisture.

Thyme is a sturdy, low-growing perennial that rarely grows taller than eight to ten inches. A member of the mint family, thyme does very well indoors when provided with full sun and an occasional feeding. Thyme does not tolerate low humidity; be certain to provide thyme with an adequate source of humidity when growing the plant indoors.

Basil is an annual plant that grows from 18-24 inches tall. Basil does nicely indoors if pinched back and not allowed to flower. Pinch off the growing tips of branches to keep the plant compact and bushy. Basil prefers soil that is kept barely moist. Fertilize basil about once a month with a liquid fertilizer.

Parsley is a biennial plant that can be grown indoors in partial shade or full sun. Germination of parsley seeds may be hastened if they are soaked for 24 hours before planting. The outside leaves of parsley should be cut to keep the plant about 8 inches tall. Keep parsley well-watered, especially when young.

Rosemary is a perennial plant that grows from three to five feet tall. Rosemary can be grown indoors with

less light than most herbs. Keep rosemary moist and do not allow the soil to dry out. Your rosemary plant will benefit from regular feedings with a dilute fertilizer.

Sage is a perennial plant that grows to be two feet tall. Sage prefers a sunny location and well-drained soil. Water sage thoroughly, but allow soil to dry out before watering again. Indoors, leaves should be pinched back to keep the plant compact and bushy.

Oregano, a perennial herb, makes an attractive container plant with leaves that trail over the sides of the pot. Oregano requires a great deal of sunlight and will tolerate dry soil and neglect. Pinch off growing shoots to keep your plant at a reasonable height.

Mints are good container plants and do very well indoors. Unlike many other herbs, mints will tolerate a minimum of two to three hours of sun and wet soil. Mints should be trimmed back frequently to maintain a height of eight to ten inches.

Pests and Diseases

If your herbs fall prey to insects or diseases there are several acceptable controls available. For minor infestations, handpick insect pests from your plants. A forceful spray of water is often sufficient to remove pests, such as aphids and mites, from foliage. When infestations are limited to only one plant or stem, prune away the affected areas.

To control aphids and whitefly, the most common pests of herbs, use a commercial insecticidal soap. For infestations of caterpillars, use one of the several brands of *Bacillus thuringiensis*, a microbial insecticide also known as "BT".

If the above controls fail, you can choose one of the botanical sprays such as pyrethrum or rotenone. Apply these sprays either early in the morning or late in the evening to avoid harming honeybees. When using any insecticide, always read and follow the label instructions carefully.

Annual Herbs

Anise, *Pimpinella anisum*
Basil, *Ocimum basilicum*
Borage, *Borago officinalis*
Chervil, *Anthriscus cerefolium*
Coriander, *Coriander sativum*
Dill, *Anethum graveolens*
Marjoram, *Origanum majorana*
Summer Savory, *Satureja hortensis*

Biennial Herbs

Angelica, *Angelica archangelica*
Caraway, *Carum carvi*
Parsley, *Petroselinum crispum*

Perennial Herbs

Artemisia, *Artemisia* sp.
Catnip, *Nepeta cataria*

Chives, *Allium schoenoprasum*
Fennel, *Foeniculum vulgare*
Hyssop, *Hyssopus officinalis*
Garlic, *Allium sativum*
Lovage, *Levisticum officinale*
Oregano, *Origanum vulgare*
Salad Burnet, *Sanguisorba minor*
Lavender, *Lavendula* sp.
Bergamot, *Monarda* sp.
Peppermint, *Mentha piperita*
Spearmint, *Mentha spicata*
Sage, *Salvia officinalis*
Winter Savory, *Satureja montana*
Tarragon, *Artemisia drancunculus*
Thyme, *Thymus vulgaris*
Woodruff, *Galium odoratum*
Yarrow, *Achillea filipendulina*

Tender and Semihardy Perennials

Sweet Bay, *Laurus nobilis*
Scented Geranium, *Pelargonium* sp.
Lemon Verbena, *Aloysia triphylla*
Rosemary, *Rosmarinus officinalis*
Pineapple Sage, *Salvia elegans*

Herbs for Partial Shade

Bay, *Laurus nobilis*
Chervil, *Anthriscus cerefolium*
Sweet cicely, *Myrrhis odorata*
Comfrey, *Symphytum officinale*
Lemon balm, *Melissa officinalis*
Lovage, *Levisticum officinale*
Mints, *Mentha* sp.
Oregano, *Origanum vulgare*
Parsley, *Petroselinum crispum*
Winter savory, *Saturja montana*
Lemon verbena, *Aloysia triphylla*
Woodruff, *Galium odoratum*