

HERB GARDENING IN LOUISIANA



CONTENTS

- 3 **History of Herbs**
- 3 **Uses of Herbs as Medicine**
- 4 **Soil Preparation**
 - 4 Cultivation
 - 4 Chemical Characteristics
- 4 **Fertilizing Herbs**
- 5 **Growth Habits**
- 5 **Shade Versus Sun**
 - 5 Herbs that can tolerate shade:
- 5 **Irrigation Needs (i.e., drought versus wet tolerance)**
- 5 **Maintenance — Pruning/Shaping**
- 6 **Pollinators**
- 6 **Weed Maintenance**
 - 6 Options for Managing Weeds Infesting Herbs
- 8 **Insects and Other Pests**
 - 8 Pest Description
 - 8 Controlling Pests Through Best Management Practices
 - 9 Controlling Pests Chemically
- 9 **Herb Diseases and Their Management**
 - 9 Downy mildew
 - 9 Powdery mildew
 - 9 Leaf spots/blight
 - 10 White mold
 - 10 Seedling damping-off
 - 10 Root and crown rots
- 10 **Disease Management**
- 10 **Herbs are Multiuse Plants**
 - 11 Herb-tastic Candles
 - 11 Mint Sun Iced Tea
 - 11 Smell Good Cookies
- 12 **References**
- 12 **Authors**



HISTORY OF HERBS

Herbs have been used as medicine in cultures throughout the world since the earliest recorded history. In fact, there is evidence in the fossil record that humans have been using plants for medicinal purposes as far back as 60,000 years ago (Solecki, 1975). Herbs have traditionally been used to season and garnish food, add fragrance to essential oils and perfumes, create herbal teas and botanical medicines. They have also been used as disinfectants and household cleaning products and have been added to cosmetic treatments.

There is a rich world history of herbs. Egyptians used essential oils in perfumes, incense and medicines for thousands of years since 4500 B.C. Eastern medicine has a long history of using plants for medicinal purposes since 2600 B.C. in China, and in India, Ayurveda medicine has been practiced for more than 3,000 years.

In the United States, the earliest recorded use of herbal medicines by the Native Americans was in the 1600s. This knowledge was passed onto American settlers who also brought medicinal remedies from their own countries. Herbal medicines were used until the early 1900s, when the shift to the chemical synthesis of natural product substitutes first began. During the 1990s, medical research on such drugs as Taxol from the Pacific yew, etoposide from the American mayapple and artemisinin from annual wormwood helped increase interest and demand for botanical sources of medicinal drugs (Chamberlain and Hammett, 1998).

USES OF HERBS AS MEDICINE

Plants have been the primary sources of medicine for early drug discovery. Some common drugs derived from plants are aspirin (salicylic acid), which is from white willow bark and meadowsweet plants and is used as a pain reliever. The drug atropine is used for irregular heartbeats and is made from belladonna leaves. Camptothecin is a chemotherapy drug derived from the camptotheca tree. Colchicine is used to treat gout and is derived from autumn crocus. Digoxin (Lanoxin) is a heart medication derived from foxglove. Metformin is the most prescribed medicine for Type 2 diabetes worldwide and it is derived from French lilac. Morphine and codeine are analgesics derived from opium poppy. Quinine is an antimalarial drug derived from cinchona bark. Taxol is a chemotherapy drug for cancer from the Pacific yew tree, and vinblastine is another anticancer drug from *Catharanthus roseus* (Fabricant, 2001).

The 2017 global market for herbal medicines, which includes medical supplies and functional foods, was estimated to be 1 trillion dollars and is growing annually by 8% to 10% (Ahn, 2017). Essential oils used for aromatherapy are also derived from plants and have been used in cultures all over the world and for thousands of years to treat ailments, as a mood enhancer and for overall well-being. Aromatherapy has gained popularity over the past few decades having become more affordable and available to consumers.

To use herbs, one must purchase them from the store or grow them. While the Food and Drug Administration (FDA) regulates herbal supplements, herbal supplements are not held to the same standards as drugs or over-the-counter medicines for proof of safety or effectiveness. Therefore, many people choose to grow herbs for medicinal use, food enhancement, attracting pollinators and to add interest to the garden. This guide will help you learn how to grow herbs, but we do not provide information on using them as medicine or medical doses.



Foxglove



Mortar and pestle



Soil pot

SOIL PREPARATION

The soil is the lifeline for every plant in your yard — turfgrass, vegetables, fruit crops, and ornamental plants. Healthy soil yields healthy plants. Proper soil care will help grow high-yielding herbs.

Cultivation

Before planting herbs, make sure weeds are removed (see the Weed Maintenance section) and the ground is tilled. This is especially important in soils that are heavy in clay. Even if you plan on growing herbs in containers, loosen the soil, especially when using soil that has been in a container for more than one season. The looser the soil, the easier it is for roots to grow and spread.

Chemical Characteristics

Almost every herb does well when the pH level of the soil is near neutral. A neutral pH, (one that is near 7 on a scale of 1 to 14), allows plants to take up nutrients in amounts that may otherwise be unavailable to plant while also preventing a toxic uptake of nutrients. Ideally, herbs should be grown in a soil with a pH of 6.0 to 7.0.

Organic matter content of the soil is also imperative. Materials that once were living but are now decomposing in the soil constitute organic matter (OM). A good example of OM is decaying leaves. OM content is important because having a larger percentage of OM in the soil improves the water-holding capacity of the soil, adds nutrients such as nitrogen to the soil, and makes for a pleasant environment in which beneficial microbes live and work with our plants.

Soil texture is also important. The three main components of any soil are sand, clay and silt. If your soil is too sandy, nutrients will readily leach every time it rains or when you irrigate the herbs. A soil that is too heavy in clay holds too much water and is harder for roots to penetrate. A balanced soil proportionate in clay, silt and loam is ideal for herb production.

How do you know what your soil's pH, texture and organic matter content are? Simply submit a soil sample to the LSU AgCenter Soil Testing and Plant Analysis Lab. Visit bit.ly/324zzin to learn more.

The lab results will tell you the nutrient content of your soil. Knowing the nutrient content is extremely helpful in determining how to fertilize the soil for maximum herb production with minimal environmental disturbance.

FERTILIZING HERBS

Soil fertility is important to all crops. However, some crops are better at scavenging nutrients from the soil compared to others. Herbs are excellent scavengers and do not require heavy or frequent applications of fertilizer. We encourage all herb gardeners to test their soil (see paragraph above for soil testing services). However, if you are not testing your soil, applying a balanced slow-release fertilizer at planting will suffice.

Apply additional fertilizer annually for perennial herbs. It is best to apply this in the spring. Fertilizers should also be added if deficiency symptoms are present (i.e., yellowing of lower leaves indicating a nitrogen deficiency). Organic growers may choose to apply nutrients to the soil with compost or organic amendments, such as cottonseed meal, fish emulsions, blood and bone meal, and other sources. We discourage the use of fresh or untreated manures in herb plantings. People consume many herbs fresh. Ingesting manures of fresh (noncooked foods) can lead to illness in people. If using manures of animal origin, only use those that are well aged (1 year or older) and processed.

If you are growing herbs in containers, be aware of the fertility of the potting soil, i.e., if the fertilizer has already been incorporated to the mix when planting.

GROWTH HABITS

This publication lists 55 herbs that grow in Louisiana; each has varying growth habits. An important item to consider when planting herbs is the mature size of the plant. Overcrowding herbs increases competition among plants for light, nutrients and water. Overcrowding also enables disease to spread more easily and encourages unwanted insects to reside in the garden. At the back of this publication, the mature height and width is indicated next to each herb photo. Use this mature plant size to guide you in how far apart to space transplants or seed in the garden.

From a purely design viewpoint, knowing the height of the herb will also help you determine placement so that your viewpoints are not blocked. Herbs are beautiful plants that bloom and add texture and fragrance to the landscape. Crowding them will detract from their natural beauty. For example, you would not plant bay trees or lemongrass in front of shorter herbs, such as basil and sage. Nor would you want to plant moderately tall herbs, such as dill, fennel, tarragon or rosemary, immediately in front of or next to short spreading herbs, such as oregano or thyme. The shorter and spreading herbs will be lost visually and will probably be shaded out. Think of this herb garden as part of the landscape, where each plant adds an ornamental value to the design.

SHADE VERSUS SUN

Most herbs thrive in sunny areas. Planting herbs in partial to full sun is recommended. This is especially true when we want herbs to bloom to either attract pollinators or produce seed — which can be used in cooking!

Blooming herbs that love sun:

Basil, bergamot, borage, feverfew, germander, oregano, rosemary, sage and yarrow.

Herbs that can tolerate shade:

Rosemary, oregano, marjoram, catnip, patchouli, comfrey and lovage. Just remember, these herbs will not bloom very much if planted in shadier areas.

Getting herbs to bloom is not always the goal. Often, when herbs bloom, they stop foliage production. If you need the foliage for cooking or your crafts, pinch the blooms off. If you are growing herbs to attract pollinators, allow and encourage them to bloom!

IRRIGATION NEEDS (I.E., DROUGHT VERSUS WET TOLERANCE)

As with any plants, water herbs at the base of the plant. It is imperative to keep excess water off the foliage. If foliage stays wet, fungal diseases will occur. Treat herbs as you do your other annual flowering crops, keeping the soil moist but never saturated. Lavender, thyme, sage and oregano are very sensitive to wet soils. These plants do best when neglected in containers or planted in higher parts of the garden.

MAINTENANCE — PRUNING/SHAPING

Pinching and pruning are the best techniques to keep your plants full and lush. Once your plant is established and has grown to 6 inches or more, you can begin to pinch 2 to 3 inches off the top of your plants every few weeks to keep the plants neat and compact and to help increase yield. Leave the lower, older leaves to help provide nutrients for the top growth.



Hose



Bee on basil

When planting transplants, it is a good practice to remove the top two leaves from each plant to encourage root establishment.

Flowering can cause certain herbs to become bitter. But, more importantly, once your plants have started investing energy in reproduction, they will be less focused on foliar growth. It is recommended to pinch off any flowers that form to encourage more leafy growth. Flowers can be beautiful. They are also great for attracting pollinators, and you can also harvest them and save seeds for planting next season. Prune your herbs. If you do not prune herbs, they will become spindly, top-heavy and more prone to falling over.

In the spring you should remove dead stems of last year's growth by pruning. It is best to cut them back by one-third before new growth begins. This is important on perennial herbs that have become overly woody and lanky over the year. It will encourage bushy, more compact plants. In the fall, you can remove annual plants that are faded and compost the remains or leave them in the garden over the winter as a mulch to protect perennial roots.

POLLINATORS

Herbs sporting flowers with the most nectar bring pollinators to the garden. Bee balm, flowering borage, lavender, mint, basil, chives, rosemary, thyme, comfrey, oregano and lemon balm produce flowers attractive to beneficial pollinators, such as butterflies, moths, wasps, bees, flies, beetles and bats. Some herbs, like cilantro, fennel and dill, produce very small flowers that interest very small bees. Fennel and dill are host plants that serve as food for black swallowtail caterpillars. Herbs are a wonderful addition to every landscape and garden. Why would we not want these in our Louisiana yards!

WEED MAINTENANCE

Weeds are the most common pest problem infesting herb gardens. At the soil level, weeds are in direct competition with herbs for essential nutrients, water and light. However, some weeds can also increase other pest problems by serving as alternate hosts for insects and diseases. Ultimately, when weeds are left uncontrolled, expect herbs to have reduced growth and yields.

Types of Weeds — Weed species may be grouped into broadleaves, grasses and sedges.

Broadleaves, or dicotyledonous plants, have two seed leaves when emerging from the soil. Mature plants have netlike veins on their leaves and flowers that are usually showy. Broadleaf weeds, as the name implies, have a relatively wide leaf compared with grasses. Some common troublesome broadleaf weeds are spurge (*Euphorbia* spp.), common purslane (*Portulaca oleracea*) and chamberbitter (*Phyllanthus urinaria*).

Grasses are monocotyledonous plants with one seed leaf and parallel leaf veins. They lack showy flowers. Some common grassy weeds that infest herb gardens are crabgrass (*Digitaria* sp.), goosegrass (*Eleusine indica*) and common bermudagrass (*Cynodon dactylon*).

Sedges are grasslike plants and are ranked among the worst weeds in the world. Sedge stems are triangle-shaped and solid. Common sedges include purple nutsedge (*Cyperus rotundus*) and yellow nutsedge (*Cyperus esculentus*).

Options for Managing Weeds Infesting Herbs

Reducing weed pressure around herbs often involves several integrated management strategies including cultural practices, such as row spacing and plant populations, hand removal, mulch, tillage and cultivation, and herbicides.

Row spacing and plant population

Competition between herbs and weeds can be influenced by herb row spacing and planting density. Planting herbs on a narrow row spacing and having plant populations at acceptable



Weedy herb bed

levels will allow for more rapid shading of the soil. This shading effect reduces weed germination and growth.

Hand removal

Hand pulling is the most common method of mechanical weed control in herbs. Removing weeds by hand is most effective on young annual weeds before roots become well established. Hand removal is less effective on perennial weeds because these plants have underground storage structures, such as rhizomes and tubers, that remain behind. Weeds then reestablish from these structures.

Hoeing is a highly effective method for removing weeds infesting herbs, especially if implemented weekly during the growing season. Like hand pulling, hoeing is most effective against annual weeds and less effective for controlling perennial weeds.

Mulch

Mulch acts as a physical barrier to the emerging seedling, and it prevents sunlight from reaching the soil surface. Blocking sunlight is important because some weed seeds, such as crabgrass, will not germinate without stimulation from sunlight. Also, sunlight is critical for the new weed seedling to begin photosynthesis for growth and development.

Several materials are suitable for mulch, including compost, leaf litter, pine bark, pine mulch and pine straw. Even newspapers can be used as a barrier to weed emergence. Mulches must be thick enough to block light to be effective.

Tillage

Tillage is often used during seedbed preparation. Tillage prior to herb planting can kill emerged weeds as well as potentially bury weed seeds that are on or just below the surface to a depth that's less favorable for their germination. During the herb growing season, cultivation or tillage between herb rows uproots weed seedlings or causes root severance, resulting in the death of the weeds.

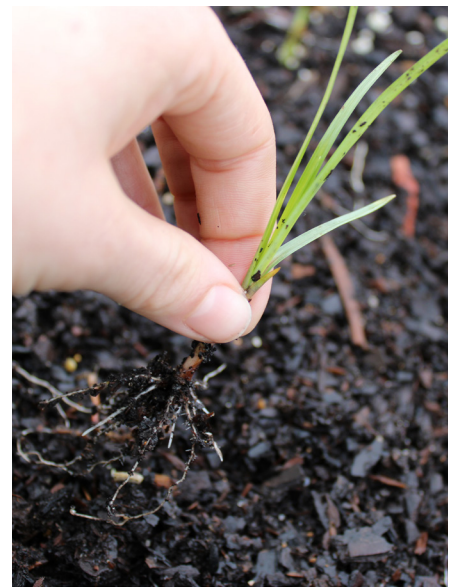
Herbicides

Herbicides can be effective tools for managing weeds infesting herb gardens. Although choices are limited, there are pre-emergence and Post-emergence herbicides as well as synthetic and organic herbicide options available for use in edible plants.

Pre-emergence herbicides kill weeds as they germinate from seed before the weeds emerge from the soil. Therefore, timing pre-emergence herbicide applications before weed seed germination is critical for their success. DCPA (Dimethyl tetrachloroterephthalate) and trifluralin are examples of synthetic pre-emergence herbicides that are labeled for use in some edible plants. Corn gluten meal, a byproduct of the corn wet-milling process, is an organic pre-emergence herbicide option.

Post-emergence herbicides are used to kill existing emerged weed populations. These types of herbicides can be selective or nonselective. Glyphosate is a nonselective synthetic herbicide that is highly effective in destroying existing weedy vegetation prior to tillage or herb planting. It is a very effective herbicide for killing perennial weeds because the herbicide is able to translocate into underground storage organs, such as rhizomes and tubers. Sethoxydim and clethodim are selective post-emergent grass killing herbicides that are labeled for use in some edible plants.

Organic post-emergence herbicides are mainly nonselective and work on contact by burning back tissue. They are most effective for spot treating newly emerged annual broadleaves and grasses. However, as annual plants mature and harden off, organic herbicides become less effective and repeated applications will be necessary. Organic herbicides are least effective on perennial plants because of their inability to translocate into underground storage organs. Some organic herbicides include vinegar-clove oil mixtures, soybean oil, citrus oil, iron-based



Weeding



Pine straw

products, cinnamon based products, pelargonic acid and others.

Herbicides can be an important component of an overall integrated weed management strategy. However, it is extremely important to always read and follow product labels regarding their use in herbs.

INSECTS AND OTHER PESTS

Insects are classified in many ways. The most important question about insect classification when growing edible crops: Will this insect damage my plants? Therefore, when we are discussing pests of herbs, we will only refer to insects that eat herbs and not those that pollinate herbs or those that primarily eat other insects. Pests of herbs are generally limited to small soft-bodied insects and include thrips, aphids, mealybugs, spider mites and whiteflies.

Pest Description

Aphids: Small soft-bodied slow-moving insects with piercing/sucking mouth parts. They generally have an oval or pear shape, long antennae and range in color from clear to green, white and peach. Look for aphids under the foliage, along stems and in new growth.

Mealybugs: Small soft-bodied insects with piercing/sucking mouthparts. They are generally oval, white in color and are covered with a white waxy material that makes them look almost fluffy or cottony in appearance. Mealybugs cluster together under the foliage and on stems.

Spider mites: Spider mites are not insects but belong to the mite family. Instead of six legs like most insects, adult spider mites have eight legs. They are very hard to see with the naked eye. Use a hand lens look at a vein on the leaf for movement. A microscope will provide you with a much better image. They can be green, red or brownish in color, and often you will notice small, intricate webbing on the underside of the leaf before you notice the spider mite itself.

Whiteflies: Small insects with four wings that are white in color. They have piercing/sucking mouthparts and when immature are small and yellowish in color. Whiteflies can be found crawling on the undersides of leaves. If you shake a heavily infested plant, a white cloud of insects can be seen flying away.

Controlling Pests Through Best Management Practices

The best way to control pests in herbs is by using best management practices (BMPs).

BMP Number 1: When purchasing herb transplants or small seedlings, make sure they are pest free. Inspect the foliage — especially the underside — for small insects. Don't purchase herbs with insects present.

BMP Number 2: Use the correct spacing when planting herbs. When herbs are crowded, they not only compete for water and space, but they also create niches in which insects hide and live. Use the herb cards at the back of this publication to determine the mature height and width of the herbs you will plant. Space the small seedlings so when the plants reach maturity they do not touch.

BMP Number 3: Use mulch around herbs. Mulch controls weeds that attract insects to our gardens. For instance, winter weeds such as buttercup and clovers are reservoirs for thrips. By pulling weeds when we see them and by using mulch to prevent weeds from germinating and emerging, we are controlling alternative food sources for pest insects.

BMP Number 4: Keep your herbs watered and fed. If left to struggle and frequently wilt and yellow, herbs will become more susceptible to insect and disease pressure. Just as you keep yourself healthy by drinking water and eating a balanced diet, do the same for your herbs.

BMP Number 5: Use natural enemies of pests. Ladybeetles are predators to almost every one of the listed herb pests. Purchase ladybeetles online or in plant nurseries. Release ladybeetles into the garden in the morning and let them eat away. If you release them at high noon, they

often go towards the sunlight and fly away. Ladybeetles and other beneficial insects will only stay around until they have eaten all the available food.

Controlling Pests Chemically

The main insects found on herbs are primarily soft-bodied and can be controlled using mild insecticides. Remember you are trying to kill an insect on an edible crop and one that you will probably eat fresh. Two of the best and safest means to kill insects that are small and soft-bodied are horticultural oils and soaps. Both are organically labeled and do an excellent job of killing these pests. If the herbs are thoroughly washed, the oils and soaps do not pose any harm to the end user. Purchase both horticultural soaps and oils at hardware stores and plant nurseries. Even liquid dish detergent works well to smother out these pests. Just be sure to avoid hot, sunny days when applying so you do not damage the plants. Oils should be applied when air temperature is less than 75 degrees Fahrenheit. If it is extremely hot and sunny, it's a good idea to rinse off the soap after 10 to 15 minutes. Repeat your application every seven days for at least three applications.

HERB DISEASES AND THEIR MANAGEMENT

Louisiana's hot, humid weather and longer growing season are exceptionally conducive for plant pathogens to survive and cause diseases on a wide variety of plants. Herbs are susceptible to various foliar and soil-borne plant pathogens, including fungi, water molds, bacteria, viruses and nematodes. If left unchecked, some pathogens, such as downy mildew and damping-off disease, have the potential to cause total crop loss. Foliar plant pathogens pose a grave threat to herb cultivation in Louisiana. These pathogens affect leaves and other aboveground parts, rendering them inedible due to blights, leaf spots and mildews. Foliar pathogens disperse by means of spores primarily by wind or water splashed from rain or overhead irrigation. Leaf disease progresses rapidly under warm, humid conditions. Moisture on leaves plays a critical role in the disease development and survival of the pathogen. Soil-borne pathogens affect the root and crown areas and kill the whole plant at seedling or mature plant stages. Soil conditions, including poor drainage and compaction, predispose roots to infections caused by soil-borne pathogens. These pathogens may survive in the infested soils for several years in the absence of the host plant.

Downy mildew

Downy mildew caused by a fungus-like microorganism. Sweet basil downy is an example of this disease that turns green leaves to pale yellows with asymmetrical angular yellow blotches. As the disease progresses, leaves shrivel and grayish white mildew forms on the underside of the leaves and leaves defoliate. Sweet basil downy mildew develops during periods of cool, wet weather.

Powdery mildew

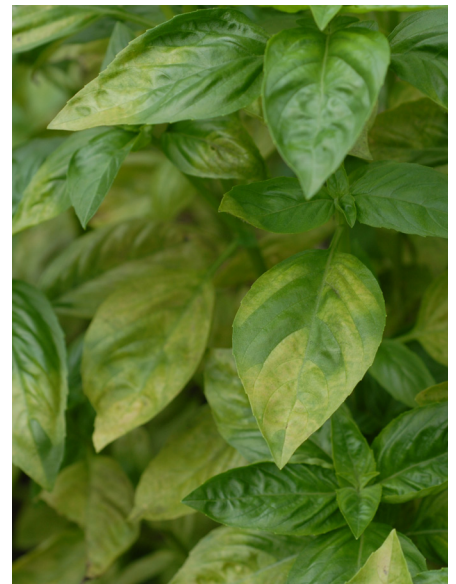
Powdery mildew causes leaves to turn yellow. As the disease progresses, white powdery fungal growth appears on the upper surface of leaves. Affected leaves desiccate rapidly. Powdery mildew develops more frequently under warm, humid weather.

Leaf spots/blight

Leaf spots and blights on herbs are mainly caused by fungal and bacterial plant pathogens. Warm, humid conditions are critical for disease infection and development. Leaf spots vary in appearance, color and size. Fungal leaf spots tend to be irregular to circular in shape, light tan to dark brown in color and tiny to a few millimeters in size. Bacterial leaf spots are mostly angular in shape and surrounded by a water-soaked area. Leaf spots may coalesce and cover larger portions of leaf surfaces as the diseases progress. Affected leaves turn yellow and necrotic. Leaf spots develop rapidly under warm, humid weather.



Backpack sprayer



Downy mildew



Powdery mildew



Tomato damping off

White mold

White mold is caused by a soil-borne fungal pathogen. In Louisiana, white mold has been occasionally observed on parsley. The disease is characterized by the presence of white, cottony fungal strands on the lower part of the stem near soil line. As the disease progresses, affected tissue rots, plants collapse and die, and hard black irregular structures (sclerotia) appear on affected plant parts. The disease is favored by prolonged periods of cool, wet weather.

Seedling damping-off

Damping-off is caused by a variety of soil-borne pathogens. Several factors, including planting depth, age of the seed, soil temperature, overly wet soil, and presence or absence of a pathogen, contribute to damping-off disease. These pathogens kill the seeds before they germinate or kill the seedlings shortly after they emerge. In case of seedling death, necrotic lesions are usually present on the lower stem near the soil line.

Root and crown rots

Root and crown rots are caused by a variety of soil inhabiting fungi and water molds. Root rots interrupt water and nutrient absorption and uptake, whereas crown rots cut the nutrient and water supply to aboveground plant parts. First visible symptoms appear as wilting of leaves followed by defoliation and plant death as the disease progresses. Stem/crown appears necrotic near the soil line. Roots become dark brown with reddish lesions. The outer layer of the root (cortex) easily sloughs off, resulting in rat tail-like symptoms in cases of root rots caused by water mold pathogens.

DISEASE MANAGEMENT

Prevention is the key to successfully managing plant diseases in herbs. Foliar diseases, such as leaf spots and mildews, are manageable once they are observed, but root diseases are not. Adoption of cultural practices intended to modify the environment to make it less conducive to disease development is critical in economically managing herb disease. Management starts with planting herb cultivars resistant to plant disease when available.

Choose well-drained sites with fertile soils. If soils are poorly drained and compacted, planting in raised beds may provide adequate drainage. Avoid planting in soil beds with disease history. Sow seeds and transplant seedlings when soil temperatures are favorable for rapid germination and growth and do not sow or plant them too deeply. Plant herbs at recommended planting space and do not overcrowd them. Water early in the morning to reduce leaf wetness periods. Afternoon watering favors disease development. Choose drip irrigation over overhead irrigation to prevent spore dispersal. Follow an adequate fertilization program based on soil test results. Scout herbs for symptoms or signs of diseases on regular intervals. Rogue and discard affected or dead plants. Fungicides for managing herb disease are available and must be used in accordance with their labels. For more information on fungicides labeled for herbs, please consult LSU AgCenter Plant Disease Management Guide Publication No. 1802.

HERBS ARE MULTIUSE PLANTS

Herbs are a multipurpose crop. They smell nice, add texture and color to a landscape, and attract pollinators. Adding to their interest is the fact that you can use them to flavor foods and drinks, add scents to candles, produce active ingredients in medicine and use them in craft projects. Gardeners love when their yards look nice, but the real bragging begins when you have made something out of the plant you've grown. Just for fun, try these simple herb projects.



Chamomile

Herb-tastic Candles

Herb plants can become quite large in Louisiana gardens. Cut excess growth, bundle stems together, and hang them upside down in a dark closet in your home. It is best to do this in an air-conditioned environment so excessive air moisture does not lead to fungal growth. Another option is to cut small flowers from lavender and chamomile and use them fresh in candles. See below for basic instructions.

Purchase the following materials:

Soy flakes

Mason jars (any size)

Wicks (wooden or cloth)

Chop sticks or wood skewers

Directions

Fill jars with soy flakes. Place jars in a slow cooker and fill space around jars with water until the water level is halfway up the side of the jars. Turn the slow cooker on high heat. Allow the soy flakes to melt. This may take several hours depending on the size of the jars you choose. As the soy flakes melt, you will need to add more to fill the jar, leaving about one-half inch from the top empty. When the soy flakes are completely melted, add a few drops of your favorite essential oils to each jar. Two to three drops for a votive size candle is plenty. For full mason jars, use three to five drops. Stir into the melted wax for about two minutes. Using chop sticks or a wooden skewer, push the wick to the bottom of the jar, keeping the top portion of the wick between the chop sticks or wrapping the top portion of the wick around the skewer so it does not fall into the jar. Next, add your dried herbs or fresh herb flowers. Most of these will sink to the bottom of the candle. Leaving the candle the natural wax color will allow the herbs to show through as decoration. Allow the jars to cool overnight and enjoy in your home or share as gifts. Coconut wax or beeswax are also excellent waxes to use instead of soy.

Mint Sun Iced Tea

Iced tea is a southern favorite. Make it taste even better using fresh mint from the garden. Because you are using fresh, nonprocessed mint, wash it well and remove debris.

Purchase the following materials:

1 Gallon-size glass container with lid

8 Tea bags of your choice

Clip a generous handful of mint from the garden

Directions

First, place the 8 tea bags into the glass gallon-sized container. Next, add a generous handful or two of rough chopped mint into the gallon-sized container. Fill the container with drinking water. Place the container in full sun for 3 to 8 hours. Bring the container inside and remove the mint stems or strain the rough chopped leaves and stems. Finally, sweeten the tea with stevia, sugar or honey. Enjoy this drink for 1 to 2 days, after which you will need to discard the remaining liquid. Sun tea does not last as long as tea made with boiling water. The purpose of making sun tea is to get out of the kitchen and create a tea with a lighter flavor.

Smell Good Cookies

These cookies are delicious and do not make a mess in the kitchen! Purchase premade sugar cookie dough from the grocery store. Allow the dough to sit on the countertop for 20 to 30 minutes to reach room temperature. While the dough reaches room temperature, go out to the garden and harvest lemon verbena, rosemary, lavender flowers, thyme or basil. You do



Herb candle



Herb sun iced tea



Snickerdoodles

not need all of these herbs but any of them are suitable. Wash the fresh herbs well, removing all debris. Pat dry with a paper towel. Mince the herbs and mix into the premade dough. Place small spoonfuls of the dough onto a pregreased cookie sheet. Bake the cookies between 325 to 350 degrees Fahrenheit for about 8 minutes or until the edges are slightly brown. Use the middle rack in the oven to prevent the cookies from burning. Store cookies in an airtight container and eat within 3 to 4 days. The fresh herbs flavor the cookies with a very mild flavor, adding interest and turning a plain sugar cookie into a botanical visual treat.

REFERENCES

Ahn, Kyungseop. 2017. The worldwide trend of using botanical drugs and strategies for developing global drugs. *BMB Reports*. 50 (3):111-116.

Chamberlain, J., and Hammett, A.L. 1998. *Medicinal and dietary supplements: specialty forest products with a long tradition*. North American Conference on Enterprise Development through Agroforestry. Minneapolis, MN.

Fabricant, D., and Farnsworth, N. 2001. "The value of plants used in traditional medicine for drug discovery. *Environ. Health Persp.* 109 (S1):69-75.

Solecki, S. 1975. A neanderthal flower burial in Northern Iraq. *Science*. 190:880-881.

AUTHORS

Heather Kirk-Ballard, School of Plant, Environmental and Soil Sciences

Kathryn Fontenot, School of Plant, Environmental and Soil Sciences

Mary Sexton, School of Plant, Environmental and Soil Sciences

Ronald Strahan, School of Plant, Environmental and Soil Sciences

Raj Singh, Department of Plant Pathology and Crop Physiology

Dennis Ring, Department of Entomology

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ANISE

Pimpinella anisum



Seeds

HEIGHT 2-3 ft

WIDTH 1 ft



BASIL

Ocimum basilicum



Seed or transplant

HEIGHT 1-3 ft

WIDTH 1-3 ft



BAY LAUREL

Laurus nobilis



Transplant

HEIGHT 10-20 ft

WIDTH 15 ft



BEE BALM (WILD BERGAMOT)

Monarda spp.



Seeds or transplant

HEIGHT 3-4 ft

WIDTH 2-3 ft



BORAGE

Borago officinalis



Transplant

HEIGHT 1-3 ft

WIDTH 6 in – 2 ft



CATNIP

Nepeta cataria



Transplant

HEIGHT 18 in

WIDTH 18 in



CELERY

Apium graveolens



Seeds or old celery stump

HEIGHT 2 ft

WIDTH 6 in



CHAMOMILE

Chamaemduum nobile



Seed

HEIGHT 8 in

WIDTH 2 ft



CHICORY

Cichorium intybus



Seeds or transplant

HEIGHT 1-2 ft

WIDTH 1-2 ft



CHIVES

Allium schoenoprasum



Sets or transplants

HEIGHT 8-18 in

WIDTH 8-12 in



CILANTRO/ CORIANDER

Coriandrum sativum



Seed or transplant

HEIGHT 5 in – 2 ft

WIDTH 4-10 in



COMFREY

Symphytum officinale



Transplant

HEIGHT 3-5 ft

WIDTH 2-4 ft



CUBAN OREGANO

Plectranthus amboinicus



Seeds or transplant

HEIGHT 1-2 ft

WIDTH 1-2 ft



CURRY

Helichrysum italicum



Seeds or transplant

HEIGHT 12-24 in

WIDTH 12-24 in



DILL

Anethum graveolens



Seeds or transplant

HEIGHT 1-3 ft

WIDTH 6 in – 2 ft



ECHINACEA

Echinacea purpurea



Seeds or transplant

HEIGHT 3 ft

WIDTH 2 ft



FENNEL

Foeniculum vulgare



Seeds or transplant

HEIGHT 2 ft

WIDTH 1 ft



FEVERFEW

Tanacetum parthenium



Seeds or transplant

HEIGHT 1-2 ft

WIDTH 1-2 ft



FLAX

Linum usitatissimum



Seeds

HEIGHT 2-3 ft

WIDTH 2 ft



FOXGLOVE (DIGITALIS)

Digitalis purpurea



Transplant

HEIGHT 4 ft

WIDTH 2 ft



GERMANDER

Teucrium canadense



Transplant

HEIGHT 1-2 ft

WIDTH 2 ft



GOLDENROD

Solidago altissima



Seeds or transplant

HEIGHT 5-6 ft

WIDTH 1 ft



GARLIC

Allium sativum



Cloves or toes

HEIGHT 2 ft

WIDTH 2 ft



GINGER

Zingiber officinale



Transplant

HEIGHT 3-4 ft

WIDTH 2 ft



HORSERADISH

Armoracia rusticana



Root cutting

HEIGHT 3 ft

WIDTH 2 ft



HYSSOP

Hyssopus officinalis



Seeds or transplant

HEIGHT 2-3 ft

WIDTH 2 ft



LAMB'S EAR

Stachys byzantina



Transplant

HEIGHT 12-18 in

WIDTH 12 in



LAVENDER

Lavandula angustifolia



Transplant

HEIGHT 1-3 ft

WIDTH 1-3 ft



LEMON BALM

Melissa officinalis



Transplant

HEIGHT 2-3 ft

WIDTH 2-3 ft



LEMON VERBENA

Aloysia triphylla



Transplant

HEIGHT 2-6 ft

WIDTH 2-6 ft



LEMONGRASS

Cymbopogon citratus



Transplant

HEIGHT 5-6 ft

WIDTH 5 ft



MAJORAM

Origanum majorana



Seed or transplant

HEIGHT 1-2 ft

WIDTH 8 in



MEXICAN MINT MARIGOLD

Mexican, Spanish or
Texas tarragon

Tagetes lucida

Transplant



MEXICAN OREGANO

Lippia graveolens



Seeds or transplant

HEIGHT 4-5 ft

WIDTH 4 ft



MINT

Mentha spp.



Transplant

HEIGHT 1-4 ft

WIDTH 1-4 ft



MOUNTAIN MINT

*Pycnanthemum
verticillatum*



Seeds or transplant

HEIGHT 8 in – 2 ft

WIDTH 8 in – 2 ft



NASTURTIUM

Tropaeolum majus



Seed or transplant

HEIGHT 2-3 ft

WIDTH 4-5 ft



OREGANO

Origanum vulgare



Transplant

HEIGHT 1-2 ft

WIDTH 2-4 ft



PARSLEY

Petroselinum crispum



Seeds or transplant

HEIGHT 8 in – 2 ft

WIDTH 8 in – 2 ft



PATCHOULI

Pogostemon cablin



Seeds or transplant

HEIGHT 2-3 ft

WIDTH 2-3 ft



PENNYROYAL

Hedeoma pulegoides



Seeds or transplant

HEIGHT 6 in

WIDTH 1-2 ft



PINEAPPLE SAGE

Origanum majorana



Seed or transplant

HEIGHT 1-2 ft

WIDTH 8 in



ROSEMARY

Rosmarinus officinalis



Transplant

HEIGHT 4-6 ft

WIDTH 2-4 ft



RUE

Ruta graveolens



Seeds or transplant

HEIGHT 2-3 ft

WIDTH 2 ft



SAGE

Sage officinalis



Transplant

HEIGHT 1-2 ft

WIDTH 2-3 ft



SESAME

Sesamum indicum



Seeds or transplant

HEIGHT 3-6 ft

WIDTH 2-3 ft



STEVIA

Stevia rebaudiana



Seeds or transplant

HEIGHT 2 in

WIDTH 2 ft



SORREL

Rumex acetosa



Seeds or transplant

HEIGHT 12-18 in

WIDTH 2-3 ft



TARRAGON

Artemisia dracunculus



Seeds or transplant

HEIGHT 18-24 in

WIDTH 18-24 in



TEA

Camellia sinensis



Transplants

HEIGHT 3-7 ft

WIDTH 3-4 ft



TEA TREE

Melaleuca alternifolia



Transplant

HEIGHT 20 ft

WIDTH 15 ft



THYME

Thymus vulgaris



Transplant

HEIGHT 3 in – 1 ft

WIDTH 18 in



WINTERGREEN

Gaultheria procumbens



Seeds or transplant

HEIGHT 8 in

WIDTH 2 ft



WINTER SAVORY

Satureja montana



Seed or transplant

HEIGHT 6-12 in

WIDTH 8-12 in



YARROW

Achillea millefolium



Seeds

HEIGHT 12-36 in

WIDTH 24 in



*Fresh herbs really belong
anywhere you put them.*

ALEX GUARNASCHELLI



Authors:

Kathryn Fontenot, Associate Professor and Extension Specialist; Heather Kirk-Ballard, Assistant Professor; Ronald E. Strahan, Associate Professor; Mary Sexton, Extension Associate; Raghuwinder Singh, Associate Professor; Dennis Ring, Professor and Extension Entomologist

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William B. Richardson, LSU Vice President for Agriculture

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