

THE HERB ISSUE

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TEXAS

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Galveston County

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IN COOPERATION WITH THE GALVESTON COUNTY OFFICE  
OF TEXAS A&M AGRILIFE EXTENSION SERVICE

## Herbs, Herbs & More Herbs



MG Kathy Maines

“Vegetables, herbs and spices. If you can combine those ingredients, that would be the best dish you’d ever cook!” *Rinrin Marinka*

Herbs, herbs and more herbs. What a fun issue this will be! Every country has its own preferred herbs. We have herbs used in Mediterranean cooking, Spanish, Asian, African, Cajun and every other country. According to *urbancultivator.net*, the most used herb around the world is cilantro. We can all grow herbs. In our homes and in our gardens. In containers and in the ground. Most of mine are in containers. One of the easiest herbs for me to grow is basil and when basil flowers, the bees love it. If you have never grown herbs, this issue will surely get you in the mood. I hope you are as excited about it as I am. Enjoy!

*Kathy Maines*

Kathy Maines



Cilantro Pixabay.com



MG Karolyn Gephart

## Be Adventurous With Herbs

MG author Sandy McBride invites readers to try some different herbs than what is typically grown in one’s garden, MG Karyl Mehlman invites all to try some interesting varieties in cooking. There is still much to learn about herbs and the writers in this issue hope you will enjoy their information. But that’s not all. A DIY Succulent Garden by MGs Bettye Vogler and Ann Ross will get your crafty-side ready to try one. MG Chef Sandra Gervais offers delicious holiday recipes and visit the South Texas Botanical Garden vicariously with MG Barbara Lyons (she visited in December (!) 2022). Learn more about MG Angela Farris, neem oil, herbariums and lichens. Relive some events held the last two months and learn about the history of tussie mussies. We tried to say farewell to 2023 with as much as we could put into this issue. Enjoy the issue as we get ready to leave 2023 and enter a new year!

*Karolyn Gephart*

Karolyn Gephart



Fall Festival fun MG Debby Brady



African blue basil MG Debby Brady



German winter thyme MG Briana Etie



Global amaranth MG Sharon Hemeon

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### Contact Us

#### Extension Office

281-309-5065  
galvcountrymgs@gmail.com

#### Horticulture Help Line

281-309-5061

#### Speakers Bureau

832-289-7087 and  
gcmg.speakersbureau@gmail.com

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# Herbs: Cultural Practices and Propagation



Becky Jaschek  
GCMG Intern 2023

What is an herb? The botanical definition of an herb in the Merriam-Webster dictionary is very clear as it describes an herbaceous plant: “a seed-producing annual, biennial, or perennial that does not develop persistent woody tissue but dies down at the end of a growing season.” However, the general or functional definition: “a plant or plant part valued for its medicinal, savory, or aromatic qualities” does not adequately describe this category of plants. Generally, herbs are useful plants whose leaves, stems and sometimes flowers are used for flavoring, aroma, medicinal or other properties such as coloration. Some herbs are useful for attracting bees, butterflies and other beneficial insects, others repel pests, from insects to deer. Herbs are distinguished from spices based upon the parts of the plant from which they are derived. Spices are derived from other parts of plants such as the root, bark, flowers, fruits and seeds. Therefore, it is possible for the same plant to be an herb and produce a spice. Examples include dill leaves and dill seeds, also cilantro and coriander. The reality is that herb is a term that encompasses a wide variety of plants that have been used by humans for thousands of years to improve the quality of our lives through their flavors, aromas, health benefits, and other properties. Herbs are incorporated into many cuisines, cultures and religions. The huge array of textures, smells, tastes and configurations make them a truly exciting group to explore and cultivate.

## Culture

**Herbs do well in containers, in the garden and in the landscape.** The primary factor in successfully growing herbs in Galveston County is drainage. Herbs prefer well-drained soil. Many, such as lavender and thyme, are prone to root-rot and will not tolerate poor drainage. For that reason, raised beds or containers are recommended.

**Sun** — In general, herbs need full sun, at least six hours of direct sunlight, although during the heat of the summer many, such as basil and thyme, may benefit from afternoon shade.

**Soil** — Well-drained soil that has been prepared utilizing best practice programs, such as Earth-Kind™ should be:

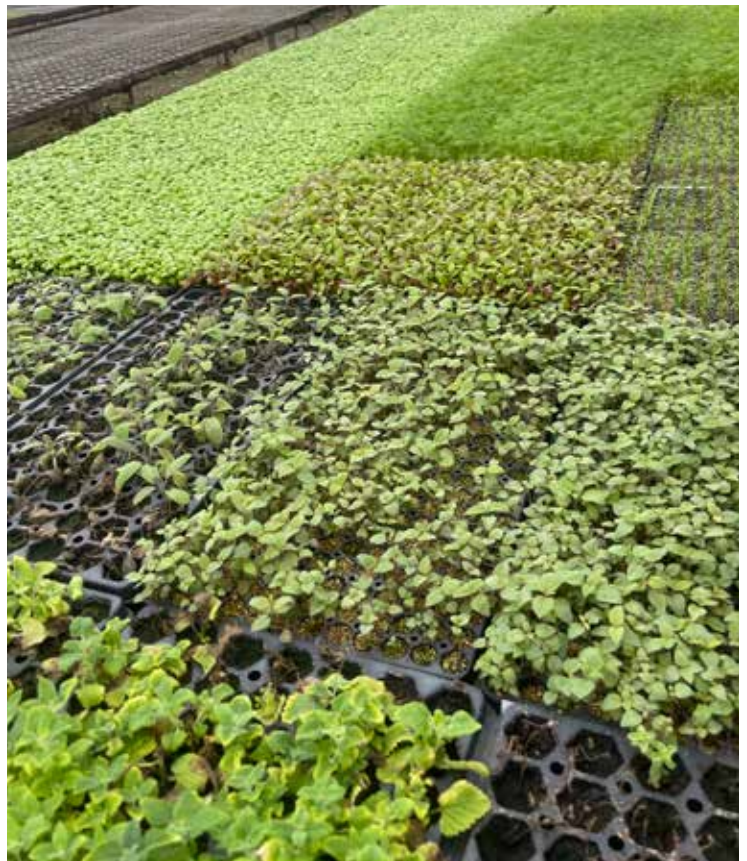
Tested to determine the pH and fertilizer needs. Most herbs prefer neutral pH range, but if the soil is acidic some dolomitic lime may be needed. This is especially true for rosemary and lavender, which prefer slightly alkaline soil (pH 7.5).



Propagation MG Sharon Hemeon



Sage MG Sharon Hemeon



Blue Label Nursery propagation MG Intern Donna Merritt

## “The primary factor is drainage...”

Amended to a depth of 1-foot with 1-inch of compost, and if the soil is heavy with clay, mix in sand. The referenced GCMG publication recommends a soil mixture of one-third each native soil, compost and sand.

Space plants based on recommendations to avoid overcrowding.

Top with mulch to retain moisture and protect from weeds once the bed is planted.

Time — Herbs may be perennials (multiple-year life span), biennials (two-year life cycle, over-wintering the first year, producing seeds the second), or annuals (die after producing seed the first year). Annuals can be divided into cool-weather and warm-weather plants. Biennials and perennials benefit from protection from severe winter conditions to prevent freezing.

Fertilizer — On soil-test results, a balanced slow-release fertilizer may be added every three to six months. Over-fertilization can cause excess growth, flowering and reduced flavor.

Water — Water plants as necessary if rainfall is not adequate. In general, herbs should take 1-inch of water per week. However, mints (*Mentha* species) prefer wet soil and require additional water.

**Table 1 provides information on some herbs identified by the GCMG as “must haves.”**

### Propagation

Seeds — Annual, biennial and some perennial herbs can be grown from seed directly in the ground or can be started early indoors and transplanted to provide the plants with a head start prior to their growing season. For starting in containers, fill with a starting mix which includes moistened sterile peat mix, 1/2 vermiculite (or perlite) and 1/2 fine sphagnum mixed with half-strength slow-release fertilizer, then follow the planting guide on seed package, or at a depth approximately twice the diameter of the seed. Cover with soil. Water lightly then place the starter-container in a warm well-lighted area. If the area has low humidity, cover with clear plastic to prevent it drying out. Transplant seedlings when time appropriate.

Cuttings — Many herbs can be successfully propagated with cuttings. To do so, with a clean sharp knife, razor or scissors, cut 4 to 6-inch sections of the stem at an angle just below a leaf node. Retain the top three leaves on the cutting and remove leaves from the other nodes. Use a

NAME	CULTURE CONDITIONS
Basil <i>Ocimum basilicum</i>	P; FS, warm weather, WDS, slightly acidic pH 5.5 - 6.5. Easy to grow. Propagation: Seed, cuttings
Bay Laurel/ Sweet Bay <i>Laurus nobilis</i>	P, FS-PS, in container or protected location in ground. WDS. Cold hardy to 20°. Propagation: Cutting (hard to root)
Chives, Onion <i>Allium schoenoprasum</i>	P. FS-PS, especially during summer heat. WDS that is loose, pH 6 - 7. Space five inches apart when dividing. Balanced fertilizer after harvest. Propagation: Seed, divide every 3 years in fall
Chives, Garlic or Chinese <i>Allium tuberosum</i>	Same as above
Fennel <i>Foeniculum vulgare</i> var. <i>azoricum</i>	A. Most other fennel varieties are perennials. FS, plenty of water. Propagation: Seed - early spring / thin to 1-inch; does not transplant well.
Lemon Balm <i>Melissa officinalis</i>	P. FS, afternoon shade in summer. Propagation: Seed (slow), division early spring

pencil or small rod and make a hole 1-inch deep in the starting mix (described above) that has been placed in sterilized containers. Dip the bottom of the cutting in rooting hormone and place it in the hole, burying one node of the cutting. Firm the media around the cutting. Water sparingly then set in a bright area, but not direct sunlight.

Division — Herbs that propagate by rhizomes or form clumps of fibrous roots should be divided every three to four years. This is done by digging up the plant and roots, then cutting the mass into sections. Trim the foliage to approximately one-half to reduce the stress on the new plants. Plant the divided sections in their new locations and water them well. If planting in containers, place them in a bright area, but not direct sunlight. For the first two weeks, water frequently to help encourage root growth.

## “...a truly exciting group to explore and cultivate”

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NAME	CULTURE CONDITIONS
Lemon grass <i>Cymbopogon citratus</i>	P. FS-PS, WDS, moisten soil when top inch dry, pH 6.5 - 7. Space 24-inches apart. Propagation: root division
Lemon verbena <i>Aloysia citriodora</i>	P. FS, WDS. Propagation: Stem cutting, 2-feet apart
Sweet marjoram <i>Origanum majorana</i>	P (tender). May grow as annual. FS, WDS. Propagation: Cutting or division best
Oregano, Spanish or Wild <i>Origanum vulgare</i>	P. FS, light soil with pH 6 - 8. Water when leaves appear wilted. Propagation: Seed (slow)
Mint <i>Mentha</i> sp.	P. FS-PS, WDS, water regularly, but no wet feet, pH 5.5 - 6.5. Many go dormant in mid-summer. Cut back for fall growth. Propagation: Cutting or division best
Rosemary <i>Rosmarinus officinalis</i>	P. FS can tolerate partial shade, WDS, pH 6 - 7.5. Dry in between waterings. Propagation: cuttings and layering, seed slow
Garden Sage <i>Salvia officinalis</i>	P. FS Plant 18-inches apart

# Cilantro as a Microgreen



Pam Hunter  
GCMG 2018

Cilantro (*Coriandrum sativum*) as a microgreen? Absolutely! Microgreens are immature seedlings of herbs and vegetables which are harvested after being densely grown.

It would be a shame to leave cilantro out of your microgreen garden. Growing cilantro microgreens at home will add a zesty flavor and lots of nutrients to your food without the high price tag of microgreens at a market or store. Cilantro microgreens are easy to grow, are one of the more slowly growing microgreens, and are well worth the wait.

Cilantro microgreens are a tremendous source of vitamin K (258.33%), vitamin A (37.44%), vitamin B-complex, vitamin C (30%) and vitamin E (16.67%). They also provide moderate dietary fiber (10%) and essential minerals: copper (25%), and manganese (18.52%).

The difference between growing cilantro microgreens and just growing cilantro is all about harvest time. When it first sprouts from the seed, cilantro unfurls two grass-like cotyledon leaves. These delicious leaves taste just like cilantro, but with a smaller punch. Shortly after the cotyledon leaves emerge, the real first feathery true leaves appear. The cilantro microgreens now have the full cilantro flavor.

Before you jump in to planting cilantro seeds, you need to prepare a growing tray. Fill it just below the top with damp soil, smoothing as evenly as possible. Then spread the seeds across the entire surface. They need to be relatively close together but not overlapping, about 5 to 8 seeds per square inch. Cilantro microgreens need a little more spacing than other types because they will be growing for longer and developing more leaves. There is no need to cover the seeds with soil.

It is optional to soak the seeds; if you do, soak no more than 24 hours, then plant them immediately. Give the seeds and soil a misting of water and place a cover over the tray. This cover needs to block out all of the sunlight so the seeds can germinate. Cilantro microgreens need a cooler temperature to

germinate than other plants, about 70-degrees. Check on the seeds/soil every day, watering as needed. They may not germinate uniformly, but it will happen within 2 to 6 days.

It will be anywhere from 10 to 20 days until you see that the cilantro microgreens are getting ready to harvest. The cotyledon leaves will be open and green. Most importantly though, the first two leaves will have emerged. This window of time is the peak of flavor and nutrition for cilantro microgreens from root to leaf. The greens should be an inch or taller.

Stop watering the cilantro microgreens 12 hours before you're ready to harvest. This will eliminate excess moisture and prepare the greens for storage.

Now you just have to take your kitchen scissors and get to snipping. Cut the stems just above the soil level. Cilantro microgreens have a flexible harvest window so you may opt to harvest as needed instead of all in one day.

Like any homegrown produce, cilantro microgreens taste great when used fresh. Rinse them in cold water and add them to salads, eggs, a favorite Mexican dish, salsas, guacamole, on tacos, curries, and dips to name a few.

If you aren't going to use them right away, hold off on the rinsing step. To achieve proper storage, we want to keep the cilantro microgreens as dry as possible. Lightly press them in between two paper towels, and seal them in an airtight container. With this method, they will keep in the fridge for 5 to 10 days.

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Microgreens are in the cotyledon stage. In a few days they can be harvested. UF IFAS



Sprouting Pixabay.com



Microgreens MG Sharon Hemeon

# Be Adventurous: Grow these interesting herbs!



Sand McBride  
GCMG 2018

We always seem to grow the same herbs each year; they are like comfortable friends. We know how to care for them, how to use them in our cooking and beverages, or as insect deterrents, pollinator attractants, or because our cat loves them. We may experiment with different varieties of our favorites, but that's about as adventurous as we get. With a large number of interesting herb choices, why don't you try something new?

## Anise hyssop (*Agastache foeniculum*)

This beautiful perennial plant grows 36 to 60-inches and puts out spikes of lavender/pink flowers that bloom from spring through fall. It attracts bees and butterflies. The scent is similar to French tarragon, but a bit sweeter. It is used as a substitute for French tarragon. The leaves have a slight licorice flavor and can be infused in syrups or brewed in tea. Fresh flowers can be used in salads, beverages, and desserts. The leaves make a lovely vinegar, and the seeds are a nice addition to cakes and muffins.

## Borage (*Borago officinalis*)

Also known as starflower, this is a pretty annual plant about 20 to 24-inches tall. It produces light blue flowers in drooping clusters from June through October. Sow seeds after the last frost, as the soil warms. It does not need special soil, grows in sun to part shade, and will reseed itself. The extended bloom period attracts bees and other pollinators so it's a good companion plant in your garden. It also attracts aphids which will

attract lacewings and lady bugs to your garden. After going to seed, it will attract seed eating birds. The tender leaves are edible raw or cooked and the flowers raw, as garnish, or in beverages.

## Horehound (*Marrubium vulgare*)

A perennial herb which can be grown from seed, cuttings or division, it was used in ancient Greece and Rome and became popular in Europe during the Middle Ages. In history, it was valued for its medicinal uses. In America today, the leaves are used in tea, and as a flavoring for candy. The raw leaves are bitter, but when picked at early flowering, dried and combined with sugar they can make delicious confections. Horehound flowers continuously during summer and attracts bees to its nectar. Grasshoppers and aphids avoid the plant, so using horehound as a companion in your garden may be helpful. Horehound, a member of the mint family, can be aggressive so you may want to control it in a container.

## Lemon verbena (*Aloysia citriodora*)

This perennial shrub has graceful branches and long leaves that smell almost like lemon sherbet. When the plant flowers in spring, it produces small flowers of white or purple. This is when the leaves are the most flavorful. When harvesting leaves, cut back to a leaf node so the plant continues to grow. Lemon verbena can be planted in a sunny location to grow eight feet tall. It should be cut back almost in half in the spring to promote new growth. It can also be grown in a container. The leaves can be used fresh or dried. Add the leaves when



Anise hyssop Pixaby.com



Borage Pixaby.com



Basil pesto Pixaby.com

## “Why don’t you try something new?”

roasting chicken or poaching fish. They can be used in sauces, teas, drinks, sorbets and in baking. Wherever you would use lemon zest or want a lemon flavor, this is an ideal herb. Lemon verbena is not cold tolerant and best to provide protection during cold winters.

### **Lettuce Leaf Basil** (*Ocimum basilicum*) ‘Crispum’

A great basil to plant in your herb garden, it has curling, slightly quilted light green leaves up to five inches long. The plant grows to 24-inches. The leaves look similar to a lettuce leaf; imagine how good it would be added to a sandwich, the perfect size. It can also be used as a wrap stuffed with your choice of goodies. Like any other basil, it goes well in salads and in pesto. If you enjoy it, remove buds to prolong harvest times and practice successive planting. Growing requirements are the same as other basil, so give it a try.

### **Rue** (*Ruta graveolens*)

Rue is an attractive plant with blue-green lacy foliage. In summer it has bright yellow flowers which attract butterflies and bees. It is also a host plant for Swallowtail butterfly caterpillars. Rue is drought tolerant and works well in rock gardens. The flowers are often dried for bouquets or made into sachets to deter pests like fleas and ants. The plant sap can cause skin irritation, so take care and wear long sleeves and gloves. It is toxic to humans and animals.

### **Salad Burnet** (*Sanguisorba minor*)

This herb has been used for over 2000 years and was brought to America by European settlers. The stems can grow from 20 to 80-inches tall and are topped with flowers that range from white to red. Grow in full sun with well-drained soil. Known as the cucumber herb, the young leaves can be substituted when you want the taste, but not the actual cucumber.

It can be used in salads, added to vinegar, made into herb butter, or used to flavor cream cheese. It also makes an attractive garnish. It is a versatile herb that would be a great addition to your garden.

### **Stevia** (*Stevia rebaudiana*)

Commonly known as sweet leaf, this tender perennial plant grows about 12-inches high with floppy stems covered with green leaves. It prefers sandy, well-drained soil and full sun exposure. The leaves are 200-300 times sweeter than cane sugar. It produces flowers that are primarily white with no scent and are often removed so energy goes into leaf production. The leaves can be pulled and eaten or added to water or tea. They are often dried and used as a sweetener.

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Lemon Verbena Pixaby.com



Rue Pixaby.com



Stevia MG Briana Etie

## Herbs and Scent



Bronia Michejenko  
GCMG 2015

People have used scented herbs such as lavender, mint, and rosemary to enhance the flavor of food and pleasantly scent our homes for centuries. How to capture the essence of plants by drying and extracting essential oils have also been learned. In nature, essential oils play roles in plant defense and signaling processes. They are involved in plant defense against insects, herbivores, and microorganisms, including the attraction of pollinating insects and fruit-dispersing animals, water regulation and germination or growth inhibitors.

A pot of rosemary in the kitchen provides both scent and a convenient herb for cooking. My mother gathered lavender seeds into sachets and placed them in linen and clothes drawers. An easy way to add fragrance to your home is to slowly simmer a pot of water with fresh or dried scented leaves. Cloves, oranges, and cinnamon can be added to enhance the scent. Add water as the mixture evaporates.

### Drying Herbs

Air drying in the right conditions is considered a good method for drying herbs. Slow, cool drying preserves the flavors of herbs. Herb stems are cut and hung upside down to dry. Using small bunches of stems allows air to circulate between the stems. Label the herbs as once they dry, they look different. Hang herbs in a dark, warm, dry, well-ventilated space. The leaves should dry for one to two weeks. Herbs can also be dried on screen racks in one layer. Some ovens come with a dehydrator setting that is ideal for quick drying. Once they are dry, remove the leaves from the stems and store in an airtight container. They should last up to a year. Dry herbs can be used for cooking or for a potpourri.

### Extracting the Essential Oil of Herbs

The essence of a plant can be extracted as an essential oil using various techniques. Essential oils are 75 times stronger than herbs that have been dried, and are commonly used for aromatherapy. Essential oils can be extracted from scented herbs using various techniques that include steam distillation, a very common method used with most herbal plants. Cold pressure is another method using a press or hand to crush and extract oils from citrus peels. Another extraction method is solvent extraction. Plant materials are placed in solvents such as ethanol. The



Cuban oregano MG Karolyn Gephart



Extraction still MG Intern Donna Merritt

oils are released and produce a waxy aromatic compound called a concrete. When this concrete substance is mixed with alcohol, the oil particles are released. This process is used by aromatherapy and the perfume industry. Carbon dioxide extraction is like distillation, but instead of steam uses CO<sub>2</sub> as a solvent. The extraction is not altered by the heat of distillation and is closer to the original plant chemical composition. Distillation stills for this purpose are used.

Here are two scented herbs that can be grown in Galveston County and how to care for them.

Cuban oregano (*Plectranthus amboinicus*)

## “Scented herbs make gardening pleasurable...”



Scented geranium MG Karolyn Gephart



Herb drying rack MG Sharon Hemeon

Cuban oregano, with the scent of menthol or camphor, is a semi-succulent tropical plant hardy in Zones 9-11 and is a member of the Mint Family (Lamiaceae), also known as Mexican mint, Indian borage, and Spanish thyme. Interestingly, it is neither from Cuba nor oregano. I grow a variegated species as an ornamental with geraniums in pots as it makes a nice cascading display. The plant can be grown in full sun but prefers semi-shade. It likes a loose, well-draining soil. Avoid overwatering and allow it to dry out between watering. The plant is not cold tolerant. Once the temperature falls below 60-degrees, it needs to be brought inside. I take a few cuttings and plant them in small pots on the kitchen window where

they root easily. The leaves can be used to flavor meat, fish, and bean dishes. The flavor is more intense than the common oregano so use cautiously. Add dried leaves to potpourris. This plant can be propagated by seed, cuttings and root division. Gardeners frequently rub leaves on their skin to repel insects.

### Scented leafed geraniums (*Pelargonium* spp.)

Scented leafed geraniums are a group of species within the *Pelargonium* genus that have leaves that emit a fragrance when touched or lightly bruised. The fragrance is contained in small beads of oil located at the base of the tiny leaf hairs. The oils are often used in aromatherapy to invoke feelings of peacefulness, calm and happiness. Popular scented geraniums include rose, apple, chocolate mint and citronella. Geraniums are considered a perennial in Zones 10-11. In our region of Texas geraniums do not tolerate the heat and drought conditions of our summers, but we do have success with Citronella (*Pelargonium graveolens* ‘Citronella’). It is commonly called the Mosquito plant although it is not effective in repelling mosquitoes. Citronella prefers well-drained soil which is not too rich. Water when soil feels dry. The leaves can be dried and added to potpourris. Place the plant along walkways and entrances where people will brush up against the leaves. Propagate from stem cuttings or seeds.

Having a few scented herbs in your garden makes the gardening experience more pleasurable as you brush against them. If we are adventurous, we can dry our herbs for cooking and potpourris and even attempt to make our own essential oils.

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# Using Kitchen Garden Herbs



Elayne Kouzounis  
GCMG 1998

One of the most rewarding ways of flavoring food and giving a familiar dish a unique signature is using herbs. There's something satisfying about stepping outside on a warm summer evening to snip fresh chives, cilantro, and/or young sorrel leaves to add to a green salad; sprigs of tarragon to put on your roasting chicken; or big bunches of parsley for an authentic tabouleh. Reach for a couple of bay leaves to garnish a terrine or flavor a winter stew and you are instantly transported back to the sunny morning when you picked them and hung them to dry in your kitchen.

Most herbs are easy to grow, demanding little more than a sunny location and light, well-drained soil. Whether you have a garden plot or just a few herbs on the windowsill, being able to pick your own herbs and use them instantly, when the essential oils are at their most flavorful, is richly rewarding.

Dried herbs are more pungent than their fresh counterparts. You only need between one-third to half the quantity. This can be a drawback as dried herbs you seldom use may have lost much of their flavor by the time the jar is empty, so store them carefully, away from direct sunlight, and check the jars often. Buy little and often and throw away any herbs that have become tasteless or musty, or that you know are more than a few months old.

The best way to familiarize yourself with culinary herbs is to be adventurous and to experiment with all sorts of different herbs. Although some herbs have a natural affinity with certain foods (rosemary with lamb, sage with pork, dill with fish, and basil with tomatoes), it is quite often the unexpected combination that produces the most exciting results. From soups,

savory dishes and salads to desserts and refreshing drinks, explore the wonderful world of culinary herbs.

Using fresh instead of dried herbs for a dish can create quite a different taste. Fresh herbs have a lighter flavor and a wonderful aromatic quality that is unrivaled by any dried herb.

Using your herbs:

**PICKING** - Harvest herbs often. Early in the morning is best. Remove the outer leaves of parsley first and pick off the tops of basil frequently to stop the plant from flowering too early.

**DRYING** - Herbs are best dried naturally, hung in an airy passageway or kitchen, or laid in an oven heated to the lowest temperature, then turned off. Strip off the dried leaves from the stems and store whole or crumbled in airtight jars.

**CHOPPING** - Use either a sharp broad-bladed knife or a mezzaluna (a curved blade with a handle at either end) for chopping herbs. The simplest way to chop small amounts of parsley and similar herbs is to put them in a mug and snip them using a pair of scissors.

**FREEZING** - Chopped or finely snipped tarragon, mint, chives and basil freeze well. Pack them in ice-cube trays, fill with water and freeze until solid, then wrap in plastic wrap, label and return to the freezer for up to six months.

**HERB BUTTER** - For a savory butter, put the butter in a mixing bowl and beat with a wooden spoon or electric beater until soft. Add the flavoring. Season savory butter to taste with salt and pepper. Blend well. Transfer the butter to waxed paper and shape into a neat roll, handling it as little as possible, to keep the butter cool. Wrap, seal and refrigerate until firm; if properly packaged, the product can last up to 1 month. Cut into discs.



Chamomile oil Pixabay.com



Herb butter Pixabay.com

## *“Be adventurous and experiment with herbs...”*

**BOUQUET GARNI** - Make your own fresh bouquet garni by tying together a bay leaf and a sprig each of thyme, marjoram and parsley.

**MAKING HERB OILS** - Capture the very essence of herbs in oils, which you can then use as ingredients in your cooking. Use fine virgin olive oil. Herbs should be collected in the morning after the dew has dried, but before the flavors have dissipated in the hot sun. Allow the moisture from the freshly picked herbs to evaporate completely before use; otherwise they may become moldy. Homeowners should take care properly preparing infused oils to avoid the potential for botulism poisoning. Penn State Extension recommends acidifying herbs for a healthy product, and cautions that methods are meant specifically for herbs listed in their article and not for vegetable products. Once infused, the oils made with fresh herbs must be refrigerated and used within a few days; oils infused with dried herbs and refrigerated can last up to several months. Pour the infused oil into a wide-mouthed jar, then strain and decant into a pretty bottle. Remember to label each bottle with the herbs used to make it.

**MAKING HERB VINEGARS** - Herb-flavored vinegars give a delicious depth and variety to salad dressings and many savory dishes and, if they are used sparingly, will enhance the flavor of fruits such as strawberries, peaches, and nectarines that are not quite ripe. Use the vinegars within approximately three months of making. Heat the vinegar in a saucepan for a few minutes. If using spices, add them now and let sit for five minutes, then pour the hot liquid over the herbs. Cover the mixture with a square of muslin or cheesecloth, and let infuse



Mint Pixabay.com



Thyme oil Pixabay.com

for a few days in a cool, dark place, such as a cupboard or pantry, stirring occasionally. Strain off the vinegar from the herbs and spices and pour it into a clean dry bottle, add a sprig of the herb used to flavor the vinegar to denote the flavor and seal the bottle with a cork. Herbal vinegars are very easy to make, and it is worth experimenting with your own favorite flavors. The ratio of herbs to vinegar can be varied to produce milder or stronger flavors, with surprisingly successful results.

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Herb oil Pixabay.com

# Herbarium: History and Purpose



Vicki Hall  
GCMG 2023

An herbarium (plural: herbaria) is like museums of preserved plants, fungi, and algae. It's function

is to document biodiversity, by providing a baseline that gives us an understanding of how our biodiversity is changing, and what that means for civilization and life on earth.

Many herbaria hold botanical specimens collected from around the world as well as significant regional plant collections. Herbaria provides information that can be used in research, education, and conservation. They play the role of documenting specimens associated with research so they may be used later and provide access to previously collected specimens as requested. An herbarium specimen is a voucher documenting a species growing at a given site at a certain time. These specimens provide raw data supporting our scientific knowledge of what species exist, their diagnostic features, the range of variation existing in each species, and where that species occurs. In this regard the herbaria of the world play an important role in the scientific heritage of humans.

Herbaria were established throughout Europe in the 1600s during the age of exploration. Botanical gardens couldn't keep living collections of all known species, so preserving and storing specimens became common practice. The United States (U.S.) established herbaria in the 1800s, and currently has over 400 registered herbaria with a total of five million specimens, nearly a quarter of the world's herbarium collections. New York Botanic Gardens, the largest herbarium in the

U.S., was established in 1891 with over seven million specimens. Europe has the largest herbarium in the world at the National Natural History Museum in Paris, France with over 9.5 million specimens. In addition to the New York Botanical Garden, the largest and most active herbaria are the Missouri Botanical Garden, Smithsonian Institution, Harvard University Herbarium, Chicago Field Museum, and the universities of California, Texas, and Michigan.

Many of the plant groups represented in the U.S. National Herbarium rank among the finest and/or largest in the world. Flowering plant families have a long history of research and study. The lichen herbarium is one of the largest and best curated collections, housing approximately 230,000 specimens. The collection of ferns is significant due to its size, scientific and historical value. Algae specimens have increased over the past two decades and are an important resource for the study of tropical and subtropical marine specimen identification.

Herbaria documents the world's flora and provide a continuous and permanent record of botanical diversity.

This information will become an important baseline for understanding the effects of global climate change on plants and plant communities. Herbaria are a catalogue of our planet's flora over time and can provide a detailed record of historical change and preserve the only records of extinct species. These specimens play a critical role in the science of taxonomy, the process of identification, naming, and classification of species. Herbaria contains many valuable and unique collections, such as "types" specimens, the original specimens on which plants'



All photos courtesy of Philecology herbarium, Botanical Research Institute of Texas at the Fort Worth Botanic Garden

## *“...an important role in the scientific heritage of humans”*

Latin names are based. Herbaria specimens provide data on the structure, distribution, growth, and reproduction of plants.

Specimens are collected by faculty, students, botanists, biologists and environmental consultants. As a standard, multiple specimens are needed to document the variability that exists within a species. The variation of a species is driven by many factors such as growing conditions, time of year, and age. For example, some species have leaves of different sizes and shapes. Some plants have shade leaves that are larger than sun leaves and in aquatic plants leaves above the water are larger than those under the water.

Most plant specimens are dried by pressing the tissues, allowing materials to be mounted on acid free rigid archival sheets or stored in packets, as well as seed, fluid, and slide collections. Bulkier plants and fungi are dried without pressing, requiring longer amounts of time for processing, using drying devices to maximize airflow and/or maintain temperatures, and the use of boxes for storage. When collecting a specimen, botanists frequently choose plants that have many characteristics useful for identification, e.g., leaves, roots, flowers, and fruit.

Herbaria receives dried biological records and data, organizes, and safeguards them. Botanists record detailed information about each specimen and include a label that indicates the specimen's scientific name, collector's name and number, collection date, collection area latitude/longitude, habitat, and other ecological conditions. Properly curated and protected plant specimens will last indefinitely when kept free from damaging insects, water, fire, light, and extreme temperatures. Together, the specimen and label tell a story about a species in a particular place at a particular time.

Collections are used in outreach and teaching for public and private sectors as comparative material to aid with plant identification, and mostly used by taxonomists. Specimens are also used for systematics, ecology, anatomy, morphology, conservation biology, biodiversity and paleobiology. Specimens can also be used in a service role to provide identifications for suspected plant poisoning cases and to aid in the identification of agricultural pests. They can provide physical material for DNA extraction and genome and/or chemical analysis and pollen sampling.

This topic is diverse and extensive, and the size of these collections and the associated data being maintained can be a bit overwhelming. The specimens are beautifully historic, portraying the flora in ways that allow you to view century old plants today, but viewing millions of plants in hundreds of herbaria is just not possible. Now, herbaria are in the process of augmenting their collections by digitizing specimens; that is imaging them, transcribing the information on the labels, and making the data available online. While digital specimens cannot replace physical ones, they are creating new research and learning opportunities, which allows researchers to quickly collect tremendous amounts of data, answering the big questions about biodiversity, conservation, and climate.

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All photos courtesy of Philecology herbarium, Botanical Research Institute of Texas at the Fort Worth Botanic Garden

# The Poetry of Flowers, Elegance of Floriography and Tussie-Mussies



Camille Goodwin  
GCMG 2008

Before instant digital messaging, where no one has to relate face to face and tact often seems to be lost, social customs and etiquette of the Victorian age demanded discretion. Communications of friendship, love, sorrow, rejection, or other strong emotions were done through coded words using a mixture of fragrant foliage, herbs, and blooms in very small, round or symmetrical floral arrangements called tussie-mussies. Tussie means a knot of flowers and herbs, and mussie, the moss wrapping flower stems to

keep them fresh. These posy groupings, sometimes called nosegays, were usually given as gifts. They were a popular fashion and status accessory for the upper class and worn at balls, dinner parties, the theatre and other social engagements of the time.

Tussie-mussies were so trendy in Europe and the USA in the early to late 19th century, countless dictionaries were published that provided specific meanings of floral combinations to express an entire dialog of sentiments without a word being spoken or written. This language, developed from writings of flowers in poetry, religion, mythology, medicine and sometimes the shape of the flower was known as floriography. Floriography assisted in either designing and creating a bouquet with accurate expressions and emotions or deciphering the conversation of a bouquet received. Tussie-mussies are known as “talking bouquets” where each flower, including its color, must have a symbolic meaning to create precise and very personal messages. Were the leaves or thorns left on or removed? Further, how the gift was given, by the left hand (= no) versus the right hand (= yes), how the bouquet was held or where the bouquet was worn all provided hidden meanings of intent (worn at heart level = acceptance or happiness; if pointed downward = rejection). Rosemary = remembrance, Thyme = good health, willow = sadness. Rose colors were complicated during this time. Red = romantic love, white = “I am worthy of you,” yellow = friendship, pink = “you are graceful.” Some flowers you wouldn’t want to receive: flowering almond = thoughtlessness, common basil = hate, hydrangea = “you are cold,” garlic = “I can’t stand you!”

As complex as the selection of flowers and herbs could be to convey an emotion, small posy vases or “porte bouquets” were beyond extravagant for such a diminutive ornament to complete a lady’s outfit. Most were 4 to 7-inches or less in length. These decorative art pieces were often opulent with pearls, jewels, precious metals, wirework, mother of pearl and porcelain. Many were made by jewelers or potters who made each a one-of-a-kind accessory. Some holders could be carried, others could be worn, and some had foldable feet to sit on a table. Many had flirting mirrors for discretely checking out a gentleman or perhaps the competition. Others had a place for dance-cards and a tiny pen. Flowers were kept fresh for an occasion as the vase provided a water source and also protection for the gloves or clothing of the wearer from plant pigments. Men wore smaller bouquets as boutonnières or lapel pins.

Irene Deitsch is a collector extraordinaire of antique posy holders. With her permission, the photos in this article are from her personal collection. To learn their detailed history and see more of these stunningly beautiful items, Deitsch has written a book, *Tussie-Mussies: A Collector’s Guide to Victorian Posy Holders*



## “A popular fashion and status necessity...”



(2016).

Here are several floral combinations for talking bouquets:

From *The Language and Poetry of Flowers* by C.M. Kirtland, published 1884

“I Love to Disappoint Your Curiosity”: Love – rose; Disappoint – lilac; Curiosity – sycamore

“Meet Me Tonight, Do Not Forget”: Meet me - Everlasting pea; Tonight - night convolvulus; Do not forget - Forget-me-not

From Geraldine Adamich Laufer’s book, *Tussie-Mussies, The Victorian Art of Expressing Yourself in the Language of Flowers*, published 1993.

Consolation for a Hangover: Excess - gilded rose; Welcome home husband however drunk-ye-be – hen and chickens; Mirth - poppy mallow (winecups), hops/beer; Carousing, abandon – grape; Rashness wantonness - butterfly bush; A jibe, poking fun – pokeweed; Misery - marigold; Drunk and blowsy - red valerian



Secret tryst: Dangerous love, voluptuousness – tuberose; Passion, love - red rose; Remembrance – rosemary; Preference - rose geranium; An expected meeting - nutmeg geranium; Do not forget me - forget me-not; Flee - pennyroyal

From *Floriography, An Illustrated Guide to the Victorian Language of Flowers* by Jessica Roux, published 2020

Bouquet for apology: Ask forgiveness – hyacinth; Humility – bluebell; Bashfulness – peony; Peace - olive branch

Bouquet for Sympathy: Condolences – chrysanthemum; Grief – marigold; Better days ahead- lily of the valley; Mourning – Cypress; Consolation - mint

In addition to the above noted books, *Flora’s Dictionary - The Victorian Language of Herbs and Flowers* by Kathleen Gips (1990) provides plant meanings by the flower and also by the sentiment, a flower game, a monthly floral calendar and describes a Victorian-themed garden bed arranged to tell time based on when the flowers open and close.

Today, many of the floral meanings have changed, but modern forms of talking bouquets are still used in today’s floral arrangements, wedding bouquets, gifts for new babies, get well messages, birthdays, funerals and congratulatory events. Learning to make a tussie-mussie is popular again. Garden clubs, botanical gardens, herb farms and societies, and even the Smithsonian Museum hold workshops on making this small floral gift.

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# Herbal Cures



Briana Etie  
GCMG 2017

Herbs that we grow successfully today are from all over the world. We enjoy their beauty and ability to enhance gardens and landscapes. We love the way they delight our senses and culinary dishes. We also benefit from “herbal cures” in or around vegetable gardens as lures for beneficial insects, repellents, or trap crops.

A trap crop is a sacrificial plant placed near a desirable crop to draw away damaging insects. As I mentioned in a previous article, sunflowers can be a lure for stinkbugs and leaf-footed bugs. Timely planting of trap crops requires forethought. The trap crop must be flowering or large enough to lure pests at the stage vegetables need protection.

Insects use chemical scent and taste to recognize host plants. The plant’s chemistry determines the appeal to an insect. Those same chemical scents can repel some insects from attacking individual plants. While extracted plant compounds used in insect repellent products can be effective, an individual or grouping of plants with these properties may have limited success repelling pests.

Many herbs and flowering plants can become biological control assisted crops. Herbs that are planted in proximity to vegetables can enhance populations of beneficial insects that will manage harmful pests. Some of the beneficial insects are attracted to the scent a plant emits when it has been munched on by a caterpillar.

Using trap crops effectively involves understanding pest species’ life cycle. The three main pests that cause the most damage in my garden are Tobacco hornworm, Squash bug, and Cabbage looper. The adult form of the hornworm, Carolina sphynx moth (*Manduca sexta*), has two generation cycles an-

nually. Adult moths lay three to five eggs on the top portions of host plants in the Nightshade Family (Solanaceae; includes tomato, potato, eggplant, peppers).

After the eggs hatch, caterpillars with voracious appetites eat the host plant’s leaves for three to four weeks. The caterpillars molt through five instars before returning to the soil to pupate into adults. After dark, these moths are experts at finding sweet-smelling flowers like Devil’s Trumpet (*Datura* sp.) or Four O’clock (*Mirabilis jalapa*). You could find them sipping nectar from these flowers with long floral tubes from dusk till dawn.

Numerous claims have been made that intercropping basil, dill or borage near your tomato plants may repel the dreaded horn worm. However, no data from scientific studies are available to prove the value. While extracted plant compounds used in insect repellent products can be effective or make companies money, no one has proven a grouping of plants with these properties may have success repelling pests. Basil also attracts bees, improving pollination, tomato health, and flavor. Dill attracts lady beetles that in their larval stage eat small garden pests such as aphids and spider mites.

Squash bugs (*Anasa tristis*) and Cucumber beetles (*Diabrotica undecimpunctata*) may be repelled with intercropping nasturtiums. Nasturtiums can be found as two different species *Tropaeolum minus*, and *Tropaeolum majus*. *T. minus* is a dwarf non-vining species. *T. majus*, the climbing/vining species, works the best and needs to be planted in abundance, allowing the vines to intertwine with the squash or cucumber plants. For ground squash allow the nasturtiums to cover the ground and stalks.

Squash bugs destroy plant tissue by sucking out sap from



Basket of herbs All photos by MG Briana Etie



Cabbage looper

## “...lures for beneficial insects, repellents, or trap crops”

leaves and stems and depleting nutrients from the plant. This feeding causes leaves to wilt and dry out. The leaves eventually turn black and fall off the vine. Adult pests can be seen feeding on squash. These bugs can be easily confused with stink bugs.

Cucumber beetles have a lifespan of about eight weeks and are especially active in the springtime when the stems and leaves of the plants are young and tender. These oblong-oval beetles with shiny backs, usually yellow green with black spots or stripes can be found feeding on the flowers of cucumber, squash and pumpkins, melons, and possibly on ornamental flowers as well. These beetles carry viruses and bacterial wilt.

Squash vine borers (*Melittia cucurbitae*) are the worst! Texas A&M suggests planting Hubbard squash as a trap crop ahead of summer squash.

Cabbage looper (*Trichoplusia ni*) adults emerge in the spring, mate, and fly to a suitable host plant. The eggs are light green and slightly flat. Within about three days, small caterpillars hatch from the eggs. The caterpillars feed for four weeks then grow through several instars before spinning a silk cocoon on a leaf in which they form a green pupa. Adults emerge in about thirteen days. Development from egg to adult can be completed in about thirty-five days. Four generations can be produced annually.

Radishes and arugula can be planted early as a trap crop away from plants in the mustard family (Brassicaceae). Mustard and nasturtium plants are known host plants for cabbage moths, and attract hungry caterpillars away from brassicas, making an exceptional trap crop. Cab-

bage moths are drawn to mustard plants, which may keep cabbage moths away from plants. Intercropping borage in vegetable gardens can attract pollinators for veggies that need bee pollination like squash, cucumber, and beans.

Basil and marigold plants growing near rose gardens and hibiscus can trap thrips. Tansy is a real draw to pest-eating bugs such as lady beetles, and predatory wasps. At the same time, tansy repels many of the common cutworms that attack asparagus, beans, cabbage, carrot, celery, corn, lettuce, pea, pepper, potato, and tomato plants.

Add more flowers! Calendula and marigolds entice pest-hungry beneficial bugs and serve as a trap crop for nematodes. When in doubt, plant umbellifers (Apiaceae) flowering plants in the carrot family such as fennel, dill, caraway, angelica, and Queen Anne's lace. Umbellifers nearby will attract tiny parasitizing wasps and aphid-hungry hoverflies.

Biodiversity gives gardens the best control for managing insect pests. It provides a huge range of predatory and parasitic natural enemies of pests; a community ecology operating locally in our landscapes provides balance.

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Herb spiral All photos by MG Briana Etie



Herb Garden at Discovery



Kitchen herb garden

# Try Different Herbs When Cooking



Karyl Mehlman  
GCMG 2022

Herbs are such good things. They look nice and usually smell divine. They add flavor to foods and drinks. They are available in small amounts at nearly every food store. They are easy to grow and, in many cases, are considered weeds.

Herbs are the fresh and dried leaves of plants and are usually green in color. In contrast, spices are the flowers, fruit, seeds, bark, and roots typically of tropical plants and range from brown to black to red in color. In general, spices have a more pungent flavor than herbs. It is possible for one plant to produce an herb and a spice. For example, leaves of cilantro (*Coriandrum sativum*) are used as the herb cilantro while the seed is used as the spice coriander.

The spice trade was in existence at least 3,500 years ago in Asia. In the late 1800s, the United States entered the trade and became the largest spice importer and consumer in the world. Because herbs are commonly grown in temperate climates, most consumers had to purchase dried herbs. Today, the business of producing fresh herbs for consumption has become one of the fastest growing industries in agriculture. The United States produces about 200 billion pounds of herbs and spices per year.

Now that you have purchased or grown the herbs, how do you use them? Just about any way. They can be eaten fresh or added to a salad or to almost any dish whether it be a one-pan dish made on the fly or one more carefully roasted, baked or broiled. They can be dried best in a food dehydrator for a couple of hours and then stored for later use. Dried herbs may taste like the fresh, may be stronger or milder, but are generally satisfactory. Don't be prevented from using a recipe due to not having a particular herb or ingredient. Check for

substitutes. Even hummus can be made using peanut butter instead of tahini.

Recommendations for what herbs to use with what dishes are easy to find. A good non-commercial source can be found at TAMU and from cooperative Extension programs of many universities.

To try cooking with unusual herbs, consider the following:

**Marjoram** (*Origanum marjorana*) is closely related to oregano, has a mildly sweeter taste and can be used as a substitute. It is heat sensitive and should be added only near the end of cooking to preserve its flavor.

**Chervil** (*Anthriscus cerefolium*) has a more delicate flavor than parsley. It is used to season poultry, seafood, and vegetables.

**Shiso** (*Perilla frutescens*), also known as perilla mint or beefsteak plant, is an ancient Japanese herb. There are two kinds of shiso. Green shiso is the most common and has a minty basil flavor that works with rice, seafood, soy sauce, and garlic. Leaves but not stems are edible and its oil should never be heated because it can release lung toxins. It is invasive like other mints, highly toxic to cattle and horses, and is a skin irritant to humans. Try it with Japanese cuisine.

**Lemon verbena** (*Aloysia triphylla*), the strongest of lemon herbs, is excellent used fresh in teas or dried for later use in cakes and cookies. It can grow to 8-feet and needs winter protection.

**Lemongrass** (*Cymbopogon citratus*) is used in many Southeast Asian dishes. It is a perennial grass that grows in large clumps with stiff stems that can be used to flavor dishes, but are typically removed before serving. The stalks (leaf bases)



Culinary chervil Pixabay.com



Lemon verbena Pixabay.com



Lemongrass Pixabay.com

## “Herbs to use...are easy to find”

are the heart of young shoots after leaf removal. Shoots are usually diced, much like and often with onions and garlic, and gently fried in oil to be added to sauces, stir-fried dishes of chicken, beef or pork.

### Proven herb recipes

Various amounts of several herbs may be left over after harvest. Try putting the leaves and tender stems into salads and sauces. In a blender, add a small amount of virgin olive oil, salt and pepper to taste to herbs and grind to use as a marinade or a coating on meat or fish. Add more olive oil and grind more, run the mix through a strainer, and get amazing herb oil for use in or on anything. One recipe that uses left over greens and herbs at the end of summer is an easy-to-make dish called:



Pixabay.com

### Spanakopita (Greek Savory Greens Pie)

Brush a 9-inch pie plate with olive oil and set on a parchment-lined baking sheet.

For the filling: Chop 8 cups mixed greens such as spinach, watercress, Swiss chard, arugula and their tender stems. Avoid hearty greens like kale and collards. Add 1 cup herbs like dill, parsley, chervil, and chives with their tender stems. Add ¼ cup olive oil to greens, massage gently and set aside.

In a small sauté pan add 1 tablespoon olive oil, 3 sliced scallions (both white and green parts), 2 cloves garlic sliced, and cook on medium heat for about 5 minutes. Add to greens, mix, and add a large egg and 2/3 cup trahanas. One of the oldest foods in the Eastern Mediterranean, trahanas are tiny, pebble-shaped grains from Greece; may substitute rice, barley or couscous). When mixed, fold in ½ pound crumbled Greek feta.

Unroll 6 sheets of thawed phyllo and keep it covered with a moist kitchen towel. Working with one sheet of phyllo at a time, lay phyllo so that it is just off centered in the pie pan with excess draping over the rim and brush with 1 tablespoon olive oil. Repeat with 3 more sheets of phyllo, each sheet placed perpendicular to the previous one, brushing with olive before adding the next.

Add greens mixture to phyllo-lined pie. Fold excess phyllo over greens and drape the remaining 2 sheets of phyllo over the top. Drizzle with more olive oil, bake in preheated 400-degree oven until golden brown, about 45 minutes. Cool at least 15 minutes before serving.



MG Karyl Mehlman

**Lentils** without herbs may fall flat. Try this easy but well thought out recipe; adapted from *Easy French Lentils With Garlic and Herbs Recipe* by Daniel Gritzer:

1 cup lentils, picked over for stones.

1 each: carrot and yellow onion – cut each in half, and one medium rib celery. Dice remaining carrot and onion and hold for later.

2 cloves garlic and 2 to 3 sprigs rosemary, thyme, sage, or other combination.

2 tablespoons butter, kosher salt and freshly ground pepper.

Preparation:

In a large saucepan, combine lentils with the half carrot, half onion, garlic, and celery. Cover with 2-inches water, generously salt (water should taste as salty as you want finished product). Simmer until lentils are soft (smash one against the roof of your mouth) – around 20 to 25 minutes. Retain 1/4 cup of cooking liquid for later use.

## “Try cooking with unusual herbs...”

Halt cooking by adding ice and cold water. Discard carrot, onion, celery, onion and garlic. Lentils can be refrigerated for two days before continuing.

In a large saucepan, melt butter, add diced vegetables, cook until tender (about 2 minutes) then add drained lentils with 1/4 cup of cooking liquid and simmer until lentils are heated through and liquid has evaporated so that lentils are coated in a creamy glaze. Add 1 teaspoon of vinegar until lentils have a pleasant bright flavor (tangy but not strongly sour), season with salt and pepper. Garnish with parsley, and serve warm.

**Lime-Cilantro Dressing** (can serve as marinade for chicken and kebabs as well)

In a food processor, add 3/4 cup virgin olive oil, 1/2 cup chopped cilantro leaves, juice of two limes, 1 tablespoon white wine or plain vinegar, 1 tablespoon honey, 2 garlic cloves chopped, 1 teaspoon onions or chopped shallots and 1/8 teaspoon salt. Pulse for one minute. Refrigerate for up to two weeks.

**Creamy Herb Dressing** (can be used as a vegetable dip or on salmon)

Same as above with the addition of 1/2 cup sour cream yogurt and juice of one lemon instead of lime and 1/2 cup of olive oil instead of 3/4 cup. Pulse for one minute and store for up to two weeks in refrigerator.

### Herbed Honey Mustard Dressing

Same as Lime-Cilantro Dressing with one tablespoon Dijon (or regular) mustard, and use of 1/4 cup of chopped fresh herb leaves such as parsley, basil, dill, or thyme (your choice). Pulse for one minute and store for up to two weeks in refrigerator.

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Marjoram MG Karolyn Gephart



Perilla-frutescens-Purple-Shiso NC Extension

# A Giant of an Herb, the Elephant Ear



Jan Brick  
GCMG 2001

Elephant ear (*Colocasia esculenta*); Taro, Yam-Yam, Amadumbe, Cocoyam

Elephant ear are giant leafy tropical plants that have been used by humans since the time of the Byzantine Empire, as witnessed in ancient mosaics from Israel and tribal traditions passed through generations expounding its culinary usefulness. *Colocasia esculenta* are grown for their edible corms, a traditional starch staple in many tropical zones. Believed to have originated in Southeast Asia and introduced to southern Africa by Portuguese traders sometime before the 1500s, this large robust plant has sizable leaves borne on thick stalks thrusting from corms, appearing on the ground surface or just below the surface itself. They are used as a featured ornamental in home landscapes. Elephant ears thrive in moist heavy soils with the use of a balanced fertilizer every three or four months.

Although elephant ears are magnificent landscaping plants and have been cultivated as food crops, caution should be observed with placement near children and pets as the raw plant is poisonous. A chemical compound of calcium oxalates in these plants can cause intense discomfort to lips, mouth and throat – even serious illness or death if consumed in large amounts.

Elephant ear is called a survival food and can be harvested at any time of the year. The young leaves are rich in vitamins C, B1, B2 and niacin, while the tubers contain amino acids and are a good source of starch. When preparing taro as a meal, several steps are important to avoid issues with toxicity. The leaves must be deveined and the skin removed from the corms, soaked in cold water overnight then cooked well. After the pre-boiling, the leaves and stalks can be cooked into curries, soups, stir-fries and casseroles. The corms may be eaten as a boiled vegetable or cut into chips. They are often used in dessert recipes as well.

## Polynesian cuisine:

Poi is a popular dish made from the cooked and mashed up corms of elephant ears that is often served at luaus and plate lunch cafés in Hawaii. The dish is called Taro when used as a potato style vegetable. A popular soup rich in iron may be made by boiling the leaves with coconut milk. Kolokasi is a common meal that includes elephant ears cooked with celery, pork or chicken.

## Indian cuisine:

Leaves are used to make a sweet and sour curry with peanuts and cashews. This is a popular dish served at weddings. After drying the leaves, they can be powdered and kneaded into dough then baked into biscuits, burned, and dissolved into boiling water to make gravy. The leaves can also be utilized as a wrap for fish for steaming; a thick creamy curry made with roots is served with prawns; stems may be grated with coconut for chutney.

NOTE: Wear gloves when handling elephant ears as they do contain a natural chemical compound that can cause skin irritation.

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Taro root Pixabay.com



Taro field crop Pixabay.com



Elephant ears in the rain Pixabay.com

# Lichens: The Fungus Among Us



Marilyn Haupt  
GCMG 2019

I am always excited to find lichens in my gardens. I find their structure and function quite fascinating. Nestled on branches of trees and on stones, you may find these odd growths known as lichens. There are over 20,000 species of lichens found worldwide, including the arctic and the tropics. Fossilized lichens dating over 600 million years ago have even been found.

There are four main forms of lichens of various shapes and sizes. Crustose lichens are found growing on rocks. They have a rounded, crusty appearance. Foliose lichens are leaf-like in appearance and vary in color. There are two types of fruticose lichens. One is bush-like and the other is hair-like and typically hangs from trees. All lichens can be transported to new sites via animal, wind or rain.

Lichens are made up of a combination of organisms, with fungus comprising the majority of the structure. The larger fungal material envelopes algae and cyanobacteria in an inner layer called the thallus. It is the thallus that gives rise to the color of the lichen. Together, these organisms work in a symbiotic relationship to provide benefits to themselves and the environment around them. The structure of the fungus provides protection for both its partners and for insects seeking camouflage and shelter. Birds may also utilize its material to line their nests. In very cold climates, lichens are a large food source for members of the deer family.

The fungal portion of the lichen itself also serves as an excellent source of nitrogen for the soil. Algae and cyanobacteria are photosynthetic organisms. This photosynthetic action produces and supplies nutrients such as carbohydrates to the fungal portion of the lichen. It is this process that allows lichens to live on soil-less spaces. Growth is slow for most lichens and it is dependent on the availability of both sunlight and water.

Lichens also obtain important nutrients and minerals from the environment. This makes them very prone to air pollution. Their presence in an area is a good indicator of air quality.

For the most part, lichens are harmless to human beings. Only a small number of lichens are considered poisonous. They have been used for thousands of years for medicinal and nutritional purposes. Lichens are known to produce 1,000 different chemicals. They have long been used to make dyes and to enhance perfumes in various parts of the world.

The presence of lichens is typically symptomatic of a stressed tree, not the cause of the affliction. Identify environmental stressors causing tree decline and treat accordingly. Lichens themselves are not parasitic to the tree but could affect gas exchange if growth is abundant. Because sunlight is needed to maintain the life of the lichen, loss of light due to the presence of shade will reduce the presence of lichens over time.

The purposeful removal of lichens may result in the formation of a wound and the potential for the introduction of parasites to the tree resulting in an infection. There are currently no herbicide treatments for lichens. Regular assessment of your trees and the provision of adequate supportive care is best. If you find lichen, examine it closely. You will find a delightful example of the natural world and mutualism among different organisms that also benefit animals and humans.

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Black & White Warblers with lichen Brenda Barr Lightfoot



Heart lichen Brenda Barr Lightfoot



Lichen Pixabay.com

# Seasonal Bites: Simply Delicious!



Sandra Gervais  
GCMG 2011

So, we have survived the incredible hot, dry summer that would not end. The trees that did survive will have internal rings to show future generations what we went through. Now it's time to take a deep breath and remember to give thanks for the rain and cooler weather. Thanksgiving will really be meaningful this year.

With the holidays coming, here's something simple and versatile for blue cheese lovers. It can be used as a dip, a salad dressing, or even as a topping for steaks. It's also a great way to use blue cheese left over from a cheese board. It can be made with whatever your favorite blue cheese happens to be--just pay attention to the saltiness and adjust accordingly.

The next recipe is an easy dessert that I tasted in Livingston, "Chocolate Eclair Dessert." It's chocolate with cream and crunch. What's not to like?



## Blue Cheese Dip

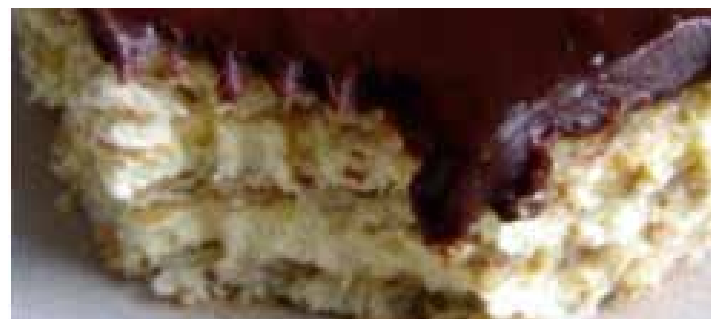
3/4 cup plain Greek yogurt  
1/3 cup crumbled blue cheese (more to taste)  
1 tablespoon lemon juice  
1/4 to 1/2 teaspoon hot sauce (adjust to taste)  
1/2 teaspoon Dijon mustard  
1 medium garlic clove, peeled  
pinch of salt (adjust to taste)

Mash yogurt and cheese together (it will be pasty and lumpy).  
Mix in lemon juice, hot sauce and mustard.  
Coarsely chop garlic and sprinkle with salt.  
Mash garlic and salt together to form a paste.  
Add to bowl.  
Mix all together and blend well for dip/topping.  
Makes 1 cup of dip/topping.

Add 1/2 cup of milk to make it into a dressing.  
Makes 1 1/4 cup of dressing.

**Note:** Different varieties of blue cheese have different flavor profiles. Use one that you like.

And remember, this is a very rich, strong flavored cheese. A little goes a long way.



## Chocolate Eclair Dessert

2 tablespoons soft butter (to grease pan)  
1 box graham crackers (14.4 ounces)  
2 packages of instant French Vanilla pudding mix (3.25 ounces each)  
3 1/2 cups milk (divided use)  
1 container of a non-dairy whipped topping (8 ounces)  
2 cups sugar  
2/3 cup unsweetened cocoa powder  
4 tablespoons butter (1/2 stick)  
2 teaspoons vanilla

Coat the bottom of a 9 x13 inch pan with butter.  
Line the bottom of the pan with 1/3 of the graham crackers.  
In a large bowl, combine both boxes of the pudding mixed with 3 cups of milk.  
Beat for 2 minutes with electric mixer on medium.  
Gently fold in the whipped topping.  
Pour half of the pudding mixture over the graham crackers in the pan.  
Put down another layer (1/3 of the graham crackers) Cover with the remaining pudding mixture.  
Top with the remaining graham crackers.  
In a small saucepan, combine sugar, cocoa, and the remaining 1/2 cup of milk.  
Bring to a boil. Boil for 1 minute.  
Remove cocoa mixture from heat.  
Add butter and vanilla.  
Mix well. Allow to cool.  
Pour chocolate sauce over graham cracker layer.  
Refrigerate overnight until set.

**Note:** For a holiday touch you can use green coloring in the pudding mix or green sprinkles.

# A Garden Experience Using Neem Oil



Claudia Trujillo  
GCMG 2023

I am new at gardening. Growing up as a city girl, pretty much far from the soil, my interest in gardening began at a “composting community” I joined a decade ago in Medellin, Colombia SA. Before that, the maximum number of plants I had ever grown was a single and solitary succulent in the balcony of my small apartment.

The exotic plant was very fleshy and lush until aphids consumed it after a heavy rain. Once I moved to Houston, my husband and I started to try gardening in our back yard. It shouldn't be so difficult, we thought! However, it happened again! After a heavy rain, we had to deal with aphids, and black spots starting appearing on the roses. On the top, invisible “UFOs” constantly ate our herbs! During a visit to a local garden store, we found neem oil, an eco-friendly biological pesticide that might potentially help us fight pests in our garden. I mentioned this newly self-discovered product in a phone conversation with my father in Colombia, who is

a passionate tree planter, and he replied that neem oil comes from the corresponding Neem trees (*Azadirachta indica*), in the Meliaceae Family. Curiously enough, they are common in my parent's neighborhood because they are fast-growing evergreens, and according to my father, “very resistant to everything, including bird nests.” This piece of information motivated me to buy it.

Neem oil belongs to a wide range of horticultural oils used in gardening. The mineral-derived oils are extracted from paraffin or other petroleum byproducts. Alternatives to petroleum-derived products in horticultural practices are oils extracted from vegetables such as cottonseed, soybean and neem kernels. The benefits of neem oil, even for human health, have been recognized for centuries in Asia. Although it contains more than 200 phytochemicals, azadirachtin is the most known active compound. Neem oil acts as a repellent and interferes with the life cycle and feeding behavior of insects and nematodes. Moreover, this oil has documented bio-



My Dad beside neem tree All photos by MG Intern Claudia Trujillo



Arabian Jasmine returned

## “Benefits have been recognized for centuries...”

cide properties, helping to manage several plant bacteria and fungal diseases. Among the insects efficiently targeted by neem oil are caterpillars, thrips, whitefly, aphids, lace bugs, leafhoppers and leaf miners.

Once we got the bottle of neem oil, I put a thin stream of the oil in a spray bottle with water and immediately began heavily spraying our recently purchased Arabian jasmine (*Jasminum sambac*) that was beginning to be infested with aphids. What a mistake! After a couple of days, I noticed that the edges of the wet leaves had turned yellow because of the reaction of the oil with direct sunlight. The situation got only worse and desperately I ended up beheading the nice baby plant. This episode increased my aphid-related phobia and regretfully I committed the same mistake over and over, and during the process lost several plants.

The solution for these unfortunate incidents came up earlier this year as I was receiving Texas Master Gardener training. Following a piece of advice that I got after a class of Integrated Pest Management, I decided to actually READ and follow directions on the label. Important to mention is that identification of the problem, combined with proper preparation and application to label directions is the key for successful results

with this oil and with every single pesticide in the garden! The most common concentration of the neem oil for acute plant infestation is 0.5 to 1 percent twice a week, preferably applied late at night or very early in the morning. Since most neem oil products come as emulsifiable concentrate, shaking it occasionally while spreading is necessary. Immediate results should not be expected. After neem oil is properly prepared and applied, the treated plant may take about a week to show signs of improvement. Also, heavily infested plants might need several weekly applications, from top to bottom, to reach those places where the insects tend to hide. Know that neem oil is not useful for everything. Some adults of hard-bodied insects and caterpillars may resist the action of the oil. If a couple of months have passed and reduction in the pest infestation is not seen, searching for an alternative solution for the problem may be necessary. Plants affected with pests might be under stress, so first looking for and remediating potential stressors (under or overwatering, heat or freeze stress, etc.) is advised. On the positive side, neem oil is non-toxic for birds, bees, mammals and plants but, as mentioned before, do not overdo it and follow label application directions. Although microbes and sunlight easily break down this oil, not measuring for the recommended amount can be potentially damaging for our own plants and the environment. Due to demonstrated moderate toxicity on fish, run off of neem oil can potentially contaminate water.

Five years have passed since those first experiments fighting pests with neem oil in our home garden. The Arabian jasmine that I thought I lost came back unexpectedly this year growing lush and very healthy. In the process, I have learned much about the advantages of following product directions and searching for reliable information sources related to gardening. But overall, being in a community to exchange knowledge, receive useful advice and laugh about obvious mistakes is encouraging me to continue in constant dialogue with nature in the garden and beyond.

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The sprayer we use with oil All photos by MG Intern Claudia Trujillo

## Meet Master Gardener: Angela Farris



Trish McDaniel  
GCMG 2001

It is always a joy getting to know new Master Gardeners. At the 2022 GCMG Fall Festival, it was my pleasure to share a checkout table with this sharp-witted woman and her adorable knockout smile. Between customers, we talked about the journey that brought her to Texas and her love of gardening.

Angela learned of GCMG after her retirement from Flowserve, an industrial and environmental outfit where she was the Administrative Assistant to our own Kevin Lancon, class of 2018. Knowing she holds a special place in her heart for gardening, he encouraged her to apply. She enthusiastically embraced her new gardening community, and quips “Throw water on me; I want to grow!”

When word of her new Texas Master Gardener status got out, Angela found herself fielding an ever-growing number of gardening inquiries from her family and neighbors, many of which she couldn't answer. She now employs the tried-and-true strategy, “If I don't know the answer, I know how to find out.”

Angela was born and raised in Queens, New York. With three brothers and a sister, she grew up in a family rich with characters and lively adventures. Her parents came to New York from Colombia, South America when her

father, an accountant working with Chase Manhattan Bank, was transferred to the Big Apple. There, he set up a home for his wife and kids in Queens, and for his mother in nearby Jersey City.

Angela's path to Texas involved a tragic and pivotal event in her family's history. It was NYC's Blackout of 1977, referred to by the mayor as “A Night of Terror.” That night, the city was overcome with violent acts of looting, riots, and arson. When the lights went out, Angela's parents dashed to protect her father's side business; they were unaware that houses were being besieged as well. Thankfully Angela and her siblings remained well hid and remained silent in the terrifying dark, as looters broke into their home and stole all they could lift. Many people, her family included, were left devastated, dispirited, and in debt. After taking several long hard years to recoup, Angela's father found the prospects in Texas to be promising and moved the family to Pasadena in 1980. Since the move, the family has grown and prospered. Sadly, Angela's father passed away during COVID-19.

Many experiences led Angela to appreciate gardening. Her mother grew up on a ranch in Colombia. As a four-year old, Angela visited there with her family. Inside the vast spread was a stately home surrounding a generous courtyard filled with burgeoning beds of herbs and vegetables. The young city girl became fascinated watching



Angela and her mom in Jerusalem after Via Dolorosa walk



Israeli garden

## *“Throw water on me; I want to grow!”*

the daily harvest transition from garden, to kitchen, then on to their plates for each and every meal.

A few years later, another sprout of inspiration came with a lesson: “It pays to do things right!” This she learned during a raucous ball game at her grandmother’s house when the ball sailed over to a neighboring yard. Until then, Angela and company managed to avoid this uncomfortable predicament. At any other venue, she was always self-chosen to jump the fence to fetch the ball, but now something told her, “Not this time.” Next door was surrounded by ominous walls and looked very official. The one-story structure with door-like windows and a gigantic see-through front door was a stark anomaly within her grandmother’s historical Victorian neighborhood. Angela always supposed it was a business of some kind.

As her incredulous brothers and cousins looked on, little Angela bravely walked up to the giant see-through door and knocked. The lady of the house answered the door and kindly listened to Angela’s dire circumstances. Then the lady graciously invited her into what was actually an ultra-modern home. Angela described it as stepping into another world she found gleamingly, bright white, and expansive. She was then asked to remove her shoes – another fresh bafflement. The hostess treated her to a grand tour of the home which was sparingly furnished with furniture, the likes of which Angela had never seen. After being warmly greeted by the man of the house, her hostess finally suggested a visit to the garden. Angela said she was mesmerized as she slid into a botanical haven of elegant pathways, all creating a skillfully arranged sanctuary. Lifelong lessons and impressions were made; ball retrieved.

Angela enjoys a large and tight-knit family circle, often hosting family get-togethers to keep everyone in touch. Her aged mother still lives alone; Angela says the time spent supporting her independence gives her great joy. Angela’s daughter and son, both in their thirties, are graduates of the University of North Texas. For eight years her daughter has lived in Spain teaching English to university graduates and professors. She employs a unique practice by which students learn to embrace their grammatical mistakes, promoting great agility in conversational and comprehensive skills. Angela jokes that her daughter being gone for so long, has traded her Latin American accent for Spanish Castilian.

As Angela has always practiced sharing her time in service to others, she easily embraces the adage, “Knowledge not shared is knowledge lost.” She calls herself a mere “seedling,” and when time allows, she is excited to get back to the work, values and culture of our Discovery Garden — a garden, she says, made “especially beautiful because of the people.”



Tomato trials as an intern

All photos courtesy of MG Angela Farris

## 2 GCMGs attend the first Advanced Herb Training

The first Advanced Herb Training was hosted by the Collin County Master Gardeners Association on September 13-15, 2023 at Myers Park in McKinney. GCMG Sharon Hemeon and GCMG Intern Donna Merritt attended the three-day training.



Sharon Hemeon  
GCMG 2022

The training had something for everyone...and more. Topics were varied. Speakers included Carol Clark on Native Herbs of Texas; Maryann Readal on The History and Lore of Herbs; and Chrissy Moore, curator of the National Herb Garden in Washington DC via Zoom. We tasted teas with a certified tea expert, and learned how to make infused oils and salves, a dream pillow, and smudge sticks. A local chef spoke to us about how she uses

the herbs she grows both in cooking and in cocktails. We propagated herbs, ate herbs, and drank herbs. There were field trips to Fields of Fedelis Lavender Farm in Anna and a tour of the growing operations at Blue Label Herbs. (Locally, HEB and Wholefoods carry their plants.) At our last session, *Herbaria: History, Why They Are Important*, there was a herbarium sample in front of me. Nothing very spectacular I thought and then I looked more closely. To my amazement, I was holding a sample of a plant collected by John Muir, the Father of the National Parks.

Another memorable fact I learned from Maryann Readal who imparted among other historical facts, that the creepy long nosed bubonic plague mask that doctors wore during the Black Death pandemic were stuffed with a wide variety of herbs to keep them safe and well.

Regarding the training event, I am barely scratching the surface. The three-day training was a jam packed, hands on, uber learning extravaganza with epic swag put on by some of the nicest people I have ever meet. Hats off to all the Collin County Master Gardeners for their part in creating an unforgettable experience for all who attended.



Herbarium sample from John Muir MG Sharon Hemeon



The classroom MG Sharon Hemeon



MG Intern Donna Merritt and MG Sharon Hemeon attended the Herb Training at McKinney.

*“...jam packed, hands on, uber learning extravaganza...”*



Donna Merritt  
GCMG Intern 2023

Attending the herb training hosted by CCMG was a great experience. They really brought together a great program with very knowledgeable people in the multiple fields of herbs. Their passion for herbs and sharing their knowledge was what really made this event such an enjoyable experience.

My hopes are that more people will take a good hard look into the many facets that herbs serve us and not dismiss everything because they don't

know what they don't know. Herbs can be used in a number of ways: flavorings for food, cosmetics, medicinal items, insect repellent and companion plantings, to name a few.

There are many repositories of scientific research awaiting us to read the hard work others have put into herbs to help identify what they are good for and what they should not be used for. A whole world awaits us in the area of herbs!



Annual Research Bed  
MG area MG Intern Donna Merritt



Blue Label Nursery Bed MG Intern Donna Merritt



Outdoor Children's Classroom MG Sharon Hemeon

## South Texas Botanical Gardens and Nature Center



Barbara Lyons  
GCMG 2014

The winter holidays are a time when all four family members' calendars align for vacation. Sometimes we travel to far off places in the U.S. but in 2022 we visited Port Aransas and Corpus Christi during the week after Christmas. One of my daughters works in a hospital lab and sometimes has to work on Christmas Day. This particular year we planned a little late and thought that this nearby location would have something for everyone to enjoy: a live music event, some golf cart fun, a bit of wildlife observation, a few delectable seafood meals, an exciting fireworks display, and a botanical garden to visit. This seemed to be a good recipe for family getaway fun. It was on this trip we discovered the South Texas Botanical Gardens and Nature Center in Corpus Christi (8545 South Staples, Corpus Christi, [www.stxbot.org](http://www.stxbot.org)), an American Horticulture Reciprocal Admissions Program (RAP) member.

The center is comprised of 180 acres, including developed garden areas, greenhouses, a butterfly house, displays for reptiles and exotic birds, and a large wetland area along Oso Creek, with some boardwalks and paths around coastal pond areas. The center is leased from the City of Corpus Christi with the express intent to maintain it as a botanical garden site. A non-profit organization governs the center which raises most of its own funding to support its mission via the usual methods of admissions, individual donations, corporate sponsorships, memberships, event rentals, educational programs, and such. It began in 1983 on a small scale and opened its current site in 1996.

Visiting any botanical garden during cold months might be challenging, as we found at this location. Last year there were sustained freezing temperatures reaching as far south as the border regions of Texas where it does not happen very often, and much of the plant life revolves around tropical plants. We visited right after last winter's big freeze. Upon exiting our car in the free parking area, we were met with a nice pathway border garden of brown, crispy-leaved *Ixora* plants which, I imagine, must have once been lovely with their various colored flower bunches and dark green foliage. I know they were *Ixora* because I had the same thing occur in my own landscaping in Friendswood after the same freeze event. Our sight was then drawn to a very tall Christmas tree made out of a steel structure with green 2-liter soda bottles as the branches. Someone must have consumed an awful lot of lemon-lime soda to come up with that many bottles. We entered the building with its gift shop and admissions area and showed our cards to gain our complimentary admission. As we were leaving the building, we went to a room which was filled with various reptiles. The animals were rescued from various situations, and now do their duty as animal ambassadors. One such animal was a very large iguana, Ivan, being shown by one of the docents. After some photo ops, we began our self-guided tour. Various areas were decorated for the Christmas holidays including an exhibit where Santa once sat. Alas, he had gone back to the North Pole days before. On the trail, we came to a few outdoor bird exhibits mostly closed due to the cold. One large cockatoo, who allegedly could say some words but wasn't in the mood, huddled by his



Coastal Marshland All photos by MG Barbara Lyons



Orchid

## *“Visiting during cold months might be challenging...”*

heating element to stay warm. By some greenhouses, we found a cactus and succulent display, but it seemed a little sparse for variety. Obviously, I was not greatly impressed with the place thus far, but trudged along to another greenhouse where I was in for a thrill. It was full of the most beautiful orchid collection I had ever seen. With so many colors, shapes, cluster types and sizes, I spent the better part of an hour gazing at and photographing many of them. The collection numbered 2,500 varieties of the over 25,000 known. My family had to urge me out of the grand orchid collection. We walked through the butterfly pavilion, but there were few due to the seasonality of the exhibit. We traversed through some of the other garden areas but they, too, were quite decimated by the recent cold snap. However, we did appreciate the artworks displayed through the various gardens. Eventually we arrived at the coastal wetland environment. A nice wooden walkway exists between two ponds and two covered areas with a tower for observing birds and other

wildlife. We walked around one of the coastal wetland paths that was not at the water's edge and it took us in a loop back to main garden area. It was a nice walk, and there was some strong sun and a bit of an ocean breeze. We almost welcomed the moving air to keep us cool even though the air was chilly. Walking here in the summer months would be reserved for early morning and later evening due to summer temperatures. Water, sun protection, and a hat would be needed for maximal comfort.

In all we spent a few hours at the botanical garden and nature center. The freeze damage was particularly brutal, but, just like in our home garden, the plant life has had time to recover and thrive. During most winters the average low temperatures do not dip below 50-degrees and would allow for tropical plants to thrive all year long. This visit does support my gardening credo that a garden always has a few gems worth a visit, no matter the time of year.



Walkway between two ponds



Holiday Decor All photos by MG Barbara Lyons



Ivan the iguana and his handler



Orchid

# DIY: Creating Miniature Garden Art with Succulents

## A Step-by-Step Guide



Bettye Vogler  
GCMG 2020



Ann Ross  
GCMG 2020

Using succulents in garden art has become quite popular among plant lovers. Our goal is to demonstrate how to make beautiful succulent arrangements and centerpieces using unusual containers and different plants.

Garden art can connect the wonder and beauty of nature with the landscape of the garden. It can be cheap or expensive. It can be brand new. It can be upcycled, recycled, or it can be just a collage of creative imagination.

What you will need:

A container of your choice

A drill to make drainage holes in containers if needed

Soil, either prepackaged or your own mix

Various succulents

A cup, wine glass, teapot, vase, or any other item you wish to use

A small paint brush or pastry brush

Rocks, marbles, pebbles, or colored glass if you plan to add a final addition to the top

A syringe

Succulent fertilizer

Any container will work for the base of your arrangement if it accommodates the shallow root system of succulents and has a drainage hole. If it does not have a drain hole, you can drill a 3/8-inch hole in it

You need soil. The simplest potting soil is a prepackaged mix created for succulents. Another option is to make your own soil like we did for our arrangement using the following formula:

Three parts potting soil

Two parts coarse sand or poultry grit

One part perlite or pumice

Succulents can be all one color (monochromatic), or they can be an assortment of colors. To achieve the best results, try to highlight a mixture of plants varied by sizes, shapes, colors, heights and textures in your arrangement.

Having a paint brush can be helpful. You can use the brush to sweep off any excess soil from your succulents and the other end of the paint brush to help plant the succulents.

You are ready to add your plants to your container. Break up your roots slightly to promote new growth and help the plant develop a strong root system.

We started at the handle of the cup and worked towards the rim. Let your imagination be your guide. You can always move your succulents around until you achieve the results you like. Keep adding plants close together as this will enhance your arrangement while

also keeping the plants from getting too large as time passes.

Once you have your plants arranged like you want them, you can add decorative rocks, marbles, pebbles, or another topping to enhance your design. We suggest that you water and fertilize your plants using a syringe so as not to get the succulent leaves wet and to get the fertilizer to the plant roots.

Voila! Your miniature succulent garden is complete!

In the next few photographs, we will show you how to repurpose a pot to make a succulent arrangement.

First, fill the pot with one of the suggested soil mixtures and begin to organize your plants in the pot.

Now consider if your pot will be visible from one side or all sides. If only the front side, arrange your plants with the tallest in the back and cascade them towards the front of the pot. If it will be visible from all sides, put the taller plants in the middle and cascade them all the way around the pot.

If you are uncertain about how to arrange your succulents, use the thriller-filler-spiller technique. A thriller is a succulent that is large, tall, spiky or uniquely different from the other succulents. The thriller will stand out as the first thing people see in your arrangement. The filler succulents make up the bulk of the space in your arrangement. You will want to choose good fillers that will compliment your thriller while still providing excitement. A spiller succulent will usually hang over the side of your pot.

As in all arrangements, there will be a vertical gap between the base of the plants and the potting medium. Work the potting mix into this gap with the end of your paint brush, filling up to the base of your plants. As you do this, be sure to completely cover the roots and tap down the soil slightly so the plants are snug in their new home.

Succulents are known as a symbol of tenacity and strength. Making and gifting miniature succulent gardens that you created is a wonderful way to show your unconditional and timeless love.

That is it! Think freely, imagine, and turn any arrangement into a masterpiece!

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[centraltexasgardener.org/resource/potting-soil-seed-starting-succulent-potting-soil/](http://centraltexasgardener.org/resource/potting-soil-seed-starting-succulent-potting-soil/); 10/4/2023

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*“Turn any arrangement into a masterpiece....”*



## 2nd Annual Fall Festival Plant Sale Saturday October 21, 2023

It was a great opportunity for the people of Galveston County and surrounding counties to see what Texas A&M AgriLife Extension has to offer. at the Discovery Garden as well as Texas Master Naturalists, 4-H, Family & Community Health, Ag & Natural Resources, and Disaster Preparedness & Recovery. There were 111 Master Gardeners filling 290 volunteer positions.



MG Debby Brady



MG Intern Donna Merritt



MG Michelle Thompson



MG Michelle Thompson

*Save the date for the 3rd Annual Fall Festival  
October 12, 2024!*



MG Michelle Thompson



MG Michelle Thompson



MG Michelle Thompson



MG Michelle Thompson



MG Michelle Thompson

# GCMG Meetings

September at home of Tom & Jan Fountain (Photos by MG Karolyn Gephart)

October meeting at MG Pam Hunter's home (Photos by MG Pam Hunter & MG Karolyn Gephart)



Kaye Corey



MG interns who received their name badges after completing their hours.



Hawaiian luau at Pam Hunter's home



Enjoying dinner on the deck



The gang inside



A meeting of the minds at Tom Fountain's home

# 2023 Master Gardener Recertification Hours

Date	Name of Program	Speaker	MG CEUs
1/5/2023	Lunch & Learn - Tree Update to Garden North End	Ira Gervais	0.25
1/7/2023	Wedge Grafting	Herman Auer, Hazel Lampton, Debbie Espinosa	2.50
1/7/2023	Growing Pecans at Home	Stephen Brueggerhoff	2.00
1/10/2023	MGA Jan. Meeting - Looking Ahead in 2023	Kathy Maines, Stephen B.	1.00
1/11/2023	League City Garden Club Speaker	Rosarian Baxter Williams	1.00
1/12/2023	Lunch & Learn - Plant Freeze Damage	Ira Gervais	0.25
1/21/2023	Growing Great Tomatoes, Pt. 2	Ira Gervais	3.00
1/21/2023	Propagating Fig Trees	Barbara Canetti	1.50
1/26/2023	Lunch & Learn - Cantaloupe Trials	David Eskins	0.25
2/7/2023	Seed Potato Cutting Workshop	Kevin Lancon	1.00
2/11/2023	Growing Peaches in Galveston County	Herman Auer	2.50
2/14/2023	MGA Feb. Meeting - Aliens vs Invasives (TEAMS)	Laurie Lomas Gonzales, USFWS	1.50
2/18/2023	Growing Avocados	Hazel Lampton	1.00
2/23/2023	Pruning Pear Trees	Robert Marshall, Herman Auer	1.75
3/11/2023	Tomato Stress Mgmt., Pt. 3	Ira Gervais	2.50
3/14/2023	MGA Mar. Meeting - Tool Time	Tim Jahnke	1.00
3/18/2023	Earth-Kind Landscaping for Garden Success	Stephen Brueggerhoff, Judy Anderson	2.00
3/18/2023	Cucumbers, Squash and Melons	Kevin Lancon	2.00
3/30/2023	Texas Superstars (Rosenberg Library)	Stephen Brueggerhoff	1.00
4/1/2023	Louisiana Iris for the Gulf Coast Garden	Monica Martens	2.00
4/6/2023	Lunch & Learn - March Madness Sale wrap-up presentation	Kathy Maines	0.25
4/11/2023	MGA Apr. Meeting - Seeding Galveston	Cheryl Watson	1.00
4/15/2023	Peppers	Gene Speller	2.00
4/15/2023	Grafting Pecans	Stephen B, Herman Auer	2.00
4/22/2023	Open Garden Day at Discovery Garden	Stephen Brueggerhoff, Monica Martens	2.00
4/29/2023	Heritage Gardener's Spring Market - Tips for Growing Better Tomatoes	Ira Gervais	1.50
4/29/2023	Heritage Gardener's Spring Market - Successful Citrus in Your Own Backyard	Herman Auer	1.00
5/11/2023	Lunch & Learn - Intern Tomato Trial update & upcoming tasting information	Donna Merritt	0.25
5/18/2023	Fruit Tree Pruning @ Discovery Garden Orchard	Herman Auer	1.00
5/20/2023	Home Fruit Growers Tour @ Discovery Garden	Stephen Brueggerhoff	2.50
5/20/2023	Home Fruit Growers Tour @ Fruits 'N Such	Herman Auer	3.00
5/20/2023	Beautiful Blooms: Plumeria	Loretta Osteen	2.00
5/25/2023	Tomato Tasting event in the Garden	2023 Interns	2.00
6/10/2023	Bramble On: Blackberries	Stephen B, Monica Martens	2.00
6/17/2023	Plumeria Propagation	Loretta Osteen	2.00
6/28/2023	AgriLife Healthy Lawns & Healthy Waters	John Smith	4.00
7/5/2023	AgriLife SE ANR Gulf Coast Gardening seminar	District 9 & 11 Aggie Hort CEAs	1.00
7/8/2023	Amazing Succulents	Patricia Martins, Stephen B	2.00
7/11/2023	MGA July Meeting - Composting Chat & DG Tour	Jim Waligora	1.00
7/27/2023	Lunch & Learn - Greenhouse Update	Pat Saenz	0.25
7/29/2023	Beautiful Blooming Ginger	Stephen Brueggerhoff	2.00
8/8/2023	MGA August Meeting - Trees for Houston	Barry Ward, ED of Trees for Houston	1.00
8/17/2023	Lunch & Learn - All About Basil	Briana Etie	0.25
8/26/2023	Hardy Hibiscus for the Gulf Coast	Briana Etie	1.00
9/16/2023	Wild About Wildflowers	Stephen Brueggerhoff	2.00



## Summer Sundown Sale

Fruit & citrus trees, fall tomatoes, perennials, hibiscus & plumeria

The Summer Sundown Sale took online orders from noon to noon September 8 and 9, 2023. Plant delivery, fulfillment and drive through pickup were September 13, 14 and 15. It was a great time to get volunteers hours and spend time with other MGs.



Loading cars *MG Debby Brady*



Calm before the storm on plant pickup *MG Debby Brady*



MG Intern Claudia Trujillo smiles at plant delivery *MG Intern Sven Bors-Koefoed*



On the porch waiting for cars *MG Debby Brady*



Plant delivery *MG Debby Brady*

*“Rain or shine.....MGs kept working”*



Umbrellas up as plants get watered from rain MG Debby Brady



Quality check for orders MG Debby Brady



Rainy day for fulfillment MG Debby Brady



Plant fulfillment activity MG Michelle Thompson



Traffic control MG Debby Brady



<https://txmg.org/>

# Horticulture

## November/December Events

### 2023 Galveston County Pecan Show

Begins: **11/3/23 at 8am**

Ends: **12/6/2023 at 3pm**

Bringing pecan pride, open to commercial and backyard growers, and celebrating pecan culture in Galveston Co.

For details, visit: <https://galveston.agrilife.org/horticulture/>



### Plumeria Care In Winter

**11/11/23 1:00pm – 3:00pm**

#### Gulf Coast Gardening Seminar

Best techniques on how to cultivate and winterize your plumeria trees for successful growth.

To register, visit: <https://galveston.agrilife.org/horticulture/>

### Fall Fairy Garden Workshop

**11/18/23 9:00am – 12:00pm**

#### Gulf Coast Gardening Seminar

Spark imagination and create your own fairy garden. Registration is limited and includes fee for materials.

To register, visit: <https://galveston.agrilife.org/horticulture/>



### Upcoming in December

**12/9/2023**

#### Gulf Coast Gardening Seminars

- 9:00 am – 11:00 am, Growing Tomatoes from Seed
- 1:00pm – 2:30pm, Going Nuts for Pecans

For details, visit: <https://galveston.agrilife.org/horticulture/>

TEXAS A&M  
**AGRI LIFE**  
EXTENSION

Galveston County Texas A&M AgriLife Extension  
4102-B Main Street (FM 519) La Marque, TX 77568  
<https://galveston.agrilife.org/horticulture/> 281-309-5065



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# Herbs Bring Color to the Landscape



Stephen Brueggerhoff  
Extension Agent - Horticulture  
Texas A&M AgriLife Extension  
Service - Galveston County

Culinary herbs have fascinated me and filled my senses through the decades, the way airy globe-shaped clusters of dill flowers seem to frolic in a light breeze, the clean camphor aroma sensed from brushing against a stand of rosemary, or the surprising white-colored

flowers peeking through long-stemmed oregano. I do value outstanding flavor enhancement herbs bring by helping use

less salt, fat and sugar in our diets, a practice that follows the Texas A&M AgriLife Extension's Path to Plate initiative. Path to Plate is a program helping consumers understand how their food choices impact their health. These multi-sensory encounters expanded my palette to appreciate herbs not only for the variety of taste but also for their visual appeal.

One garden design trend I have seen promoted in popular culture is edible landscaping, and we can certainly use herbs as a design feature not only for their function, and also for their form. Like ornamental plants, culinary herbs come in various heights, leaf texture, and leaf and flower color. Several varieties that I will focus on include basil, variegated thyme and oregano.

Basil is a semi-woody annual used for its aromatic leaves. Cultivars can be bold in stature and flavor and exhibit large, sweet anise-flavored leaves measuring 3-inches long by 2-inches wide. Most of these types are generically named with titles like 'Sweet Basil' or 'Green-leaf Basil', and an exception is one named 'Genovese'. 'Genovese' is a tad stronger than 'Sweet', and varieties like long-leaved 'Siam Queen' are bold and more pungent. Consider height as some of the basil's previously described provide a canopy up to 2-feet. On the opposite end of the spectrum is a small-leaved, uniform and compact basil titled 'Boxwood', coming in at 10-inches in height and more appropriate in the edible landscape as a garden border.

Thyme is an evergreen sub-shrub, some varieties raising up to 20-inches while others grow in a creeping, mat-forming habit. Leaves are very small, typically no more than one-eighth inch wide with numerous oil glands that offer a pleasingly pungent smell. Thyme should be planted in full sun with well-draining soil and will rot in place if left in saturated soils. Thyme offers a distinctive peppery taste and can be used either fresh or dry in soups, stews, stuffing and poultry dishes. According to the University of Illinois Extension, its flavor and fragrance will remain with long, slow cooking. One variety offering outstanding contrast is Broadleaf Thyme (*Thymus pulegioides*) variety 'Foxley'. This variety offers bright white variega-

tion on rounded leaves, and has the potential to mound up to 12-inches. Planted in the landscape, you can combine 'Foxley' with variety 'Silver Queen' Lemon Thyme (*Thymus citriodorus*), preferred for its rich lemon-scented leaves and pale lilac-colored flowers. Another herb with cream-colored leaf margins is Variegated Oregano (*Origanum vulgare*), growing up to 12-inches tall by 2-feet wide, offering white flowers and tasting milder than common oregano.

I encourage you, dear reader, to continue exploring the beauty of nature in our own backyard. Let the spice of herbs bring flavor and color to you and I'll see you in the garden.



Foxley Thyme Charlotte Winters



Lemon Thyme Charlotte Winters

## 2023 Master Gardener Association Leadership

President

**Kathy Maines**

Sr. Vice President

**Kevin Lancon**

Treasurer

**Debra Brizendine**

Assistant Treasurer

**Sharon Zaal**

Secretary

**Briana Etie**

Assistant Secretary

**Pam Hunter**

State Association Delegates

**Tom and Jan Fountain**

State Association Alternate Delegates

**Ira and Sandra Gervais**

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**Pam Hunter**, Education Programs  
**Judy Anderson**, Monthly Meetings

Speakers Bureau Coordinators

**Angela Farris and Pam Hunter**

Plant Sale Chairmen

**Kathy Maines and Kevin Lancon**

Discovery Garden Coordinator

**Kevin Lancon**

Discovery Garden Area Leaders

**Judy Anderson, Herman Auer, Sue Bain, Wendy Baldwin, Linda Barnett, Fran Brockington, Barbara Canetti, John Ely, Debbie Espinosa, Briana Etie, Ira Gervais, Jamie Hart, Pam Hunter, Monica Martens, Donna Merritt, John Mitchener, Rachel Montemayor, Michael Reed, Michelle Turner, and Jim Waligora**

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**Nancy Greenfield**

MG Intern Course Team Leader

**Pam Hunter**

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CEA-HORT and Master Gardener

Program Coordinator

**Stephen Brueggerhoff, M.S.**

## Judy's Corner: Galveston County Monthly Meetings



Judy Anderson  
GCMG 2012

### November GCMG Annual Meeting

It is hard to believe we are coming to the end of 2023. We have seen many changes in the organization and had the opportunity to welcome our amazing new members from this year's Texas Master Gardener Intern Class. Each year during the November Monthly Meeting, the GCMG Annual Meeting is held. This is an important meeting for all Master Gardeners to attend. The current state of the Association will be presented, including results of the online sales, on-going projects, and plans for future projects. Elections will be held for open positions in the Association.

The meeting will kick off with a pot-luck dinner. Please bring a dish to share, but serving spoons are not necessary. The social will begin at 6 pm and dinner will follow at 6:30 pm. The meeting will begin at 7 pm. Hope to see you all there.



### December Holiday Meeting

When the jingle bells are ringing, the Master Gardeners will be gathering at the home of Mikey and Allen Isbell in Galveston where the holiday spirit will be in high gear. Bring a pot-luck dish to contribute to the traditional feast. This is also an opportunity to donate an unwrapped gift to the Galveston Children's Center.

Join the festivities by participating in the Holiday Grinch Exchange. Bring a gardening gift valued under \$10 for a man or woman. Yes, it is a gift stealing exchange approved by the Grinch, but it is fun.

The Social will begin at 6 pm; dinner at 6:45 pm.

