

Fragrant, Beautiful, Delicious
**Herbs for the
Upper Gulf Coast of Texas**

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**Galveston County
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Fragrant, Beautiful, Delicious

Herbs for the Upper Gulf Coast of Texas

by

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Gracious thanks for their invaluable assistance:

Madalene Hill, world authority on herbs

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INTRODUCTION

*H*uman fascination with herbs started thousands of years ago. They have played an important role in medicine, politics, religion, romance, cooking, perfume-making, and superstition throughout human history.

It is believed that Neolithic man used herbs for food, healing, and shamanic rituals. For instance, marjoram pollen was discovered in caves dating back 60,000 years. Some herbs were believed to have magical powers, and were sometimes burned for their pleasing scent to keep the gods appeased. Many herbs had medicinal uses, and have been used for millennia to cure illnesses. Today, herbal folk remedies are used by most of the world's population, especially in countries where refined pharmaceuticals and advanced medicine are not available or affordable.

Written references about herbs were found as far back as 3000 B.C. The Chinese considered artemisia (an early species of sagebrush) to have special properties. The seminal ancient Greek physician Hippocrates lauded the use of mustard and other herbs in his cures. For thousands of years, herbs were relied upon by all cultures to preserve the taste of meats before refrigeration and to flavor dishes that would otherwise be boring and bland. Herbs and herb fragrances have factored into the creation and use of cosmetics too. Even today, herbal shampoos, sprays, perfumes, and lotions abound in all our stores. During Victorian times, a “tussie-mussie,” a small bouquet of flowers and herbs, was given as a message of love or displeasure to someone, like a letter or a poem. Herbs have been used in floral designs too, as background greenery to freshen and enliven an otherwise staid floral bouquet.



What's an Herb and What's a Spice?

The word “herb” comes from the Latin word ‘herba’ meaning “grass.” The “h” was not pronounced in Latin or in the early romance languages. However, Old and Middle English did generally pronounce the “h”, as British English still does today. In American English, the “h” can be pronounced or can be silent as other romance-language borrowed silent “h” words like “honor”, “hour”, and “honest”.

An herb is defined as “a flowering plant whose stem above ground does not become woody and is valued for its medicinal properties, flavor, and scent.” A spice is defined as “a class of pungent or aromatic substances of vegetable origin, used as seasonings and preservatives.” An herb is generally a plant whose leaves and stems are used such as mint, basil, dill, parsley, and bay. Spices include dried seeds (cumin, cardamom, mustard), buds (cloves), fruit or flower parts (pepper, saffron) and bark and roots (cinnamon, ginger). To add to the confusion, some plants are both herbs and spices. For instance, allspice is a plant whose leaves can be used as an herb, like bay leaf, while its dried seeds are used as a spice.



Herbs in America

Native Americans utilized almost every wild, nonpoisonous plant, including herbs, from the tanning and dyeing of leather to the preservation and flavoring of their foods. Early European settlers brought their native herbs and foods when they traveled to the New World. This resulted in an exchange of slips, seeds, and plants. The pioneers used herbs, not only for illnesses and food flavoring, but also as a potpourri to protect linens from insects, or to improve the smell of their households scattered on floors or burned like incense. Because there was no easy access to water, colonialists used herbs as perfumes and deodorants too. Other herbs were used to dye homespun fabrics. Settlers often found varieties of herbs they were familiar with - anise, parsley, lavender, liverwort, pennyroyal, sorrel, watercress, and leeks — which grew wild in the New World.

In 1776, the Shakers started the first true herb farms in America, quite similar to herb farms we have today. Throughout the 18th and 19th centuries, the Shakers made a business of baling and selling herbs to pharmacies throughout the eastern United States, and became a major focal point of herb cultivation in America.



Madalene Hill and the Rebirth of Herb Cuisine

Madalene Hill, a quiet little Texas woman, revolutionized the use of herbs when she established Hilltop Herb Farm in the early 1960s, and featured the use of fresh herbs in her restaurant cuisine. Madalene Hill was a relentless explorer, so as she traveled, she collected herbs throughout the world and introduced them into our cuisine, our gardens and our lives. Also, as more ethnic cuisines became prominent in American cooking from the 1960s onward – Italian, French, Chinese, Greek, Thai, Indian, Polynesian, Vietnamese, Latin American, African, and so on — so also the American public was introduced to hundreds of new herbs and spices, and their culinary and aromatic uses.

In Galveston County, the Madalene Hill legacy lives on in the growing interest of establishing herb gardens in our back yards, and using them in our kitchens and homes to brighten and enhance our enjoyment of life.



Our Book

We start our herb book with a brief biography of Madalene Hill, the fountainhead of our herb knowledge and herb appreciation today. This little Texas lady spent many years of her life in the Houston/Galveston area, and did more to broaden our knowledge and use of herbs than any other American. Our subsequent chapters focus on the herbs that grow best in Zone 9 of the Upper Gulf Coast of Texas, since some herbs don't enjoy our heat, our alkaline soil, our rainfall, and our humidity. It's important to know how to grow herbs and use them in our landscape, so we have devoted whole chapters to those subjects, along with chapters on how to use herbs to flavor our foods, to brighten our floral designs, and to freshen the fragrance of our homes. Last but not least, we invite our residents to immerse themselves in the world of herbs by visiting the great herb gardens in our region.

Throughout the book, we have focused on the important people who have shared their knowledge and experience of herbs with us. Their knowledge is real, hands-on — not abstract and removed. The personalities of Madalene Hill, Gwen Barclay, Donna Ward, Jim Johnson, and others will shine through these pages, as they give their personalized insight into and their experienced advice on the confusing world of herbs.

We hope our herb book brings our readers as much pleasure, knowledge, and joy in herbs as it has brought us, the Galveston County Master Gardeners.



CHAPTER 1

THE FOUNTAINHEAD: MADALENE HILL

A life among these “little plants”

Her status in the world of herbs is legendary. Her knowledge of herbs is encyclopedic. She is regarded the fountainhead of what we know about herbs today, and has garnered every honor there is in her field. There are gardens named after her, to honor her titanic contribution.

Yet, slender modest Madalene Hill doesn't mention anything about her honors. Always with a bright light in her eyes and a gentle smile on her face, she is eager to listen to people's experiences with herbs – how they grow them, what they do with them. Her residence, the historic 1902 Menke House at the International Festival Institute at Round Top, Texas, is surrounded by the enormous McAshan Gardens, dedicated to herbs from the entire planet. And Madalene knows every herb like a friend. She planted them all.



Marian garden



Rock Island sign



Rock Island General Store ruin

During a tour of the gardens, Madalene points out some of the more rare and wonderful herbs in the sun-dappled Sun-Shade Garden beside Menke House – a fascinating coriander here, an amazing salvia there – as butterflies dance in the light. Beyond that is an astounding collection of the medicinal herbs of the world in the sunny Pharmacy Garden, laid out by continent. “We don’t have many from Australia yet,” she sighed. “Most of their medicinal herbs are trees, hard to transport.”

On the other side of Menke house lies a charming garden framed by classical columns, devoted to plants named for the Virgin Mary. The Mediterranean Garden holds rosemaries, sages, and oreganos that the ancient Greeks and Romans may have cooked with. There are approximately 2500 genera of herbs growing in the gardens surrounding Madalene Hill today, including over 200 salvias, over 100 rosemaries, and 25 kinds of oregano. On a stroll through this incredible gathering of the world’s herbs, it’s impossible not to learn something miraculous about them, and hear wonderful stories about the adventures of collecting them. Madalene always encourages people to pinch off a little piece of an herb and enjoy its unique fragrance, then compare it to another one growing a few feet away.

Beginnings

Her remarkable life among “these little plants” started November 7, 1913 in Rock Island, Texas. Rock Island was located south of Columbus, Texas, with population of about 400 at that time. It was a small Rock Island railroad town, hence the name. This was a rice-growing area settled by immigrants primarily from Denmark who came there at the beginning of the 20th century. Madalene’s father, like most residents of Rock Island, was a rice farmer, who worked hard to make the tough land productive. Madalene’s maternal grandparents, her mother and an aunt are buried in the cemetery there.

When Madalene was three years old, her mother left Rock Island with her two children (Madalene and her younger brother) and moved in with an older sister in Elbing, Kansas, where the family ran a boarding house to accommodate the men working during the oil boom after World War I ended. Elbing was a tiny town located along the railroad line between between Wichita and Peabody, Kansas, and the town had reached a population for just over 100 when Madalene arrived there. It was a tight-knit community of Germans, and Madalene could speak high and low German. Some Russians also settled there, and brought the red winter wheat variety into the region, which still thrives there. Elbing is still a small hamlet now, but the Mennonites established a church and a school that are still there.

Elbing didn’t get electricity until 1929 and the residents had to provide their own water from cisterns. Madalene remembers the wooden sidewalks along the main street and the way the men shaved their heads – the prevalent male haircut of the day.

Her mother and aunt did all the cooking at the boarding house. Madalene’s first memory of herbs was the sage tea, brewed in the fall and winter to “ward off the biliousness caused by the autumn and winter

foods, such as sausage, beans, and cabbage.” Her mother remarried in 1919, and moved to a different house nearby. The aunt became a cook for a college professor’s family. But Madalene clearly remembers how the more Germanic herbs, like dill and caraway, were used in pickling and cooking seasonal foods. “We pickled everything,” she recalls, because winters were severe and long, and fresh produce in most months was scarce. Peppermint was used in teas too.

Madalene, the oldest of 13 children, had to leave high school in 1929 to help support the family. She worked as a secretary and bookkeeper. Eventually, she went to work for the Federal Land Bank in Wichita, key-punching on IBM machines. “The desks were on two sides, just like you see in old movies,” she recalls. “We had to work on Christmas Eve night 1930, processing loans for desperate farmers.” Wichita and the surrounding areas were made up of Mennonites, Dutch, Quakers, Amish – a diverse assortment of traditional farming people. She remembered that loans for everyone but the Mennonites, Quakers, and Amish required some kind of background check: “But with them, their word was their bond. Every bank knew it.”

Return to Texas

She married her first husband in 1933, and her son was born in 1934. They moved to Houston, Texas, in 1935, and Gwen, her daughter and now fellow herb expert, was born in 1937. Madalene worked for the Federal Land Bank in Houston, and then at IBM. When Madalene’s marriage ended, she became the sole bread-winner, and single mother of two children, living in the 1900 block of Travis. She found a sweet farm girl from Wisconsin as a sitter, whose family was French. When the sitter moved back to Wisconsin, she found a wonderful African-American woman. Both were good cooks and a great help in raising her two youngsters. At home, Madalene always had sage growing in pots, along with a few onions.

From World War II to her retirement in 1957, she rolled up many firsts: the second female shipyard manager (1941), and the first female office manager at IBM (1949 to 1951), a company renowned for not having many women employees). Inside this little, modest, unassuming woman beat the heart of a revolutionary and a trail-blazer.

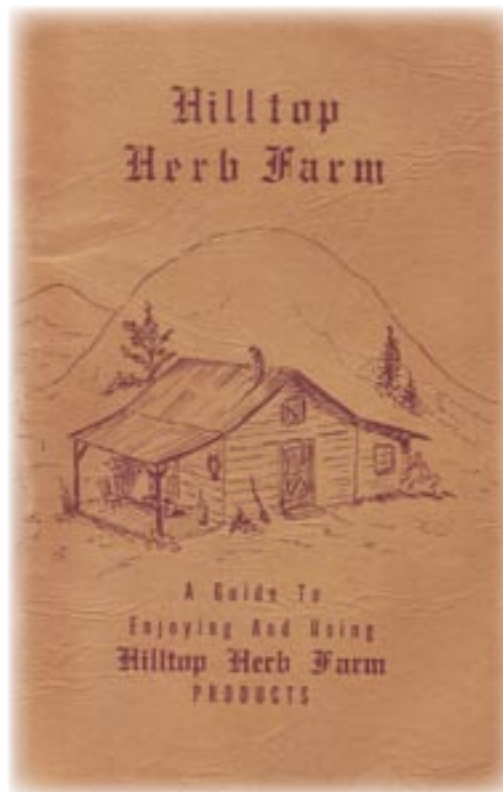
She married her second husband, Jim Hill in 1951. As soon as she married, she lost all her IBM benefits, which was company policy at the time. He was 25 years older than she was, and an avid gardener. Jim was born in Texas, and had four sisters who taught him cooking and gardening — how to plant pansies and cabbages together, for instance, an old organic companion-planting method still used today. In World War I, he had been stationed in France, cooking and procuring food. He stayed there for two years after the war with a small group of officers charged with winding up aid to the French in their area. He learned about European vegetables, flowers, and cultivation methods. When he came back, he worked as an engineer for a company that specialized in small instruments. When the firm announced that it would have to lay off some workers in 1957, Jim Hill took early retirement, so one of the younger men who worked for him could keep his job.



sage for sage tea



Methodist Church at Rock Island



Hilltop Herb Farm		
ASIAN SALAD - Cleveland, Texas 77301		
Five Cooked	2 Cups	Method: Combine all ingredients. Place
Chopped Chicken	2 Cups	in bowl and cover with a mesh of equal
or Turkey	2 Cups	parts mayonnaise and sour cream (about
Green Onion	2 Tbs.	peas green). Garnish with black olives,
oil	2 Tbs.	carrots, nuts, etc. Dress can be used
Mayonnaise	1 Cup	instead of dressing.
Salt	1 tsp.	Yield = 8 servings
Crystallized		
Onions	2 Tbs.	
Carrots Cooked	1 Cup	
Light Juice	1/4 Cup	
Sour	1 Tbs.	
Pineapple	1 1/2 cu. lbs.	
HOT OR COLD MEAT AND CHICKEN POTATO SALAD		
Potatoes	2 lbs.	Method: Cook potatoes in chicken broth
Chicken Chopped	2 Cups	and tender. Combine while warm with
Onion	1 Cup	balance of ingredients. Salt to taste.
Red Chopped	2 Cups	
Boiled Eggs	2	
Soft Cheese	4 oz.	
Milk	3 Tbs.	
Mayonnaise	1 Cup	
Dark Mustard	2 Tbs.	
Carrots	2	
Green Pepper	1	
Green Onion	4	
PINEAPPLE		
Round Round Meat	1 1/2 lbs.	Method: Brown meat in butter and oil.
Butter	2 Tbs.	Add balance of ingredients. Simmer
oil	1 Tbs.	one hour.
Green Chopped	1 large	Serve 8
Red Pepper		
Chopped	1 large	
Tomato Sauce	2 cups	
Tomato Juice	2 cups	
Chili Powder	1 1/2 tsp.	
Cheese	1/2 cup	
Cinnamon	2 1/2 tsp.	
Onion	1 cup	
Garlic	1 clove	
Red Cheese	4	
Carrots	1/2 cup	
Carrot Orange		
Red	1/2 cup	
Sugar	1 cup	
Salt	1/2 tsp.	
Onion	1/2 cup	

Hilltop Farm

Madalene left IBM in 1957 also, and the Hills moved to a 12½ acre farm they got at a bargain price near Cleveland, Texas. Jim wanted to grow gladiolas on a commercial scale for florists. By this time, Madalene's son was married, and Gwen was in college. It took two years to get the land ready for the 200,000 gladiolus corms Jim was going to plant.

A Texas A&M professor was intrigued by the Hills, and wanted to work with them on soil preparation, terracing, and so on. They brought in humus from the neighboring logging operations that had mounds of wood chips. They planted a green cover crop to preserve their soil, and then plowed it under and planted the Dutch gladiolas in 1959.

They hired three African-American workers, who worked only during the daytime, fearing for their lives if they were caught in a technically "white" area at night. Every 10 days, starting December 10, they planted the corms: one made the hole, one placed the corm in the hole, one covered the hole.

Madalene recalls that they planted the bulbs deeper than recommended, and pulled soil up around them as they grew, so they wouldn't have to stake them. Their irrigation system was considered revolutionary for this crop: they watered every week, at least one inch. The first cuttings occurred in time for Mother's Day when the prices for flowers were always good. They had to cut the flowers at first light, and have the harvest ready for pickup no later than 3 am, so the wholesale Houston florists would have them in hand. As soon as they got to the farm though, they grew vegetables and herbs, starting in a tiny greenhouse. "The neighbors heard the Hills prepared squash with fresh herbs, and put sage, marjoram, and oregano in their gravies, and sometimes herbs in the cornbread too," Madalene recalls.

After an article in the *Houston Chronicle* about the restaurant in 1961, there were hundreds of calls asking for herbs, and many curious people who told Madalene, “Mom had some stuff in her dumplings, and something else in her stew. What was that?” Business boomed. The “little plants” — and the responsive chord they touched in people — had changed the Hill’s lives forever. Before long, eager customers from all over the nation, from as far away as New York and California, came to eat at Hilltop Herb Farm. Buses pulled up with tourists eager to dine at America’s most unique restaurant.

“Everyone got a finger-bowl with a rose geranium or some lemon verbena at the end of the meal to rinse off their fingers,” Madalene chortles. “But some drank it!”

Madalene adored lecturing, writing, and teaching too, which she began in 1961. During the 1960s, the farm expanded to serving six meals a week in the large Garden Room. By 1967, menus became more cosmopolitan too, and included foods of the world, using fresh herbs and exotic seasonings from afar.

Madalene was a restless explorer too, traveling all over the world during her vacations, learning the varieties and use of herbs from people everywhere: “I wanted to introduce people to good food, and the only way you can do that is to talk to people, see how they gather and prepare their food.” She made it a badge of honor to never repeat a menu at Hilltop Herb Farm, except once: “A surgeon who worked in Houston wanted to bring six French students there. He wanted duck — the whole meal — exactly as we had prepared it when he had come to the restaurant.” Throughout the 1960s and 1970s, Madalene served both the average folks and famous ones, such as astronauts, politicians, renowned doctors, and so on. She also kept writing columns and articles, gave more talks about growing and using herbs, and single-handedly popularized herbs. The range of available herbs on the market expanded from a dozen to many hundred in those years, as public interest grew. By the 1980s, people were experimenting with not only all the different basil, but corianders, lavenders, mints of all kinds.

Disaster

In the early 1980s, disaster struck. In 1982, Jim Hill died. In 1983, a terrible tornado struck and destroyed Hilltop Herb Farm. Though nobody was killed, the farm was destroyed. Not only the buildings and trees were blown down, but almost all the plants and 18-inches of topsoil were torn away. “Only five poppies were left, coming up from the ground,” she sighs. “All the herbs I had collected in eastern Europe were gone, seeds that had been shared with me were gone, all the exotic things like cinnamon trees and clove trees were gone. It’s as if the soul had been ripped out of the place.”

Though Madalene and her daughter Gwen rebuilt Hilltop Herb Farm and briefly even had a restaurant in Houston too, they sold the farm and got out of the restaurant business in 1987.



Madalene’s Sun and Shade Garden beside Menke

After Hilltop Herb Farm

After that, they traveled and lectured as a team. Madalene served as President of the Herb Society of America from 1986 to 1988, and pursued a very active writing career from 1960 to 2005, authoring and co-authoring hundreds of articles. Together Madalene and Gwen wrote *Southern Herb Growing* in 1987, the ultimate book on growing and using herbs, including some sensational recipes from their Hilltop Herb Farm kitchen.

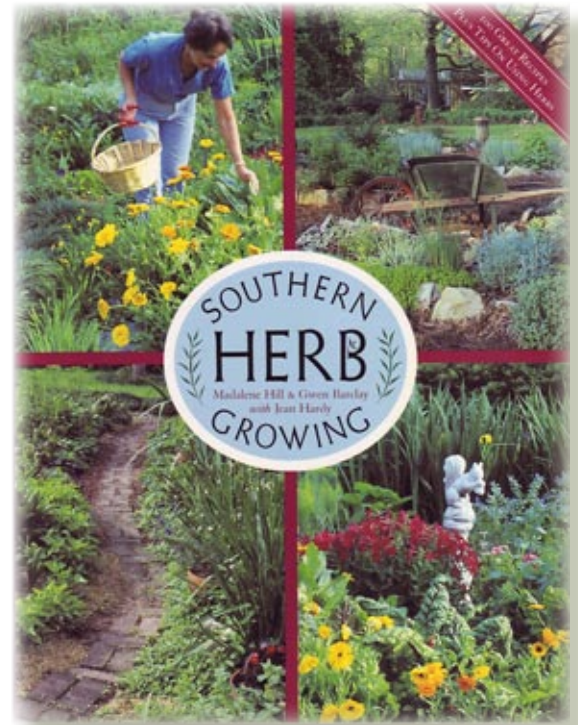
When Madalene became the Curator of the Susan McAshan Gardens at International Festival Institute at Round Top, Texas, she and Gwen moved there in 1993. “There were no gardens when we came to Festival Hill – only some shrubs and trees that had been planted across the road by famous horticulturalist Lynn Lowrey,” says Madalene. “We brought several hundred containers of herbs and plants that I could not live without when we sold the farm. I put in all the gardens as an unpaid volunteer which I still am. Gwen took the position of Director of Food Services as a paid staff member. This was my choice. I named the gardens for Susan McAshan who was a longtime friend. She had been a major benefactor for the beautiful stone work at Festival Hill as well as the concert hall. We called the Cloister Gardens and wall plantings ‘the McAshan gardens.’ I was dubbed the ‘Curator’ of the gardens when I began putting in all the plants.” Madalene began the loving job of collecting, expanding, nurturing, and importing to ultimately create one of the finest herb gardens.

Madalene really relished the years she traveled all over the world, gathering herbs and bringing them home. “Things just leap into my pockets,” she laughs. She brought back cuttings and seeds from South America, Eastern Europe, everywhere she went. One time, she and Jim wound up in Bulgaria: “There were 50 miles of roses on one side of the road and 50 miles of lavender on the other. It was an amazing sight. They distilled them to use in perfumes, soaps, cleaning agents. But they were secretive about the distillery, finally agreeing to let them see it.”

Over the years, she’s developed a creed in using herbs in food: No one herb should come out and bang you over the head. “The foods we cooked at Hilltop,” she says, “were a wonderful blend of flavors. No one thing dominated.” The subtle herbs blended with the other ingredients to create a synergy, where the final flavor of the dish was greater than the total of its ingredients. Gwen refined this practice to a high degree at Festival Hill.

A Life Among These Little Plants

Though she never went to college, Madalene has the equivalent knowledge of several PhDs in horticulture and botany, and can rattle off the Latin names of rare herbs as if they were relatives. She’s had gardens named after her, and a long list of medals and awards for excellence and lifetime achievement. But her greatest honor, she says, is: “To have been the facilitator for the introduction of culinary herbs and herbs for the landscape to so many through the years. These small fragrant plants have changed the lives of many.” The herbs she personally introduced to the marketplace are wonderful: Mexican Mint Marigold, Hilltop Oregano, “Madalene Hill” Doublemint and Arp Rosemary, Ball Basil, “Newe Ya’ar Salvia”, and others.



Southern Herb Growing book cover



Madalene's "Life among these little plants."

"I loved all the years of sharing knowledge of these little plants with people I would have never met or known otherwise," Madalene says. "It was knowledge of a practical kind, not always in books and not always done by college graduates. I learned so much from ordinary people whose knowledge of an herb — how to cultivate it, propagate it, use it — was really profound. People have told me that when they're troubled, they walk among the herbs and their thoughts change, the minds and bodies heal. Herbs have been speaking to people in all places, in all cultures, and across all times. They evoke memories of food, home, ancestry."

When she autographs books, she always inscribes a friendly favorite saying: "Grow Where You Are Planted." It's not only a friendly greeting for her fans, but a philosophy and a way of life. Wherever she was planted in her long life, she grew. Most significant, perhaps, is that she gave "these little plants" a voice, a place to thrive and be known in gardens, kitchens and hearts across the world.



CHAPTER 2

TWELVE MUST-HAVE HERB VARIETIES

Kitchen gardens have always provided not only the family's fruits and vegetables, they also grew the flavorings, preservatives, and medicines needed to survive. Every cook worth a pinch of salt values these twelve culinary herbs. For the most flavorful herbs, freshness is paramount; and home-grown herbs are the freshest.

As a point of interest, the Latin botanical name "officinalis" designates varieties that have medicinal uses. Because herbs can be of varying strengths, self-medicating can be risky.



Basil *Ocimum basilicum*

Basils are tender annuals that grow best in full sun. Plant seeds in a slightly acid (5.5 to 6.5 pH) loose, moderately fertile soil in the spring. Seedlings are very susceptible to “damping-off” if too moist. The mature sizes range from a compact eight inches to over three feet. Harvesting keeps plants compact, bushy and removes blooms that shorten the plant’s life.

VARIETIES

There are over 200 recognized varieties, and some are very ornamental.

‘Anise’ basil smells like licorice and is a favorite of Asian cuisines.

‘Black or Purple Opal,’ a basil with distinctive deep purple, ruffled leaves was hybridized in 1962 at the University of Connecticut and a winner of the All-America medal. Prized for the unusual foliage and bi-toned lavender and white flowers, it won as an ornamental.

‘Cinnamon’ basil has purplish, green foliage and pink flowers. It has a distinctive spicy fragrance.

Greek basil, *O.b.* ‘Minimum’ has a medium flavor and is tolerant of poor soil conditions.

Lemon basil, *O.b.* ‘Citrodorum’ has a light lemon scent.

‘Nufar Hybrid’ is resistant to a fungal disease called Fusarium Wilt.

‘Sweet’ basil can refer to three different varieties. ‘Napolitano’ has large, light green leaves with a mild aroma and smooth, buttery flavor.

‘Genova profumatissima’ has long, pointed, shiny foliage. ‘Fino verde com-patto’ has clusters of tiny sweet leaves and matures at 12 inches.

‘Spicy Globe’ basil is ideal for growing as a border or container plant. It matures at about 12 inches.

Other AAS winners are *O.b.* ‘Thai Siam Queen’ in 1997, *O.b.* ‘Lemon Sweet Dani’ in 1998 and *O.b.* ‘Magical Michael’ in 2002.



Bay Laurel or Sweet Bay *Laurus nobilis*

Bay Laurel is an evergreen tree that can reach over 20 feet. It is hardy to 10°F and can be grown in average soil in full sun to partial shade locations. Protection from strong winds and temperatures below 40°F is advised to prevent winter leaf damage. Even soil moisture and good drainage are absolute requirements. Fertilizer should be applied twice annually, in early spring and late summer. Mature trees will bloom tiny yellow flowers in the spring. The fruit is a purple-black berry. Propagation is by cuttings that are very difficult to root.

VARIETIES

L. nobilis ‘Golden Bay ‘Aurea’ has golden foliage and is more hardy than sweet bay.

L. nobilis ‘Angustifolia’ or willow leaf bay has long, narrow leaves.

Chives *Allium tuberosum*

Chinese chives have a distinct garlic flavor. The foliage is flat and strappy. Blooms are clusters of white flowers that develop small black seeds in pods.

The origin of the onion chive is unknown. *Allium schoenoprasum* or onion chives are the smallest of the Allium family. The tubular foliage has a light, delicate flavor. The small bulbs grow in clumps and prefer a slightly acid soil with a pH between 6.0 and 7.0. A loose soil with good drainage is essential. Some shade during the hottest weather helps chives to survive through the summer. A light application of fertilizer after harvest will promote new growth from the center of the bulbs. Chives should be divided every three to four years to keep the clump vigorous. Propagation is best done in the fall.

The round lavender flower heads appear in the spring and form small, black seeds.



Garlic



Onion

Fennel *Foeniculum vulgare* or *F. officinalis*

Fennel is a very tall perennial that needs full sun, excellent drainage and a loose, rich soil with a pH between 6.0 and 8.0. It does not adapt well to indoor container gardening. The large umbels of bright yellow flowers will produce cups of brown, ribbed, fragrant seeds. All parts of the plant are edible. Propagation is primarily by seeds, but root divisions can be made in the spring.

The tall, perennial form is grown primarily for the flavor of the leaves and seeds. Do not grow near dill or coriander because they cross-pollinate reducing production and causing an off flavor in the seeds.

VARIETIES

F. vulgare var. *dulce*, Florence fennel or 'Finocchio,' matures at 18 inches rather than the five to six feet for the mature perennial form. The edible bulb at the base is used both fresh and in cooking. To enhance the flavor and blanch the bulb, mound soil over the bottom half of the bulb. Also, remove the blooms to promote bulb and leaf growth. 'Finocchio' is an annual but will continue to grow through mild winters.

Bronze fennel is remarkable for the pink, copper and bronze shading of the foliage that is very ornamental and decorative. Black swallowtail butterflies adore this variety.





Lemon Balm *Melissa officinalis*

Lemon balm needs a loose, well-drained soil with a pH of 6.0 to 8.0. It needs afternoon shade from the intense sun of the Upper Gulf Coast of Texas. Do not over fertilize because it weakens the essential oils. The clusters of small, pale yellow flowers have two lip-like petals. As the bloom matures it turns to white and finally pale blue. To propagate, press the extremely tiny, black seeds into moist soil. They are very slow in germinating. Root divisions can be made in early spring.

In containers indoors, lemon balm needs five to six hours of direct sun or 14 to 16 hours under florescent lights. Regular pruning of indoor plants will maintain bushy mounds of 12 inches.

VARIETIES

Variegated lemon balm, *Melissa officinalis* var. *variegata*, has mottled yellow, gold and green leaves. It needs light shade because sunlight scalds the leaves. It matures at approximately one foot.



Lemon grass, *Aloysia citradora*

Lemon grass is from the tropics and forms large clumps of long, thin, grassy leaves with a prominent mid-vein. The greenish inflorescence is tinged with red and appears two feet above the leaves in the summer.

This tender perennial grass needs good, moist soils and full sun to partial shade. Mulch the clump if winter temperatures go down to 20°F. When propagating by dividing the clump, it is important to get roots with each individual division.

Lemon Verbena *Lippia citriodora*

Lemon verbena is a deciduous, large shrub when grown outdoors in zone 9. It needs a light, well-drained soil in full sun. Tiny, insignificant mauve and white flowers occasionally bloom in slender panicles through the summer and fall. A thick layer of mulch will help it to survive the occasional cold weather.



Marjoram or Oregano *Origanum* species

Both mild flavored sweet marjoram and wild marjoram with stronger flavors are available. Green leaf varieties can grow in full sun, but variegated leaf forms need afternoon shade. The light, dry, well-drained soil should have a pH of 6.0 to 8.0. To get an early spring start, germinate seeds indoors six weeks prior to the date of the last average frost. Sweet marjoram can be propagated from stem cutting and wild marjoram will grow from root divisions. The wild form should be divided every two or three years to maintain vigor and flavor. Water when the leaves appear wilted.

VARIETIES

- O. v.*, 'Aureum' or Golden marjoram has mild flavored golden leaves that scorch in the hot sun.
- O. heracleotium* or 'Winter Marjoram' is a very small variety that matures at nine inches. The sweetly, spicy aromatic leaves are very mild. The flowers are pink.
- O. onites*, 'Pot or French' marjoram has medium green leaves with a savory flavor. The flowers are pinkish white.
- O. majorana*, Sweet or Knotted marjoram, is characterized by pale green leaves and purple to white flowers that produce seed clusters that appear as "knots."
- O. 'Variegatum'* or Gold variegated marjoram has mildly savory green leaves that are mingled with shades of gold. The flowers are pale pink to white.
- O. vulgare* has a spreading growth habit. The dark green leaves have a peppery flavor and contain the antiseptic thymol. The blooms are white to pink.



Mexican Mint Marigold *Tagetes lucida*

Mexican mint marigold is actually a marigold originally from Mexico. Common names are 'Winter Tarragon,' 'Texas Tarragon,' and 'False Tarragon.' The licorice fragrance of the light green leaves is pronounced, and they are an excellent substitute for French or Russian tarragon. The bright yellow flowers are a welcomed addition to a late summer and fall landscape.

They need full sun with afternoon shade and an average, well-drained soil. Winter dormancy is important and should be artificially induced for indoor container plants. In late fall, move to a dark, cool location and withhold water. In the spring, break the dormancy by pruning, watering and placing in a lighted environment. The seeds are very similar to those of French marigolds. To revitalize a clump, dig and divide when thick and overcrowded.



Mints *Mentha species*

There are over 600 different varieties of mint and new hybrids every year. So, plant selection is a matter of personal preference.

Mints are perennials that thrive in moist, well-drained, rich soils with a pH of 5.5 to 6.5. They grow in full sun to partial shade. The strong root system and underground rhizomes spread vigorously. A physical barrier or container will control the rampant growth and make mint a friend in the garden rather than a foe. Dig and restart mints every three years and some varieties such as peppermint do better when moved to a new location. Apple mints do well indoors in containers because they stay compact. Propagation is done with stem cuttings or layering.

There are 18 pure species and over 2000 recognized hybrids.

VARIETIES

Peppermint, *M. piperita officinalis*, has fragrant leaves on short stalks and reddish stems. The violet flowers are sterile, thus propagation is by cuttings.

Red Stem mint, *M. xgracilis*, var. 'Madalene Hill' is a hybrid of *M. arvensis* and *M. spicata* that contains both menthol and carvone oils, thus it is a true "double mint." The red tinged stems grow erect from 12 to 30 inches. The lilac flowers are in whorls around the stems.

Spearmint, *M. spicata*, has the strongest flavor. The two foot, erect stems have nearly hairless leaves. The summer flowers are violet to pink.

Rosemary *Rosmarinus officinalis*

Rosemary is a tender perennial, but if properly located, it will thrive in the Zone 9 climate of the Upper Gulf Coast of Texas. It can become a bushy shrub five to six feet tall and wide.

Rosemary needs a loose, well-drained soil with a pH of 6.0 to 7.5. It prefers full sun but will tolerate partial shade. Indoor container plants like to be root bound and need four hours of direct sun or 12 hours of strong artificial lighting per day. Both indoors and outside, the soil needs to dry between irrigations. Seeds germinate very slowly, so the best method of propagation is to root or layer cuttings. Cuttings root easily in a self-watering propagation system.

There are many known varieties, but the two most common are *R. officinalis*, an upright species with blue flowers, and *R. prostrates* that grows one foot high by two to three feet wide with intensely fragrant foliage.

VARIETIES

'Arp' is a variety discovered by Madalene Hill in 1972 in Arp, Texas. It is hardy to Zone 6 and the answer to prayers of herb growers in colder climate zones.

'Hill Hardy' is a sport of 'Arp' rosemary. It is salt tolerant, deer resistant, butterflies love the flowers, and also a good choice for a xeriscape.

'Madalene Hill' was named in honor of the great herb gardener.



Sages *Salvia species*

Sages are useful for culinary and medicinal purposes as well as many varieties that are grown as decorative ornamentals.

Garden sage, *Salvia officinale* is a hardy, evergreen perennial shrub that grows best in full sun to partial shade in a loose soil with a pH of 5.5 to 6.5. Sage is tender the first year, but the stems become woody and hardy by the second year. They require very little water once established, and only light applications of fertilizer after pruning. Prune after flowering to maintain a full, bushy shrub. Replace the plant every four to five years if it becomes too woody. Seeds of common sage germinate easily. For other varieties, the propagation method is rooting stem cuttings in pure sand.

There are 800 documented varieties of sage, several grow well on the Upper Gulf Coast of Texas. The variegated leaf sages are very ornamental, but do like afternoon shade.

VARIETIES

S. officinale 'Broad leaf' is a very good culinary herb.

S. elegans (*S. rutilans*), 'Pineapple' sage is a tender perennial with bright scarlet flowers in the late summer and fall that are a favorite of butterflies and hummingbirds. The leaves have a distinct pineapple flavor. This variety needs more moisture than other sages.

S. officinale Prostratus Prostrate sage has bluish colored leaves with a balsamic flavor.

S. Purpurea or 'Purple or Red' sage is known for very strong leaf flavors.

S. Purpurea variegata or 'Variegated Purple Sage' has a strong flavor.

Cooks and gardeners find satisfaction growing and using these varieties.



Our Favorite Culinary Herb Varieties

by Madalene Hill and Gwen Barclay

Favorite Basil: *Ocimum* 'Mammoth' (very large leaf) and *Ocimum* 'Genoa' (medium leaf size). Names of basil change. It really is a preference of the gardener and the kitchen.

Favorite Cilantro (Coriander): *Coriandrum sativum* 'Santo'. Several corianders are on the market touting early or late blooming. Our experience: They all bloom about the same time in the South.

Lemon Balm: *Melissa officinalis*. There are some new cultivars of lemon balm but all seem to grow the same for us. Lemon balm has more flavor when grown in the full sun, but is more beautiful-looking when grown in high shade. Give balm a haircut when it looks shaggy and it bounces right back.

Lemon Verbena: *Aloysia citriodora*. There's only one variety and it's easy to grow.

Favorite Marjoram or Oregano: *Origanum x majoricum* or 'Hilltop Oregano'. This is a prime oregano for the kitchen.

Favorite Mint: *Mentha x gracilis* 'Madalene Hill' or 'Double Mint'. This is the only mint that has both spearmint and peppermint oils. It is an outstanding mint for culinary usage, and is often labeled as Red Stem Applemint.

Favorite Rosemary: *Rosemary officinalis* 'Arp', *Rosemary officinalis* 'Madalene Hill', Synonym: 'Hill Hardy', *Rosemary officinalis* 'Tuscan Blue', R. off. 'Salem', *Rosemary officinalis* 'Gorizia'. These five rosemaries, according to herb expert Dr. Arthur Tucker, are considered prime for culinary usage. One or more will usually be found in the culinary trade.

Favorite Sage: *Salvia officinalis* x *Salvia fruticosa* 'Newe' 'Ya'ar' (pronounced as 'Noy yar') This salvia is from Israel and tolerates hot weather. It grows to three feet in sunny areas and tolerates high shade. This is the sage for the Gulf Coast area. *Salvia officinalis* does not tolerate humid heat well.

Favorite Scented Geranium: *Pelargonium* 'Rose', Synonym 'Old Fashioned Rose', *Pelargonium graveolens*. Just a leaf added to pound cake will create a wonderful flavor. It's also good in tea blends.

Favorite Thyme: *Thymus vulgaris* 'German Winter Thyme', *Thymus vulgaris* 'Narrow Leaf French' thyme, is very good.





CHAPTER 3

“NICE-TO-HAVE” HERB VARIETIES

There are several wonderful herbs that do well in our area with some special care and attention. Some of these are tropical plants and required special protection in the winter, including bringing them inside. Others grow from seed and die back in hot weather.



Allspice *Pimenta dioica*

Allspice is a tender perennial with elongated, aromatic leaves. Allspice must have winter protection. In a large container, it will grow into a small tree. Allspice needs a slightly acid soil and three applications of a balanced fertilizer during the growing season to replenish nutrients leached out by irrigation and rainfall. As the tree grows, it will require a larger container. Clusters of small, white flowers mature in late fall as fleshy, purplish, black berries. The unripe fruit is used as a spice.



Aloe *Aloe vera* or *Aloe barbadensis*

There are 350 known aloe species. The fresh sap is recommended to alleviate the pain of burns and promote skin healing, however, it should not be eaten.

As a tender, perennial succulent, aloe must have excellent drainage and protection in freezing weather. Outdoors, aloes grow best in partial shade. They will thrive in a soil mix of two parts compost and one part of sharp sand. Older plants will bloom a stalk of red to yellow bell-like flowers.

They are excellent plants for an indoor container when grown in bright, indirect light or with at least four hours of bright sunshine. Because they are a semi-desert plant, root systems remain small for many years eliminating the need for frequent repotting. To avoid root rot allow the soil to dry completely between watering. Fertilize once a year with a half strength houseplant product.

Propagation is by divisions. Pups or rooted suckers develop around the base of the parent plants. When separating the plants, take care not to damage the roots of the pup. Replant in the compost-sand mixture.

Coriander or Cilantro *Coriandrum sativum*

Coriander/cilantro is known by several common names, such as, 'Chinese parsley' or 'Cilantro' for the foliage and 'Coriander' for the seeds.

This is a cool season annual that matures at two feet. It needs a loose, well-drained soil with afternoon shade in the early summer. Do not plant near fennel because they will hybridize and affect the flavor of the seeds. The lower leaves resemble Italian flat leaf parsley while the upper leaves are similar to fennel or dill. All parts of the plant are used. The green leaves are used in Mexican cuisine to provide a unique flavor to meat dishes. The round, dry, lemon-flavored seeds are used in baking.

VARIETIES

'Delfino' has fern like leaves and has a delicate flavor that is not bitter.

Great culinary herb.

'Long Standing' is a new variety that is slow to bolt as summer heat arrives.

Mexican Coriander, *Eryngium foetidum*, is a tender perennial that grows best in light shade. It needs a loose, well drained soil and will mature to approximately two feet in height. Because of the cilantro flavors of the foliage, it is used as a substitute in Mexican cuisine. It is more heat tolerant than *C. sativum*.

'Santo' has a strong flavor and is widely used by chefs.



Dill *Anethum graveolens* or *Peucedanum graveolens*

Both Latin terms are recognized botanical names for Dill, an annual, culinary herb used on fish, in salads, sauces, soups, and vegetable dishes. The green or dry seeds and foliage are used as key flavoring ingredients for dill pickles and sauerkraut.

Growing dill outdoors requires a sunny, protected location in slightly acid (pH 5.5 to 6.5), well-drained soil. Because dill is a cool season crop, plant seeds in September through November at two week intervals to extend the harvest. For optimum growth, thin plants to one plant per one square foot of ground. Because of the taproot, dill does not transplant easily. Also, stakes or cages are needed to support the tall stems of mature plants. Do not plant dill near fennel because the two species will cross pollinate causing off flavors in the seeds.

To grow as a container plant, dill must have at least five hours of direct sunlight. Plant seeds in a loose potting mix, cover with a clear, plastic tent to create a humid environment and place in bright, indirect light for seed germination. Remove the tent when true leaves have formed. Maintain a moist, but not wet soil by careful watering. Fertilize with a standard house-plant product to promote strong stems.

For cooking, the foliage can be used at any time. To preserve the seeds, shake the mature heads in a bag, spread on absorbent paper to dry, then place in a clean, dry jar or plastic bag. Store them in a cool, dry location.

Madalene Hill suggests preserving fresh dill stems, leaves and seeds in vinegar. Place washed, fresh herbs in a clean, sterile jar of vinegar, seal with a lid and refrigerate. This will provide fresh herbs for pickling when cucumbers are in season.





Geraniums, Scented *Pelargonium* species

Scented geraniums have long been used for potpourri made from the different varieties that offered fragrances of apple, coconut, cinnamon, lemon, lime, peppermint, orange, nutmeg, and rose. The culinary uses of the herbs are in preserves, drinks, desserts and salads. Though the flowers are insignificant, the variety of foliage textures, coloration and fragrance is an asset in the garden.

As tender perennials, the scented geraniums must have protection from cold. Whether planted in a container or in the ground, excellent drainage is the paramount consideration. On the Upper Gulf Coast of Texas, afternoon shade is recommended. When grown as a houseplant, they must have four hours of direct sun or 14 to 18 hours of artificial light. Water when the soil is barely dry. Fertilize with a half-strength houseplant product every two weeks during the blooming cycle and once a month during the winter.

Propagation is by rooting cuttings, layering the lanky stems or planting seeds. Seeds do not always grow true to the parent plant.

VARIETIES

P. capitatum has a light rose fragrance and pink flowers.

P. crispum, 'Prince of Orange' has an orange fragrance.

P. odoratissimum is known for the scent of apples.

P. radens combines both rose and lemon aromas and has lavender flowers.

P. tomentosum has a peppermint fragrance and white flowers. *P. fragrans* has a hint of nutmeg and pine.



Ginger *Zingiber officinale*

Ginger is a tropical, tender perennial that grows well outdoors on the Upper Gulf Coast of Texas. The long, narrow leaves grow to three to four feet tall from the knotty, firm tuberous roots. The white, fragrant flowers bloom infrequently. Both culinary and medicinal uses are widely published.

For best results, grow ginger in a fertile, loose soil in light shade. Use three to four inches of mulch in the winter to protect the roots.

Propagation is by root divisions. To start a plant, purchase a firm, fresh ginger root from the local supermarket.

Parsley *Petroselinum hortense*

Parsley is a cool season crop. It is best to plant it in September through October. It needs a moist, fertile loose soil in light shade. Apply water when the soil appears dry. Parsley is a biennial, but the summer heat kills the plant after the first season.

It can also be grown in a container with five hours of direct sunshine or 12 hours of artificial light. Parsley grows best in a fairly constant 70°F temperature. Keep the soil moist but not soggy.

VARIETIES

P. crispum, French Curly parsley grows to approximately one foot in height.

The tender, peppery leaves are very ornamental.

P. neopolitanum, Italian or Flat Leaf parsley has a stronger flavor and is preferred for cooking purposes.



Peppers *Piper nigrum*

'Black' pepper is a tropical, perennial vine. It grows to approximately 20 feet and has glossy, broad, green leaves. The white flowers in the summer mature into fragrant, wrinkled, red fruits. The dried fruits are used whole or ground. A universal spice, it is used for flavoring and as a preservative.

Pepper grows in humid climates in the shade. It needs a sturdy trellis. Propagation is by cuttings. The roots need winter protection during occasional cold weather.





Thyme *Thymus* species

Thymes are perennials needing full sun and a light, well-drained slightly alkaline soil. They are excellent ground covers because of their sprawling growth habit. Most varieties mature at less than a foot in height.

Propagation is by cuttings and layering. In fact, the natural growth pattern will naturally root along the spreading stems.

VARIETIES

There are numerous varieties with different foliage colorations and fragrances. This range of plant forms and scents allows gardeners and cooks to select their personal favorites.

T. citrodorus aureus, 'Golden Lemon' thyme is a creeping variety with stunning golden foliage and pink blooms.

T. citrodorus is a pink flowering variety with a strong lemon scented foliage.

T. nutmeg forms mats and blooms with purple flowers.

T. pulegioides, 'Broad leaf' thyme matures into a 15-inch shrub with mauve/pink flowers and strongly flavored leaves.

T. serpyllum, 'Mother of Thyme' is a creeping plant with pink flowers. It is used in rock gardens because it forms large mats in a single season.

T. vulgare or 'Common Thyme' is very hardy. The gray/green, hairy leaves are very small, and the green/brown stems become woody by the second year. This variety is also known as 'French' thyme.

What makes Kitty so crazy about catnip?

Catnip *Nepeta cataria*, a member of the mint family, contains nepetalactone, one of several chemical compounds known to trigger a feline's wild and crazy behavior. The chemical is in the plant's volatile essential oils. Nepetalactone is released when the plant is touched and absorbed through the cat's olfactory system. That's why cats wildly roll over and over in catnip, sniffing, chewing and rubbing the leaves as though trying to "become one" with the plant itself. Even large undomesticated cats, such as lions and bobcats, become euphorically intoxicated when exposed to catnip.

Believe it or not, some cats are immune to catnip's enchantment. Kittens less than three months of age are indifferent to catnip, as are many older cats. Tigers also do not respond to catnip. The response to catnip is apparently inherited. The herb's effects do not harm the cat and wear off within minutes. Then, after a short rest of an hour or two, Kitty is back in there for another dose!

So, if you want to keep Kitty out of your garden, plant catnip in a pot, or off by itself. Or plant so much you don't care if some of it is destroyed. You might even try covering your catnip with wire, but the persistent cat will probably find a way in anyway!

By the way, studies at Iowa State University have shown that catnip is ten times as effective as DEET (diethyl-meta-toluamide), the compound used in many commercial insect repellents, for repelling mosquitoes and perhaps as much as 100 times more effective than DEET as a German cockroach repellent! So maybe placing catnip here and there in the garden really IS a good idea!





CHAPTER 4

GARLIC, ONIONS, AND SALAD HERBS

Arguments can go back and forth on the botanical classification of herb versus fruit versus vegetable. But try to imagine Mexican or Italian food or a pot roast without garlic or onions or peppers. No thank you, pile them on please. For a rich, full-body flavor, these are essential, and they grow very successfully on the Upper Gulf Coast of Texas.



Garlic *Allium sativum*

Garlic is not only an essential culinary herb or vegetable, it is also valued for medicinal properties. In most of the cuisines worldwide, garlic is a key ingredient. Recent news reports state that current research is exploring the possible uses of garlic as an antiseptic. It appears promising in prevention and treatment of cardiovascular disease. Raw garlic contains allicin, thought to have antibiotic, anti-fungal, anti-viral and anti-oxidant properties.

There are numerous varieties of garlic divided into two categories, softneck (artichoke and silver skin) and hardneck (rocambole and porcelain). Softnecks are recommended for the Upper Gulf Coast of Texas where garlic is a cool season herb. In September through October, purchase firm, well-formed pods of garlic. Wrap in absorbent paper and seal in an air tight container. Pre-chill in the refrigerator for two weeks prior to planting is recommended for growing garlic. True garlic is chilled for five to seven days and elephant garlic for a month in the refrigerator. On the day of planting prepare three to four gallons of hot water (130 to 140°F) and a half cup of bleach. Place the cloves into the bleach solution for approximately 30 minutes prior to planting. This kills any pathogens on the cloves and softens the skin to promote faster germination after planting.

Plant the individual cloves point up about ½ inch deep and two inches apart in full sun in a well drained, loose soil. Garlic needs about one inch of water per week to maintain a moist but not wet soil. Fertilize monthly with a soluble product or side dress with the high-nitrogen fertilizer nitrate nitrogen available as ammonium nitrate (21-0-0). Use these fertilizers cautiously as they are quite strong. Three to four inches of mulch helps keep soil cool.

Thrips can be a problem during the spring. Treat with an insecticide recommended for food crops. To prevent pink root, a fungal disease, do not plant garlic in the same location year after year.

When the foliage dries and turns brown, garlic is ready for harvest. Dig carefully, brush to remove dirt and dry away from direct sunlight. After the sheath is papery dry, trim the roots and cut the stems to an inch and a half.

The dry foliage of softneck varieties can be braided. To store garlic and prevent sprouting, place in net bags and hang in an area with 45 to 55 percent humidity with a temperature of between 50 to 70°F. Freezing will keep garlic for approximately a year. Wrap in an absorbent paper towel and place in an air tight container. Use cloves as needed and return the remainder to the freezer because it will deteriorate if allowed to thaw.

VARIETIES

‘California Early’, a white bulb, silverskin variety, with a maturing cycle of 150 to 200 days.

‘Creole’ has elongated pink cloves with a slightly sweet taste. It matures in 150 to 200 days.

‘Elephant Garlic’, *A. ampeloprasum*, is actually a leek with a mild garlic flavor. Average maturity is in 150 to 200 days.

‘Mexican Red’ or ‘Spanish Rojo’ is another Creole variety. The stronger flavors are preferred by many cooks. It matures in 150 to 200 days.

Onion *Allium cepa*

Onions grow best in full sun in a deep, rich, slightly acid soil, but will satisfactorily perform within a 5.5 to 7.0 pH. Planting onions can be either by seeds or transplants (young seedlings). Sow seeds in prepared beds from October through November. For example, the 'Texas Supersweet 1015Y' onion should be planted on or near October 15th. For planting seeds, sow approximately one quarter inch deep. Thin to two inches apart when the seedlings are about two to three inches tall. When young plants reach four inches tall, thin again to four inches apart.

If planting transplants, select a bunch with young plants that are smaller than a pencil in diameter. Larger transplants will utilize the plant energy to bolt or try to form seed heads rather than bulb. Plant transplants approximately two to four inches apart to prevent crowding at maturity.

Because onions have small root systems, the regular once-a-month side-dressing of fertilizer should be sprinkled near, but not on the plant. This should be lightly raked into the soil and watered in thoroughly. Sulphur in fertilizer increases pungency and heat. To promote sweetness, use ammonium (potassium nitrate) fertilizer or a balanced mix. Mulching is recommended because onions do not compete well against weeds and it cools the root zone and helps maintain even soil moisture.

Pink root is a fungal disease that is found in most soils. Planting resistant varieties such as the 'Texas Supersweet 1015Y' eliminates that problem. To control black sooty mold from forming on the developing onion bulb, MG Sam Scarcella sprays with a fungicide two weeks after planting, again when the top foliage is fully developed and finally, when the bulb is approximately half the mature size. Occasionally the insect thrips are a problem in successfully growing onions. An insecticide approved for food crops should be used according to the directions.

On the Upper Gulf Coast of Texas, the "short-day" varieties are recommended. There are several superior short-day varieties that do very well with an average of 12 hours of sunlight. The one negative to these cultivars is that they do not store well.

VARIETIES

'Burgundy' forms large, flattened bulbs with dark red, sweet, mild flesh. It needs 95 to 165 days to mature.

'Creole C-5' is a red variety developed in Louisiana. They average 110 to 140 days to maturity.

'Excel 986' is a Bermuda-type sweet onion with a flattened shape. It matures on average in 120 to 160 days. It stores better than most.

'Granex' is a hybrid that has yellow, white and red fleshed varieties. It takes approximately 110 to 140 days to mature.

'Grano, TX 502' also has yellow, white and red forms. They are large, sweet, globular shaped onions that mature on average in 120 to 160 days. This variety is an original parent to many of the newer hybrids.

'Supersweet TX 1015Y' was developed in the 1980s by Dr. Leonard Pike at Texas A&M. It is considered the best variety for the upper Texas Gulf Coast. They mature in 110 to 160 days.





Shallots *Allium cepa ascalonicum*

The shallot is a perennial relative of onions and has the most delicate flavor of the Alliums. Both the leaves and bulbs are used for cooking.

Shallots are sometimes commonly named “Multiplying Onions” because they form clumps. They need full sun and a loose, well-drained soil with a pH of 5.5 to 7.0. Because shallots grown from seed take two years to produce bulbs, propagation is by planting a “set” or a clove. Plant the sets or cloves two to three inches apart from late September through November. Like onions, they need monthly applications of fertilizer and mulching. There are numerous varieties and the late Sol Meltzer recommended the Louisiana shallot (Delta Giant) that matured to three or four feet and produced clumps approximately 18 inches in diameter.

Peppers, *Capsicum frutescens*

This family of herb/spice/fruit/vegetable is blessed with many varieties that provide diverse flavors. *Capsicum frutescens* is known as ‘Sweet Peppers,’ ‘Green Peppers’ and ‘Hot Peppers.’ Most peppers are tropical annuals, but several varieties such as the ‘Chile Pequin’ will grow as a half-hardy perennial on the Upper Gulf Coast of Texas.

All varieties grow best in full sun in a soil with a pH of 5.5 to 7.0. Most peppers are very sensitive to cold temperatures. Seeds can be started indoors in February to have large seedlings ready to plant outdoors after the danger of frost is past. If planting directly outdoors, sow seeds in a loose, well-drained soil after the temperatures have warmed to 55°F at night.

Protect seedlings from cut worms by wrapping the stem at ground level with a paper or cardboard band. Fertilize heavily to encourage fruit production to be early and heavy. Watch for sunscald on mature fruits.

VARIETIES

Select cultivars that mature early before summer heat affects production.

Green or Sweet Peppers.

‘Big Bertha’ has a large, elongated fruit. It will turn red when fully ripe.

Maturity takes approximately 70 days.

‘Capistrano’ is a new variety that matures in 65 days.

‘Golden Summer’ fruits in shades of light green to yellow. The heavy foliage shields the fruit and prevents sunscald. It matures in 65 days.

‘Gypsy’ is a multicolored variety with outstanding taste that matures in 65 days. It is an All-America Selection.

Other sweet, mild varieties to consider are long, thin ‘Sweet Spot’ a banana-type that has a unique flavor and excellent disease resistance. Round fruiting cultivars, such as ‘Cherry Pick,’ are bite-size and colorful in salads and relishes.

Hot Peppers

Fiery cuisines have raised the level of hot pepper consumption and created a cult following of true worshippers. As a precaution, wear gloves when handling these peppers. The capsaicin will burn not only hands, but any part of the body touched by tainted fingers.

‘Ancho’ is a popular New Mexico chile used to make chile rellenos. When ripe and bright red, they are dried and strung into decorative “ristras.” While still green they are called ‘Poblano.’

‘Chile Pequin’ or ‘Chiltepine’ is a native pepper. The tiny peppers are almost as hot as the ‘Habanero.’ Commonly called “Bird’s Eye” peppers, they are a favorite of mockingbirds.

‘Habanero’ is by far the hottest of the hot peppers. It should be used with caution, and an ample drink of milk.

‘Jalapeno’ is available in a full range of “heat” from mild to hot-hot-hot.

This is still the staple of Mexican cuisine.

‘Thai Hot’ is quite hot for a tiny pepper pod. It is used for Asian cooking.





Salad Herbs

These plants encompass a myriad of leafy herbs/vegetables. In addition, the young, tender foliage of nasturtiums, chickweed, purslane and garden cress add peppery zip to everyday garden salads. To add color, fragrance and spice, the flowers of borage, pansies, calendula, roses, sweet violets and nasturtiums are tossed in if available.

As cool season plants, the seeds need to be planted in September through November. A succession of plantings will ensure a longer harvest season. If the soil temperatures are too warm (80°F), the seeds will not germinate. Because the seeds deteriorate quickly, get new seeds each year. Lettuce seeds need sunlight to germinate, so lightly press into the soil. When thinning, the young plants are truly a gourmet addition to salads or another easy option is to transplant the extras.

Most of these herbs grow best in sun to light shade in a soil with pH of 6.0 to 7.0. Most varieties are hardy to the mid-twenties and grow very successfully under a light, spun-fiber groundcover fabric. These are heavy consumers of soil nutrients. The nitrate fertilizers (21-0-0) provide the most available nitrogen.

Harvest the outer leaves and the center will continue to produce new foliage. A few days under refrigeration will reduce any bitter flavors. Bunching or leaf lettuces are more successful in this area and are ornamental additions to flower beds.

VARIETIES

'Arugula', *Eruca vesicaria*, is grown for the young leaves that have a hot, spicy flavor.

Lettuce, *Lactuca sativa*, boasts many succulent varieties of different coloration, leaf shapes and taste.

'Deer Tongue' produces long narrow, triangular leaves and is common in mesclun mixes.

'Oak Leaf' has long leaves that vary from green to red in coloration. It is resistant to bitterness.

'Red Sails' exhibits frilly foliage in shades of green, bronze and red. The color is more intense in cool weather.

'Salad Bowl' is an All-America Selection that is slow to bolt in summer.

'Simpson Elite' is a bunching plant that allows for harvesting the outer leaves while the center continues to form new foliage.

Radicchio

'Radicchio' is similar to leaf lettuce, but more difficult to grow. Gardeners can plant directly in the soil by lightly pressing the seeds into the surface. Cover with a spun fiber row cover to protect seedlings and encourage uniform growth. Thin to approximately eight to 12 inches apart.

VARIETIES

'Carmen' is crimson with white veins. It takes 75 days to maturity.

'Pan Di Zucchero' is a green variety that is milder and easier to grow.





Herbs You Shouldn't Eat

There are several common herbs that are mildly or high toxic, and shouldn't be eaten. 'Ortho's Guide to Herbs' contains a long list, a few of which are:

Aloe – good for the skin but will cause violent purge if ingested

Angelica – a carcinogen, and toxic in large amounts

Comfrey – a carcinogen

Juniper – okay in small amounts, dangerous in high doses

Licorice – High doses or frequent use can be toxic; heart or blood pressure patients should avoid completely

Mayapple – can be fatal if ingested

Pennyroyal – unsafe except in smallest quantities

Rue -- unsafe especially in pregnant women; can cause skin burn

St John's Wort – toxic in large amounts

Sassafras – contains carcinogens, and can cause liver and kidney damage

Tansy – oil is lethal if ingested

Violet – seeds can be toxic to children

Also be careful of poisonous plants that look like herbs, such as:

Bulbs – many bulbs of flowering plants look like onions but are toxic. The bulb of the edible saffron crocus can be fatal if ingested.

Black Horehound looks almost exactly like useful White Horehound – can be toxic in large quantities

False Hellebore or Indian-poke can be mistaken for wild onion – can bring on heart troubles

Foxglove is sometimes mistaken for comfrey – can be fatal if ingested.

Hemlock – Water Hemlock can be mistaken for angelica, and is toxic if eaten.

Poison Hemlock – leaves can be mistaken for parsley, seeds for anise, and roots for parsnips, and are potentially fatal when ingested.

Jerusalem Cherry or Christmas Cherry looks like a chili pepper and is mildly toxic.

Larkspur – can look like dill, and seeds or young plants can be fatal if ingested.



CHAPTER 5

CREATING AN HERB GARDEN IN THE HOME LANDSCAPE

Herb gardens have been grown since ancient times. The Greeks and Romans created herb gardens as a kind of outdoor pharmacy, to have medicinal herbs ready for use against many forms of common illness. After the Roman Empire, monasteries and religious orders kept up the study, cultivation, and use of herbs. Ancient and medieval herb gardens were created in open, sunny areas, often raised from the ground for better drainage and easier picking. Typically, brick or timber contained these elevated beds, and some designs even utilized woven wicker or willow. Garden walls protected the more delicate plants from bad weather and wind, and provided shade where needed. An added benefit of an enclosure was the wonderful scent encapsulated in the garden on still summer evenings.

In the Elizabethan Age, there were many royal gardens with special herb hedges and arbors, and sometimes laid out in elaborate 'knotted' and maze-like designs for pleasant viewing and strolling. The nobility too planted small gardens inside their castle walls, growing herbs for medicine as well as fragrance. Apothecaries in towns and cities across Europe began gathering and drying herbs for their urban clientele. In the years that followed, the private homes of the middle class began to feature herbs and flowers for pleasure and decoration. Many favored using 'grass walks' or 'herbal pathways' with plants such as chamomile and creeping thyme, so that guests could walk along the path and crush the herbs underfoot, smelling their fragrance.

Herb Gardens in America

Herb gardens were an essential feature of pioneer homes providing everything from foodstuffs to medical treatments. They were planted in sunny protected corners near the house. On a sweet, sultry summer day, if a soft breeze blew through the window, the scent of the garden fragrancd the home. Most herbs were incorporated into the larger family vegetable plot. Colonial gardeners typically arranged plants according to perennials vs. annuals, deep rooted vs. delicate. The early gardens were designed with what an eye toward convenience: the plants that were used the most were closest at hand.

In urban areas of 18th century America, exclusive herb gardens were located just outside the home's kitchen and planted with an assortment of perennial herbs: garlic chives, lamb's ears, lavender, lemon balm, lovage, mint, rosemary, sage, santolina, thyme, and yarrow. The knot-garden of herbs and flowers is still popular in formal gardens behind stately homes. However, herbs are versatile landscape plants, and can be grown any number of ways.

Herb Gardens to Grace Any Residence

KNOT GARDEN. This is a tradition Elizabethan “knot” garden, where herbs are planted in blocks in an intricate design along pathways.



COLONIAL HERB GARDEN. The Herb Garden at Sturbridge Village, Massachusetts, represents the vast variety of herbs available including those used in medicines, cosmetics, food, and insect-repellents, along with those used in home decorations, potpourris, and floral arrangements.



URBAN HERB GARDEN. Town and country gardens from pioneer times to present day have often located a fragrant herb garden outside a sunny window, to fragrance the house when breezes blew through.





SHAKER GARDEN. The Shakers supplied faraway town and city pharmacies with medicinal herbs, which they grew, baled, and mailed. They were the first to sell herb and vegetable seeds mail-order to gardeners from the early 1800s until their dissolution in the 1920s. These magnificent herb gardens are part of Shaker Village, in Pleasant Hill, Kentucky, near Lexington.



THE HOME RAISED BED GARDEN. Raised beds made of wood or stone are easily constructed in any sunny or semi-shade location. This way, good garden soil and good drainage can help herbs thrive.

HERBS IN THE FLOWER BED LANDSCAPE. Herbs, flowering bushes, trees, and flowers can be compatible friends, and work beautifully together in the ordinary landscape border around a foundation.



THE CINDER BLOCK GARDEN. One of the easiest raised-bed construction involves stacking cinder blocks with the holes forming a long container, perfect for herbs. Gardeners like to plant a variety of herbs in the soil-filled holes while using the large middle section to plant tomatoes, peppers, beans, cucumbers, and eggplants in the spring, and spinach, lettuce, swiss chard, broccoli, or onions in the fall. Some herbs deter bugs, and attract butterflies and little lizards to these clever gardens, making them a delight for children.



HERBS IN POTS AND CONTAINERS. It's easy for suburban and urban residents, and even apartment dwellers, to plant pots or colorful containers with herbs, so they can always be on hand for quick use in food or potpourri. These can be brought inside during the winter, and can still thrive in a sunny window with regular watering.





THE WHOLE HERBAL LANDSCAPE. Herbs and walkways take the place of the traditional front lawn. Because herbs take much less water and care than the average lawn and use very little fertilizer or pesticide, the whole herbal landscape may someday become a popular xeriscaping alternative to the commonplace lawn/bush/tree suburban yard.



CHAPTER 6

CULTURE

It is a common perception that growing herbs on the Upper Gulf Coast of Texas is difficult to impossible. True, growing conditions are different compared to the West Coast or Florida. The combination of hot summer days and nights plus high humidity causes many garden problems. Yet, nationally recognized gardeners have grown herbs successfully by utilizing practical methods and proven techniques.



Container of herbs



Sunny site



Raised beds using timbers



Cinder block herb garden

Starting an Herb Garden

Herb gardens can be as simple as a container with a single plant or a grouping of containers with several varieties. It can be an elaborate knot garden with plots bounded by hedges and walkways. Herbs are excellent companion plants among vegetables, ornamentals and perennials. Inter-planting with herbs promotes vegetative variety to prevent disease and insect problems. The addition of herbs offers an abundance of fragrance lacking in most modern hybrids. Plus, swarms of butterflies attracted by herbs are a delightful bonus in any garden.

Site Selection

As with most garden plants it is all about location, location, location. Most herbs thrive in full sun. A sunny herb garden develops the full flavor and fragrance of the essential oils. However, in this climate, there are some exceptions to this statement.

Most of the Upper Gulf Coast of Texas is Zone 9, thus hardiness is not a problem. Because of mild winter temperatures, even annual herbs often grow like perennials.

The long weeks of cloudy, rainy weather are more problematic. So, the second major consideration is drainage, drainage, drainage. Because herbs must have excellent drainage, consider planting above ground level.

An old herb growing tradition has introduced the term “bed” and “flower bed” to gardening because of the visual resemblance to a bed for sleeping. “Flower bed” and “bed” have evolved to mean a dedicated garden area planted with ornamental annuals and perennials including herbs.

Raised beds constructed of stacked stones, cinder blocks, concrete blocks, cypress, cedar, redwood, and the newer man-made decking materials or stones are all good choices. In the new global world, exotic woods with natural rot resistant properties such as Ipe (Ironwood) and Cambara are becoming more common options for garden construction.

Cinder blocks offer additional planting areas in the hollows for herbs such as mints that have invasive root systems.

Landscape timbers and other treated wood products are also acceptable for building herb beds. The chemicals are forced into the wood making it resistant to rotting and insect damage. CCA (Chromium - Copper - Arsenate) was removed from the market in 2004 because of the carcinogenic properties of chromium and arsenic. Two new products ACQ (Alkaline - Copper - Quat) and CBA (Copper - Boron - Azole) are currently available under various brand names.

Plan the raised bed to be eight to 12 inches above grade. If possible an 18-inch wall is comfortable for gardening in a seated position. An optimum span for a free-standing bed is four to five feet. This allows access from all sides without stepping on the soil.

Gravel beds utilized by Madalene Hill consist of a subsurface four inch layer of gravel topped with four to six inches of good soil. The stones create a percolation layer beneath the root zone. Four inches of gravel mulch serve

to keep the roots cool but does not stay wet and soggy. In early spring and late fall, the gravel provides additional warmth.

Soils

It is a myth that because many common herbs are originally from the Mediterranean area of Europe that they need poor soils. Both Madalene Hill and the late Sol Meltzer maintain that herbs thrive in most average soils that have good drainage.

Most herbs require a slightly acid (pH 6.0) to a slightly alkaline (pH 7.5) soil. In soil chemistry 101 for gardeners, it is useful to imagine a line drawn roughly along Interstate 10 separating light, sandy soils from heavy, gumbo clay typical of most of the coastal counties. These relatively infertile sandy loam soils generally have an acid pH, while the gumbo clay is usually alkaline and fertile.

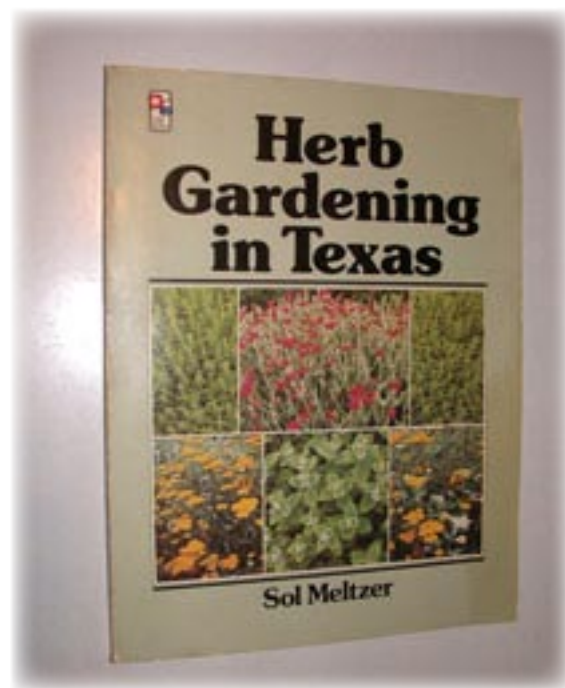
A soil analysis is the first step in starting any gardening venture. The Soil Sample Information Form and sample bag (D-494) are available from your local County Extension Office. Number one, the Routine Analysis will provide information on pH, nitrates, phosphorus, potassium, calcium, magnesium, sodium, sulphur, and conductivity. Instructions on the reverse side of the form and the sample bag illustrate the procedure for gathering the soil sample. The completed form, sample and payment should be mailed to the Soil, Water & Forage Testing Lab, Soil & Crop Sciences-Heep Center, Texas A&M University System, 2474 TAMU, College Station, Texas 77843-2474.

Raised beds have other advantages. Gardeners have good control of soil types, and raised beds help minimize the effects of alkaline water leaching in from the surrounding soils. This can raise the pH in an herb bed planted in holes dug directly in the ground.

When selecting soil for herb beds, a personal visit to the soil yard prior to purchasing insures that the mix is suitable for the intended purpose. Most commercial mixes are usually composed of sand and compost. Soils containing identifiable chunks of wood can be low in nitrogen because it has been consumed by organisms trying to decompose the large material. Also, to prevent purchasing a product infested with weed seeds, make an effort to inspect the surrounding area for weed infestations that can be major problems just waiting to germinate.

Do-it-yourself soil mixing is a less expensive option. It can be a basic mix of $\frac{1}{3}$ native soils, $\frac{1}{3}$ compost and $\frac{1}{3}$ sand. This will provide the necessary fertility and porosity. In his book, *Herb Gardening in Texas*, Sol Meltzer recommends eight parts screened soil, two parts sharp sand (play sand), two parts shredded peat moss (acid), two parts of either perlite or vermiculite and one part of either compost or composted manure. He gardened very successfully for many years with this ratio of soil components.

Whether planting directly in the ground or in raised beds, a prudent gardener will do proper preparation. Six weeks prior to planting, clear the selected area of all plant material. Dig and turn the soil to a depth of eight to 12 inches. Allow it to rest. Tilling will bring dormant weed seeds to the surface and allow germination. Removal of the new weed growth is easier



Sol Metzger, "Herb Gardening in Texas"



Compost bins can be attractive



Irrigation can save your herbs in a dry season

before plants are introduced. Turn the soil again and allow time for additional germination. After tilling three or four times, most of the weed seeds are destroyed and the soil is ready for any needed amendments.

Compost

For sandy and clay soils, the best amendment is compost. In sand, compost adds humus to provide water retention and fertility. In clay, it loosens the tight soil particles and makes it more porous. Compost can be purchased from a soil yard or homemade.

It is simple: compost happens. It is nature's process of breaking down vegetative materials. The basic recipe is to alternate layers consisting of three to four inches of brown, carbon-rich materials with three to four inches of green, nitrogen sources. The brown can be dry leaves, sawdust, shredded limbs and twigs. Grass clippings, green leaves or other green plant products are rich in nitrogen. Add kitchen waste except animal products to the pile. Also, a light dressing of fertilizer high in nitrogen such as 42-0-0 or 21-0-0 will "kick it up a notch, BAM!"

Easy Gardening... Composting (Bulletin L-1628) and *Building Bins and Boxes for Composting* (Bulletin GC-2001) are just two examples of publications available from your County Extension Office complete with plans and illustrations for building composting structures.

A 3' x 3' x 3' compost pile with good air circulation and adequate moisture should reach 150 to 160°F destroying most weed seeds, disease organisms and insects. Starting with small chips of plant material plus a regimen of turning to incorporate everything will produce a sweet soil in a matter of weeks. Take care to keep mature seeds of weeds or aggressive plants out of the pile. This prevents re-inoculating the garden with recently eliminated problems.

Water

The normal physiological processes of plant metabolism (photosynthesis) and cellular growth require water. It is the transporter of nutrients throughout the plant. Herbs require some water. Well-rooted and mulched herbs are usually drought tolerant. However, drooping leaves are a sure sign that moisture is needed. But a more scientific method is to use a moisture meter. Inexpensive models are available at local nurseries and home improvement stores.

Drip systems or soaker hoses are preferred for supplementing water deep to the roots. These keep excess moisture off the leaves, thereby reducing fungal and other disease problems.

Fertilizer

A semi-annual application of compost is usually all herbs need to continue thriving. This will decompose releasing nutrients into the soil. Refer to the soil test analysis to determine nutrients needing supplementation.

Gumbo clay soils are generally high in phosphorus that forms chemical bonds with iron and zinc that are not easily dissolved by water.

Pesticides

If planning to use culinary herbs for food preparation, pesticides are a big no-no! Most pesticides have a residual life and are absorbed by plants. Many insect problems are easily controlled with soapy water – 2 teaspoons of a non-detergent dishwashing liquid such as Ivory or Dawn to a quart of water. Spray the plant giving extra attention to the undersides of the leaves. This treatment should be repeated every few days until the problem is under control. This works for aphids, red spiders and white flies.

In fact, a diverse garden of herbs among other plants provides natural repellants for some insect and animal pests. Strong odors such as rosemary will repel deer.

Harvesting and Pruning

Herbs need to be harvested. If not pinched, sheared or cut regularly, then they must be pruned to keep production going. If the herbs are to be used immediately, the time of harvest is not significant. However, if the product is to be preserved, the optimum time for harvest is early on a sunny morning after the dew has dried.

In order to keep leafy herbs such as basil full and bushy, the growing tips should be pinched or snipped just above a set of leaves. This will force growth of side shoots located between the leaf petiole and stem. Do this close to the ground to keep the plant from becoming top heavy. Also, remove flower buds because they consume the plant's energy reducing the quality of the essential oils. At the end of summer, allow some annual herb plants to bloom and seed to re-establish the herb next year. To promote re-growth, do not remove all the foliage when trimming annuals.

The perimeter foliage of bunching herbs such as chives or parsley should be snipped close to the ground to prevent unsightly yellowing stubble. New growth is stimulated from the center of these plants and will remain tender as spring warms into summer.

Blooming herbs are pruned after the flowers fade. The plant energy will then be utilized to reproduce new individuals. Bulbs such as shallots or ginger roots are dug up and divided.

Growing in Containers

Most herbs will grow well in containers so long as the environment is agreeable. Special considerations are sunshine requirements, more frequent watering, fertilizing, and high soil temperatures.

Most herbs need at least five to six hours of bright sunshine in order to develop the quality of essential oils.

Outdoor container plants will require frequent applications of water. Unglazed porous clay or terra cotta pots allow the moisture to wick out, drying the soil quickly.

Indoor container plants usually require less water. Utilizing a moisture meter is the best insurance to prevent over-watering. As a precaution, empty deep saucers because the water retained around the base of the container can cause root rot.



Harvesting and pruning



Growing in Pots takes extra care



Herbs on a Homemade Drying Rack

For container plants, fertilize with compost tea or fish emulsion. A regular monthly application should keep plants growing and healthy. To make compost tea, steep a cloth bag containing one cup of compost in a gallon of water for one hour. Drain the bag and use the liquid to water container plants. Use the same method to make manure tea.

The black plastic nursery pots and other dark containers absorb the heat. The temperature of the root ball becomes a factor in plant health. Shading the container or wrapping to insulate containers from the hot sun are options. Newer, very decorative containers made of foam products have thick, insulated walls.

Ambient humidity can be a problem for indoor container plants. Air conditioners remove moisture from the interior environment depriving foliage of a humid atmosphere. To supplement air moisture around plants, fill a shallow pan with stones and water. Set the plants on the stones and the moisture will evaporate up into the foliage.

Preserving

Most herbs are evergreen in the twelve-month growing season of Zone 9 and can be harvested and used fresh all year. The optimum time to harvest herbs for preserving is just prior to blooming. An exception to this statement is mints. Their essential oils are most prominent when in bloom.

Air drying can be a problem in the high humidity of this area. However, a dehydrator or oven will accomplish the task.

When harvesting, $\frac{1}{3}$ of the plant can be removed without causing major problems. Wash thoroughly and strip the leaves from the stems. Spread in a single layer in a pan or on the dehydrator screen. The leaves should dry in 90 minutes in a 100°F oven. Different dehydrators will need varying times to complete the task.

Rub the dry leaves to break into small pieces or force through a sieve. Place in an opaque container, seal and label. Brown flakes of basil look the same as brown flakes of catnip. Dried herbs are good for approximately a year. After that the essential oils deteriorate.

Many herbs can be frozen to preserve flavors. After washing, dip them into boiling water for approximately 60 seconds and then immediately into iced water to stop the cooking process. Remove the leaves and seal in jars or plastic bags and label because frozen basil looks like frozen catnip.

Propagation

Herbs are considered easy to propagate. In fact, many herbs will layer and self-sow year after year. Detailed instructions for methods of propagation are illustrated in our award-winning publication: Bulletin GC 217 – *Two...Four...Six...Eight...Propagate!* This publication is available from the Galveston County Extension Office.

Seeds

Many herbs are easily started from seeds, and catalogues usually have a special section devoted just to herbs. Seeds can be directly planted outdoors and allowed to grow and bloom where they are planted. However, germinating indoors six weeks prior to the date of the average last freezing temperatures gets a jump-start on spring. This practice promotes strong root systems before summer heat sets in.

Seeds can be started indoors in a sterile starter mix of 50% shredded peat moss and 50% either perlite or vermiculite. The sterile mix helps to prevent soil-borne organisms and diseases that are death to seedlings. If using garden soil, heat it for one hour at 200°F to destroy weed seeds, insects and disease pathogens.

Start with clean, sterile containers. Wash thoroughly with soapy water and rinse well to remove any residue. Sterilize with a 10% bleach solution (one part bleach to nine parts water). A clear plastic container with drainage holes and a lid is a convenient germination container.

Fill containers with moist, but not wet soil-less mix. Do not plant the seeds too deeply. As a general rule, soil covering the seed should not exceed three times the diameter of the seed. Very small seeds are merely pressed into the surface of the soil. To settle the soil around the seeds, water gently and drain the excess liquid. Cover to prevent drying of the soil and place in a warm, brightly lit area. Usually enough moisture is in the soil that additional water will not be necessary. If there is no condensation inside the container, add a small amount of water.

Galveston County Master Gardener Sam Powers recommends using distilled water to moisten soil and to water seeds. The natural and manmade elements found in local water supplies forms chemical bonds or “ions” with the essential nutrients utilized by plants for germination and growth.

Special care is needed when transplanting new seedlings. Loosen the soil around the roots carefully and lift the individual plants by holding a leaf. Support the roots while transferring the plant. If you grasp and break the stem, the plant is lost. Loosing one leaf will not kill the seedling.

To prevent transplant shock, new plants need gradual acclimation to the outdoor environment. “Hardening off” is a systematic program of daily exposure in a semi-shady environment outdoors for increasing lengths of time. The process usually takes ten days to two weeks to adapt the plants to the environmental elements of sun, wind and temperatures.

After planting outside, additional protection from harsh sunshine and high winds will give the seedling the opportunity to establish a good root system. Row cover or Remay is a lightweight spun fiber cloth product that can be gently placed on the seedlings planted in a large area. This is secured around the edges with weights or wire pins. Sunlight and water will penetrate the fabric.

Several short-cuts for providing protection to newly transplanted seedlings utilize recycled common household items. One idea uses a large can such as juice or coffee containers. Remove the top and bottom creating a cylinder. Place this over the plant and push firmly into the soil. Another



Leaving seeds to dry on the stalks adds beauty to a garden



Multiplying onions



Multiplying onions should be separated at natural segments

idea is to use a milk carton. Cut the bottom on three sides creating a hinged flap. Remove the cap, place the carton over the plant, and secure in place with a weight on the flap. These will also provide some protection from cold temperatures.

Divisions

Bunching herbs such as chives and multiplying onions are propagated by dividing the clump usually every three years. Rhizomatous herbs will multiply vigorously. The root-like structures form new plants that when well rooted start the rhizome process again.

When digging herb clumps, try to get all the roots. Wash or shake vigorously to remove the excess soil. Then pull apart along natural divisions in the clump. If the roots are massed and inter-twined, cut apart with a sterile, sharp knife. Prune $\frac{1}{3}$ to $\frac{1}{2}$ of the top growth to minimize transplant shock. Replant and water to firm the soil around the roots.

Bulb plants such as shallots and garlic are cool season, short-day plants. In late September, purchase the garlic bulbs. Wrap in paper and refrigerate for two weeks. In October, break the bulb into cloves. Plant the firm, plump cloves and cook with the remainder. When the foliage browns in the spring, it is ready for harvest.

Shallots and other multiplying onions are also cool season, short-day plants. Purchase transplants or immature plants from local feed and seed stores. Planting is done in October to take the advantage of the coolest months. Harvest in the late spring when the foliage browns.

In the mild winters of the Upper Gulf Coast of Texas, ginger is grown in the ground. Purchase a firm, plump ginger root from the supermarket and plant in loose, porous soil with good drainage in full to partial sun. If a severe freeze is predicted, mulch the tuberous roots.

Cuttings

Some herb seeds germinate very slowly, so rooting a cutting is the preferred method of propagation. The key to success with cuttings is to develop roots before the cutting rots.

Herbs such as the mints root very easily in water. Use a clean, sterile container, filled $\frac{3}{4}$ full of distilled water. Remove all of the leaves that will be immersed by the liquid. Place in bright but not direct sunlight or under florescent lights. Monitor to keep the water clean.

To root cuttings using a soil-less mix, start with clean, sterile equipment by spraying all the tools and containers with a 10% bleach solution to eliminate any pathogens. Use a sterile soil-less mix to root cuttings and water everything with distilled water. Some gardeners use pure perlite or vermiculite as a rooting medium. This is to prevent rotting from soil fungi or diseases. Fill the container with the moist soil-less mix and make a hole $\frac{3}{4}$ of the depth of the pot and $\frac{3}{4}$ inch in diameter.

Wood selected for rooting should be semi-hardwood or approximately nine months to one year old. Wood that is too green will quickly rot. Wood

that is too old and hard is extremely slow in forming roots. The cutting should be five to six inches long. Remove all the leaves or retain only the top three. Snip any remaining leaves in half, because they transpire moisture needed by the stem. Snip $\frac{1}{2}$ inch from the bottom of the cutting and dip in powdered rooting hormone. Tap the excess powder from the cutting. Too much will actually inhibit the formation of roots. Insert the cutting into the pre-formed holes in the rooting mix and firm the mix around the cutting. Water and drain thoroughly to prevent rotting.

Scientific data supports the use of rooting hormones. Plants contain Auxins, or the hormone indoleacetic acid (IAA) that promotes growth. Rooting hormone is a synthetic auxin. Powdered indole butyric acid (IBA) is the most common form sold at nursery suppliers. It is available in different strengths, and as a liquid or gel product.

When using a hormone product, place a small amount in a clean, sterile container for dipping the cuttings. Putting the cuttings into the full container of rooting hormone contaminates the powder making it useless. To preserve the hormone's strength, store in an opaque container in the refrigerator.

Cover the potted cuttings with plastic to create a mini-greenhouse. Cuttings need to be kept in a moist, humid atmosphere. Place the mini-greenhouse in bright, but not direct sunlight. Direct sun will overheat and scald the cuttings.

A viable alternative for the home gardener is a "self-watering propagation pot." This can be created by using a large, four-inch deep plastic container with drainage holes for the soil-less mix. For a water reservoir, plug the drain hole of a small clay pot and insert into the middle of the planting mix. Plant the cuttings into the soil, water and drain thoroughly. Next, fill the clay pot with water, add vertical supports and cover with plastic. Add water to the clay pot as needed. This aids in keeping the soil moist and adding to the humidity.

An old-fashioned rooting stimulator is willow tea. Bruise and crack the bark on willow branches and snip into $\frac{1}{2}$ to one inch pieces. Pour boiling water over the willow chips and allow them to steep until completely cool. Strain the chips from the liquid. Immerse the bottom half of the cuttings in the willow tea for several hours or overnight in a refrigerator. Only use the tea once because it becomes contaminated.

It usually takes approximately two months for roots to form on most cuttings. A good sign is the growth of a second set of leaves. Most cuttings contain enough carbohydrate or energy to form a set of leaves, but it generally takes roots to form additional leaves.

Once roots have established, the plants must be slowly acclimated to the environment. Just as in the "hardening off" process with seedlings, newly rooted cuttings need a systematic program of exposure to the environment. Gradually open the plastic covering for extended periods of time to acclimate the cuttings without shocking them.



Cuttings of Rosemary for propagation

MADALENE HILL'S TIPS TO GROWING HERBS

1. Herbs must have good drainage. Whether you use them in a landscape with flowers, bushes and trees or in a specialized kitchen garden, the soil must drain well. If herbs are grown in containers, it's good to water them three times a week in dry or hot seasons.
2. Mulching beds and containers will reduce water consumption.
3. It's a myth that herbs prefer poor soil. The tougher ones can survive in poor soils, but they prefer good garden soil that is not super rich.
4. Fertilize two times a year in early spring (March and in late summer (August) with a time-released fertilizer like Osmocote (14-14-14). The spring fertilizing should be somewhat heavier than the fall fertilizing. Using compost to enrich the soil is highly recommended too. However, don't over-fertilize with chemical fertilizers. The plant will get big, but the herb will lose some of its flavor.
5. Some herbs are biennials (two-year growers), like parsley. Use the leaves on the outside and cut off coarse growth. It will keep growing from the center.
6. Use your herbs! Fresh is best, of course, but drying or preserving some herbs in oil is okay too. For peak flavor, it's best to cut herbs right after the dew dries off of them in the morning, while their oils are still intact. But many chefs like to use them fresh-cut, whenever they're making their meals, rather than have them sit around the kitchen from morning. Also, some herbs will have their peak flavors in a certain season. The mints, for instance, are great in the spring — before the summer heat transforms their flavor and toughens their leaves. In summer, cut mints back to about 2½ inches, water well, and step back!
7. Herbs have a complex chemistry. For instance, it is said that basil has 200 chemical components, and some of those flavor elements will burn off in long cooking. That's why basil is used not only in the cooking process, where one dimension of its flavor might come out, but might also be sprinkled fresh on top of a dish, just before it's served, to get the full flavor range of the highly perishable volatile oils in that herb.
7. Don't give up growing herbs! They're hardier than you think. If you work around 'an interesting situation' (others may refer to it as 'a problem') and give them time to get established, you'll be rewarded.





CHAPTER 7

THE CULINARY USE OF HERBS

There are hundreds of excellent cookbooks on the use of herbs for flavoring foods. The one we like best is Madalene Hill and Gwen Barclay's *Southern Herb Growing*. Apart from being the finest book on selecting and growing many different herbs in the South, the recipes are the favorites from their world-famous herb-cuisine restaurant at Hilltop Herb Farm. From appetizers to desserts, their use of herbs is subtle and masterful: "The culinary use of herbs has to be interesting but also balanced," says Barclay. "No one thing should dominate, and care must be taken on which herbs blend together well, with each other and with the foods they are flavoring. The timing of adding the herbs to a dish should be considered too, because the delicacy and volatile oils of many herbs, like basil, can be lost during long cooking." Barclay encourages experimenting with herbs using a light touch: "Don't overpower the food. Rosemary chicken should be chicken first, not rosemary."



Gwen Barclay

Another authoritative book is the award-winning *The Herbfarm Cookbook* by Jerry Traunfeld. Apart from including hundreds of recipes from his famous restaurant in Washington state, Traunfeld has excellent advice on growing, buying, handling, preserving, and cooking with herbs, along with useful tables on which herbs go well with which foods.

Gwen Barclay – Safe Storage

There are safety issues to consider in handling, using, storing, and preserving herbs. Gwen Barclay cautions that freezing herb concoctions is the best preservation: “Botulism is in the soil, and it’s anaerobic, that is, it doesn’t need air to thrive. It’s especially prone to growing in garlic and peppers. So after blending herbs with these, it’s important to immediately refrigerate these blends when not in use, or better yet, put them in the freezer.” She does not recommend preserving herbs in oil at room temperature beyond immediate use, since bacteria can grow in oil too. Herbs must be completely dry before preserving, so as to discourage growth of any mold.

- Freezing in oil is Barclay’s preferred preservation method. Barclay recommends chopping 2 cups of herbs in a blender, then mixing in ½ cup of good quality oil such as corn, olive, peanut or safflower. Divide the herbal oil into small quantities for practical use, and pack into lidded plastic containers for easy removal. Freeze quickly. Herb butters also freeze well.
- Freezing herbs in water is good if one is going to drop herbs in foods with high liquid content like soups and stews or if one is going to use herbed ice cubes in beverages.
- Drying herbs like our grandmothers can be done on trays or in bundles. Bundled herbs hanging from a kitchen hook are a common country decor, though dust will render the herbs unpalatable before long. Dry herbs indoors on trays three to seven days in a dry, well-ventilated place out of sunlight. Stir a few times a day to speed up the drying.
- Drying herbs in a microwave oven is recommended by the popular television program ‘America’s Test Kitchens’: “After washing and drying the herbs, place them on a paper towel and microwave for about 30 seconds.”
- Microwaving and drying will sacrifice some flavor, but herbs can be stored a long time in dried form. Preserving herbs at room temperature in oil-filled jars, as some commercial food boutiques do, makes for a decorative display, but shouldn’t be eaten lest there be lurking bacteria in the mixture.



Herb Oils

When to Cut Herbs

There is disagreement on exactly when to cut fresh herbs. Most cooks cut herbs early in the morning, right after the dew has dried from the leaves. The oils in most herbs are believed to be at their peak then, and the flavors will be strong and fresh. As the day progresses, the heat dries up some of the oils and the flavor fades.

However, keeping herbs sitting on a kitchen counter all day will make them lose their punch too. Some chefs prefer cutting herbs right before use, whatever the time of day.

Others harvest herbs in the morning, then wrap them in a damp towel and put them in the refrigerator until use. Galveston County Master Gardener and herb specialist Donna Ward harvests her herbs in the morning and puts them in a glass of water in her kitchen until use.

Mince, Chopped or Whole?

Some herbs, like bay leaves and allspice leaves, are best to use whole. But most herbs are chopped, torn, snipped or pureed. Traunfeld recommends that what you do to the herbs depends on what dish you are making. A rustic, robust dish calls for handfuls of coarsely chopped herbs, he says, whereas a refined dish might be better with a restrained, finely minced sprinkle. “The way an herb flavors a dish subtly changes with the way it’s cut,” says Traunfeld. “The finer an herb is chopped the more surface area is exposed, the faster its essential oils blend into the food, and the faster they will dissipate as the dish cooks.” Some coarse-leaved herbs, like basil, should probably be torn or they can easily turn black when chopped. He suggests chopping, mincing or tearing herbs just before use, or they can discolor when exposed to the air for too long.



Drying Herbs



Parsley with dew on it



Donna Ward



Donna's Torta

Donna Ward – Herb Diva

Master Gardener Donna Ward is Galveston County's herb diva, and has spent a lifetime growing and cooking with our best herbs. She has given numerous herb slide and PowerPoint presentations to countless eager residents, and has always served as the herb "go to" person for more than a dozen Master Gardener classes. She wrote the Galveston County Extension Office's first publication on herbs, *Parsley, Sage, Rosemary and Very Little Time*. Later she compiled and edited our treasured Galveston County Master Gardener cookbook, *Spade to Spoon: Gardeners' Gateway to Gourmet Cooking*. Most recently, Donna spear-headed and designed the herb garden at Carbide Park.

Donna's first encounter with herbs occurred when she was about nine years old. Her Italian neighbor cut some branches from a thick bush and bundled them together with a string to make a brush. The bush was rosemary, and his wife dipped this rosemary brush into sauce and basted a roasting chicken with it. "The flavor of that rosemary-brushed chicken was an epiphany," Donna recalled. "My parents had always had a big vegetable garden and canned tomatoes and green beans every year. But they were typically Midwestern and cooked vegetables to death."

By the time she was in her mid-20s, she had a garden of her own with basil, parsley and chives wherever she lived. When she and her husband bought a fine sprawling ranch house in Clear Lake, Donna finally had a large back yard which soon included vegetable and herb beds.

At first, she grew the basic basil and chives, but then started getting in different herbs, such as flavored thymes and Mexican mint marigold. She indulged her passion for cooking and started to make wonderful layered cheese tortas, using some of her herbs, especially basil. There were three best-sellers: The Italian, the Blue Cheese, and the Southwestern. The tortas proved to be wonderful spreads for parties and snacks, and Donna would always have a booming business selling them during the holidays. Soon, she had a robust business marketing her excellent tortas.

Donna loves to write, and has written a monthly gardening column in a neighborhood newspaper, *La Ventana del Lago*, for over a decade. In the meantime, she indulged her passion for fine cooking by making herb spreads and butters using rosemary, sage, thyme, and Mexican mint marigold — always using her herbs to, as she says, "make any dish snappier, and to get out of blah bland cooking." Her current favorite herb is lemon thyme, which is wonderful in salads, on chicken, everything. She makes a jelly using lemon basil that is terrific too. She loves to make pesto using fresh cilantro, garlic, and almonds. Since cilantro is a cool-weather herb on the Gulf Coast, she freezes a supply of her cilantro in the spring before the weather gets hot, so she'll always have some available fresh.

While she still maintains her herb garden, there are some things she learned. "Don't try to grow cilantro in the spring, when cilantro plants show up in all the nurseries," she says. "It's strictly a cool weather herb. Also, it's good to keep mint and other aggressive herbs in containers. Otherwise, they run wild and take over. Upright rosemary planted in the ground is not pretty and can get too big, though the tough branches make good skewers."

Donna is proud of the herb program she's given to the garden clubs, the high schools, and civic groups over the years, since herbs wind up enriching people's cooking and lives beyond what they at first imagine. But she's most proud of a humble brown and white fabric covered looseleaf notebook, filled with her family recipes and stories collected for her son Chris. "It starts with my mom's manicotti," she says proudly, "and goes on from there through a lifetime of great meals and memories. This way, I can pass down a legacy of great food, good living."

Basil

Sweet and Greek basils are the most common varieties used in cooking. Mediterranean dishes often use basil to balance garlic and blend with tomatoes in sauces and soups. Fresh basil is the basis of many pesto sauces, and is popular in herbed butters and cheeses, and sprinkled fresh into salads, vegetables, and fruit. It is a common flavoring for fish, meat, pasta, rice, and egg dishes along with its companion herbs oregano, rosemary, parsley, mint, chives, marjoram, cilantro, fennel, and lemon verbena.

'Anise', Purple-leaf, and 'Spicy Globe' are pungent basils used as the last ingredient in Asian-styled soups and stir-fries. The tanginess of clove and licorice in Thai basil is perfect for curries. Basil is even appearing in fruity cocktails and sangrias these days.

Donna's advice: "Easy to grow, basil is a tomato's best friend. I couldn't make marinara sauce, gazpacho, bruschetta, minestrone, or a Tuscan bread salad without it. In a cooked dish I add it at the very last minute; otherwise its robust spicy flavor will be lost. It also looks and smells pretty good in a flower arrangement!"



Bay Laurel/Sweet Bay

The leaves of the bay laurel are used whole or broken up in stews, roasts, beans, potatoes, squash, pumpkin, and even custards. It goes well with certain fruits such as apples and pears. It is often used in the company of parsley, sage, rosemary, and thyme.

Donna's advice: "My bay laurel thrives on neglect. I hardly ever water it, and when it gets too tall I give it a 'haircut.' Being the thrifty person that I am, throwing the trimmings into the trash is against my nature especially when I know how much a few dried bottled leaves cost at my local grocery store. The trimmings go to my friends, and I have even been known to mail fresh leaves for drying to relatives in the Midwest. However, I prefer to pick and use them fresh as the need arises. It's the one herb that can retain its integrity over a lengthy cooking time without getting 'tired' and losing flavor. Great addition to that long, slow-cooked winter stew or beef pot roast."



Chives



Chives replace onions and/or garlic when a subtler flavor is preferred. Chives are the perfect addition to salads, soups, stews, cottage or ricotta cheese, eggs, vegetable dishes, chicken, potatoes, vinegars, butters and dips. In cooked dishes, chives should be added at the last second to preserve their flavor. Chives are an ingredient in the traditional French “fines herbes” blend, and go well with tarragon, chervil, and parsley. Italians often use chives with dill and parsley. Chives are sometimes found in Oriental stir-fries and other spicy dishes.

Donna’s advice: “Call me “cheap” — call me “tight,” but I refuse to pay for an imported boursin from the gourmet cheese department. I cut chives from my herb garden, mince finely and add them to cream cheese along with a bit of butter, minced garlic, mixed herbs — and thumb my nose at the expensive herb cheeses in stores.”

Cilantro



Cilantro (also known as Coriander when referring to the seeds) has been in Asian and Middle Eastern cooking for centuries. Americans became familiar with this herb through Mexican cuisine. It is hard to find a salsa made without cilantro. Vietnamese and Thai cuisine use fresh cilantro leaves frequently in spring rolls and vegetable wraps of all kinds, accompanied with fresh mint and bean sprouts. In soups, sauces, salads, fish, meat, fowl, beans, rice, potatoes, and fruit desserts, it is often found in the company of basil, chives, lemon verbena, and parsley. Add cilantro leaves late in the cooking, because the flavor tends to cook out at high temperatures.

Donna’s advice: “This fragrant, pungent herb is loved by a multitude and loathed by many. I fall into the first group. It’s easy to grow here if planted in the fall. When the seeds dry in summer, rub them between your palms, and lightly dig them in where they fall. Cool weather coaxes them into a repeat performance. Can any adventurous cook create a fresh south-of-the-border salsa without cilantro? I guess it could be done, but the result wouldn’t be worthy of a corn chip. But my most favorite way to use cilantro is to make it into a pesto with parsley, garlic, Parmesan cheese, toasted almonds and olive oil. Chicken and cilantro pesto go together like Tarzan and Jane, Romeo and Juliet, Fred and Wilma.”

Dill

Here on the Upper Gulf Coast of Texas, dill does just fine in the cooler times of the year, but will bolt and go to seed in late spring.

Fresh dill or dried dill are commonly used in everything but desserts: soups, stews, salads, on seafood and poultry, vegetables, eggs, cheeses, and bread.

Donna's advice: "This tall, feathery sun-lover is almost a requirement in Scandinavian cuisine. Here on the Gulf Coast it does just fine in the cooler times of the year. The uses for fresh dill are numerous, but my favorite way is to chop the leaves finely, mix with sour cream, thinly sliced scallions (including tops) and toss with sliced cucumber rounds. Cold, poached salmon takes on an epicurean attitude when dressed with a sauce of mayonnaise, finely minced shallots and dill leaves."



Fennel

Fennel's flavor is similar to anise, but more aromatic, sweet and subtle, making it a refreshing addition to a wide variety of dishes. The Romans were very fond of eating young fennel shoots raw, believing it would both freshen the breath and control obesity. Fennel goes well with seafood, meat, various vegetables, and even certain fruits, like peaches. Fennel goes well with other herbs including lavender, mint, parsley, rosemary and thyme. All parts of fennel can be used: the bulb in salads, stews and roasts, the seeds in breads, pickles, desserts, and sausages, the stalks in salads, and the leaves with fish, potatoes, rice, sauces, dips, and dressings.

Donna's advice: "A misunderstood vegetable with a mild licorice flavor and considered to be both an herb and a spice. The Portuguese are famous for their sausage, bean and fennel soup; an Italian friend of mine quickly sautés it with garlic in olive oil. I like the raw bulb sliced very thin to give a crisp and crunchy texture to a mixed green salad."





Lemon Balm

Lemon balm is prized in the kitchen for its subtle mint and lemon flavor, and its fresh fragrance, which will add a delicate aroma to any food.

When using whole leaves be sure to handle them carefully as they tend to bruise and turn black. Also remember to add the leaves in the last few minutes to a cooked dish. Lemon balm makes a perfect substitute for lemon peel or lemon thyme in recipes. It goes well with parsley, rosemary, and thyme, and can be combined with tarragon or Mexican mint marigold to add an extra zing. Lemon balm is used in salad dressings, sauces, syrups, and desserts. Frozen whole leaves in ice cubes can be added to cranberry juice, iced tea, and lemonade, or can be chopped for use in fruit drinks, punches, sangrias, spritzers, or other summer drinks. Candied lemon balm leaves can be used for cake decorations, and lemon balm jelly can be a delicate delight for any biscuit. Dried leaves and stems are used mainly for tea.

Donna's advice: "This unpretentious herb sits quietly in your garden, doesn't produce any eye-catching flowers, but in spite of its simplicity lends itself to many culinary applications. It pairs nicely with fish and fowl. Throw a few sprigs into the pot when poaching seafood or chicken for a chilled summer salad, and steep a handful of the herb with your tea bags for iced tea. Take a length of cotton string and tie a bunch of lemon balm and other lemon herbs together forming a 'brush.' Use this brush to baste or apply sauce to chicken or fish on your outdoor grill. Wear old clothes!"



Lemon Grass

The popularity of lemon grass has increased due to our interest in South-east Asian cuisine. It has a light, refreshing lemon flavor, with a hint of ginger, and is added to dishes without the overpowering bite real lemons have. Lemon grass won't turn bitter when left cooking in a dish. It is commonly used with hot curry spices, chilies, cilantro, and garlic. Lemon grass needs liquids to bring out its essential oils, so try it minced in marinades, meat, salad dressings, sauces, savory dishes, seafood, soups, stews, stir-fries, stocks, or vegetables. Chopped lemon grass is good in desert cakes and spring rolls too. Fresh leaves are used to flavor oils, pickles, and ice cream. Dried or powdered lemon grass makes a good lemon herbal tea.

Donna's advice: "Be afraid. Be very afraid. Lemon grass will eat your garden if you let it. One little unthreatening stalk can spread into a one foot clump in a single season. It's best confined to a whiskey barrel or some other container to keep it from taking over the garden. Lemon grass complements beef, chicken and fish in both Asian and Indonesian cuisines. But one of my favorite ways to enjoy lemon grass is to crush its bulbous end and use it as a "swizzle stick" in a cup of hot tea sweetened with honey."

Lemon Verbena

A century ago, lemon verbena was seen as an ornamental in European gardens for its loose, open, branching clusters of tiny mauve and white flowers that bloom from the summer through fall.

Now it is a popular accompaniment to fish, carrots, beets, citrus fruits and berries, and is often found in the company of basil, mint, ginger, and rose geranium. Lemon verbena's essential oil is an ingredient of many liqueurs and make a wonderful addition to iced herbal teas. The leaves very aromatic, and when bruised will give off a clean, lemon scent. As with other lemon-scented spices, lemon verbena can be used in broths, fish stews, jams, marinades, poultry, salad dressings, soups, steamed rice or sprinkled on vegetables. Lemon verbena's flavoring enhances many confections such as desserts, puddings, sorbets, and ice cream.

Donna's advice: "Iced tea infused with lemon verbena can make a hot, humid summer day almost tolerable. Sangria takes on an exciting flavor and aroma when you add a few sprigs of lemon verbena. Cut an eight to 10-inch woody stem; strip off all but the top inch or so of leaves. Skewer fresh pineapple chunks and whole strawberries. Then drop them into a pitcher of chilled summer sangria to be enjoyed on the patio."



Marjoram

Marjoram, like oregano, is used with all manner of seafood, meat, marinara sauces, vegetables, and mushrooms. It is a fellow traveler with basil, chives, mint, parsley, sage, thyme, rosemary, and savory.

Donna's advice: "Marjoram has a slightly minty, citrusy flavor, and like basil, should be tossed into the cook pot at the last minute. Tuck a few sprigs and some butter under the skin of a whole chicken before oven-roasting. My favorite method is to rub a butterflied whole chicken with chopped marjoram and garlic, fresh-cracked pepper and vegetable oil. Then toss them on the grill."





Mexican Mint Marigold

Mexican mint marigold has a lot of common names: Cloud Plant, Coronilla, Hierba Anis, Mint Marigold, Mexican Marigold Mint, Mexican Mint Tarragon, Pericon, Sweet Marigold, False Tarragon, Texas Tarragon, Winter Tarragon, and Yerbanis. Regardless, it is not a mint but a marigold originally from the cool mountains of Mexico. The licorice flavor is similar to French tarragon which won't grow in the South.

Both fresh leaves and flowers complement chicken, fish, lamb or veal, and enhances stuffings, stuffed peppers, squash, and tomatoes with its subtle flavor. Use fresh leaves in green and fruit salads. Mexican mint marigold mixed with other herbs makes a great white wine vinegar. Blend the flowers with black tea for a bit of spice or add it in cider, fruit punch, or sangria as a tasty garnish.

Donna's advice: "This two foot tall, clumping aromatic herb is an acceptable substitute for French tarragon for use in salads, fish and poultry dishes. But bear in mind that it is stronger in flavor, so use sparingly. I was once very impressed by an uncomplicated salad I enjoyed in a San Francisco restaurant. It consisted only of Boston lettuce dressed with extra virgin olive oil and fresh lemon juice, four parts to one part is my preference, and sprinkled with finely minced fresh tarragon. I have done this many times substituting Mexican mint marigold. Its stiff stems also make great skewers for shrimp or chicken kabobs on the grill."

Mint

The best mint varieties for cooking are: Red-stemmed Apple Mint *Mentha x gracilis*, Bergamot Mint *Mentha piperita* var. *critata*, Chocolate Mint *Mentha piperita* cv., Ginger Mint *Mentha spicata* species, Orange Mint *Mentha aquatica citrata*, Peppermint *Mentha piperita*, Pineapple Mint *Mentha sauveolens variegata*, and Spearmint or English Mint *Mentha spicata*.

Mint can be used in unlimited ways. Add a few leaves to the water used for steaming vegetables. Add fresh minced mint to melted butter for seasoning prepared vegetables such as carrots, corn, cucumbers, eggplant, peas, potatoes, and tomatoes. Any recipe featuring lamb makes good use of mint or mint jelly. Tabbouleh, a Middle Eastern salad, is a mix of bulgur, red onions, tomatoes, parsley, and a lemon-mint vinaigrette. Chopped mint in plain yogurt is found throughout the Middle East, and mint and basil routinely appear for cooling down and balancing hot Asian dishes. Spearmint is commonly used in tea and other beverages including Mint Juleps.

Mint's tangy sweet refreshing flavor and cool aftertaste is ideal for numerous culinary dishes: fish, meats, poultry, stews, sauces, soups, salads, potatoes, vegetable dishes, fruits, syrups, jellies, sherbets, ice cream, chocolate, desserts, confections, teas, drinks, and punches.

Donna's advice: "A multitude of countries use various mints to flavor their everyday dishes. As diverse as Asian, Middle Eastern and Mediterranean cuisines may be, they all use mint in their cuisine. But my favorites are the old standbys: peppermint in my tea and lemonade, or a spearmint mint julep on Kentucky Derby Day. And don't forget mint as a garnish. Who hasn't seen a TV chef poke a sprig of mint into a poached pear sitting in a puddle of chocolate sauce?"



Oregano

As a trading herb, oregano spread from Greece to Spain who introduced it to the New World. Originally, colonialists used oregano in their tea. It was only after World War II that oregano was used in American cooking when returning soldiers told of its culinary uses in Europe.

Donna's advice: "Oregano is marjoram's first cousin. Although they are quite similar, oregano is spicy, peppery and pungent, a perfect addition to tomato based sauces for pasta or pizza. I like to add oregano to a medley of finely minced basil, marjoram and garlic; and then mix them into softened butter. There are many uses for this herbal butter: garlic bread, baked potatoes, roast chicken, vegetables, or toss with your favorite hot pasta."



Parsley

Several sprigs of parsley contain more vitamin C than an orange, and parsley is also high in vitamin A and iron. The curled variety is used mostly as a garnish, but the flat-leafed Italian variety has a much fuller flavor and is preferred by most cooks.

Parsley is grown in the South as an annual herb. Like dill, cilantro, and fennel, it dislikes heat and goes to seed in late spring. In cooking, parsley is ubiquitous, and is found in everything but desserts and beverages. It pairs well with dozens of other herbs but is especially important in dishes containing garlic, so, as Madalene Hill says, "the garlic won't talk back." Parsley cleanses the palate while allowing each taste in a dish to come through.

Donna's advice: "I declare this cool weather biennial to be a necessity in every herb garden, especially the flat leaf Italian variety. Argentineans wouldn't think of eating a steak without chimichurri, a garlicky parsley sauce spooned over grilled meats. But you can put parsley on almost anything except ice cream. Minced parsley sprinkled over any fowl, meat or seafood dishes, steamed vegetables, pasta or rice dishes not only make them attractive and appetizing, but also imparts a bright fresh flavor. If you have absolutely no sense of adventure you can still do like your mother and grandmother did: Tuck a few parsley sprigs between those finger sandwiches you're going to serve next time you host the Ladies' Bridge Club."





Rosemary

Rosemary is a tender evergreen bush indigenous to the Mediterranean, and an essential herb in Greek and Italian cuisine. Harvest rosemary leaves during the second year of growth by carefully trimming the branches in 4 inch lengths, leaving at least two thirds of the shrub intact. Then strip the needle-like leaves from the stems. Spread the leaves on a tray or hang individual sprigs in a bright, airy room. Rosemary is fairly hardy, and will last for over a week in a plastic bag stored in the refrigerator or store, dried, in tightly sealed dark containers. If using fresh, remove the leaves before serving as rosemary can be a bit chewy.

Rosemary is a traditional meat preservative, and an essential ingredient in many beef, lamb, or poultry dishes. Use rosemary anytime you want a tangy, slightly piney flavor in marinades, pastas, salad dressings, soups, eggs, cheeses, butters, stews, roasts, stuffings or vegetables. It is often found in the company of basil, marjoram/oregano, mint, chives, parsley, sage, thyme, and lemon verbena. Combine finely chopped rosemary, salt, pepper and flour as a rub for roasting chicken. When barbequing, use big stems as skewers for shish kebab or bundled them together as brushes for meats. Smaller stems can be on the fire to smoke the food.

Donna's advice: "In my opinion rosemary is the "big gun" of the herb world. Bold, pungent and aromatic are just a few of the words that describe this scruffy plant. Its worst enemy is too much water. Its residence of choice would be the sea cliffs of southern France. But you can grow it here quite successfully if you keep that fact in mind. I prefer the prostrate variety, as its needles are more tender and easier to mince. Potatoes roasted with rosemary, fresh-cracked pepper and coarse salt is simple enough for a family meal or elegant enough for guests. Rosemary infused oil sits on my kitchen counter waiting for a chance to sauté chicken breasts or pork medallions. The upright variety has straighter, stiffer stems, and makes an excellent skewer for shrimp or chicken on the grill. A store-bought ready-to-bake pizza crust or refrigerated pizza dough from the dairy case can be the foundation of a first-rate rustic accompaniment to a home-cooked meal. Brush it with extra virgin olive oil, sprinkle with rosemary, salt, bake it, and you have an easy focaccia."

Sage

Sage is cultivated for its culinary, medicinal, and ornamental value. The most commonly grown sages are: Blue Sage *Salvia clevelandii*, Garden Sage *Salvia officinalis*, Newe Ya'ar *Salvia officinalis* x *S. fruticosa*, Pineapple Sage *Salvia elegans*, Prostrate Sage *Salvia officinale prostratus*, Purple Sage *Salvia purpurea* Red Sage *Salvia purpurea variegata*

Sage is most tender the first year as the stems become woody after that. Culinary sages are best used fresh for appearance and smell. Some think dried sage eliminates almost all of the lemony scent and flavor, leaving a somewhat musty aroma. Others believe sage's flavor intensifies as it dries. Drying sage can be a little tricky as its leaves have a tendency to mold if done incorrectly. Spread whole leaves in a dark, warm, dry place with good ventilation. Once dry, store in an airtight container. Dried leaves can then be chopped into pieces or finely ground, which is done by rubbing the leaves between your fingers. Sage also freezes well: toss fresh leaves in an airtight bag and they will last about six months.

Sage has a strong distinctive taste and aroma, so use it sparingly. The flowers are edible and much more delicate in flavor than the leaves. Sage is used around the world for cooking. Italians sauté the leaves with veal in butter, Germans grind it in sausages, the French like it in pork and pates, Middle Easterners toss it in salads, and the English use it with poultry. Sage has antibacterial properties and can be used as a natural preservative for condiments, fish, and meats. Sage also enhances potatoes and vegetables. Chopped young leaves flavor salads, soups (especially tomato), stews, and is complementary on omelets or focaccia bread. Finely chopped leaves can be blended with soft, mild cheese or butter, and can be used to flavor pickles, vinegars or green sauces. Sage and rosemary work better together than alone, and sage is often combined with thyme, rosemary, parsley, mint, fennel, lavender, marjoram/oregano, and basil.

Donna's advice: What would that holiday turkey be without traditional, aromatic sage stuffing. That bird would be pretty bland to say the least. If you really want to show off and impress your guests, cut the largest sage leaves you can find with the longest stem possible. Holding onto the stem, dip each leaf into egg whites that you have whipped into a "froth." Drop into a few inches of hot vegetable oil and in a few seconds they will be crisp. Sprinkle them over a platter of fowl, game or pork. Voila! You have created a culinary reputation!"



Thyme



French chefs would be hard pressed to cook without thyme, as it ranks as one of the finest herbs in French cuisine, lending everything a cosmopolitan flavor. It's found flavoring seafood, meat, poultry, eggs, vegetables, and even certain fruits like apples, pears, and cranberries. It blends beautifully with many herbs, especially sage, bay, basil, dill, marjoram/oregano, mint, fennel, rosemary, and savory.

Donna's advice: "This woody, aromatic herb enjoys a sunny well-drained location, and would be content to live quietly in your rock garden. But when you bring it into the kitchen it really begins to shine. Slip it under the skin and tuck it into the cavity of a chicken before roasting, season vegetables, make compound herbal butters and cheese spreads, include it in your own herbal seasoning bundles to be dropped into a pot of soup, stew, sauce or marinade. A small individual gratin or casserole dish holding two fresh eggs in a pool of warm cream and butter, sprinkled with minced fresh thyme and rosemary, then placed under the broiler for four to five minutes is my idea of an almost perfect Sunday brunch. In order to achieve perfection, serve with crisp bacon, warm buttered toast and a glass of something bubbly. One of my favorite vegetable dishes is English peas flavored with crisp bacon, onions, mushrooms, walnuts and a sprinkling of thyme."



CHAPTER 8

USING HERBS IN FLORAL ARRANGEMENTS

Herbs are somewhat challenging to use in floral arrangements. Some are not particularly pretty, many have no flowers except briefly at their short end of the growing season, others are extremely perishable. A large number of herbs have stems too fragile to push into the sturdy wet Oasis foam used by florists.

However, Jim Johnson, Director of Texas A&M's Benz School of Floral Design, had several ingenious and innovative ways to use herbs in astounding ways.



Grouping of colors and varying textures create strong visual impact

As a general rule, herbs that have woody or thick stems do better than those with fragile ones in any kind of floral design. For instance, bay leaves and allspice have large leaves and woody stems, and do well to as accents or structure for flowers or vegetables in an arrangement. Small-leafed clusters of thyme, on the other hand can be used in place of moss or lichen, to form a bed, cover, or background for other floral materials. Parsley and basil, however, would have to be gathered in a bunch, bound together, and placed in a tiny water tube of water or a tiny jar of water countersunk into wet-foam, in order to last more than a couple hours.

As Johnson says, there are many materials one can use to make interesting arrangements. Graceful grasses cut from a field, dramatic branches cut from a tree, sturdy vegetables harvested from the garden or bought at the grocery store, interesting leaves from bushes or strewn across a lawn, any vegetation going to seed, and herbs in their various stages of life can all give floral designs interest and charm.

Principles of Design

There are general principles of floral design that work with many materials, including herbs. Johnson's excellent book, *Flowers: Creative Design*, is highly recommended for anyone interested in floral design: a feast for the eye, and a magnificent hymn to creativity, innovation, design and beauty.

- 1 *Grouping*: Grouping a cluster of flowers, herbs, or leaves together gives a much stronger impression to the eye than scattering these materials here and there across a whole arrangement.
- 2 *Framing*: Be aware of creating a clean line. Branches should reach upward, not downward.
- 3 *Texture*: An arrangement with all the same textures — say, broad leaves or big flowers — can be boring. An arrangements with many different textures — all in different ranges of the same color, say, green — can be very interesting.
- 4 *Color*: Color can be used in many different ways. A white or yellow flower or leaf can “light up” a dark section of an arrangement. A few tiny red roses can add an intense accent to predominantly white or light green arrangements. Colors can be arranged in blocks of color, to create a mosaic.
- 5 *Armature*: This is the “use of an artificial or natural material to provide a strong structure for other materials”, according to Jim Johnson, to create a kind of floral “sculpture”. It's a very hot trend in floral design nowadays, and makes for a dramatic unconventional statement.
- 6 *Design as story*: Some floral designs can evoke a tiny scene, a slice of life, in a season or a setting. Johnson's asparagus with larkspur on a bed of fallen oak leaves is something you might see in your own garden, a highly evocative slice of spring.
- 7 Avoid what Johnson calls “floppy, gloppy, and sloppy” arrangements, that is, arrangements with too much material or badly organized, untidy, and overly busy.

Johnson demonstrated the use of herbs in floral design during the 2007 Herb Forum in Round Top, Texas. These samples provide just a notion of what can be done with herbs in floral design.

Working with Materials at Hand

Johnson uses cauliflower presented in a basket with broccoli flowers (from broccoli going to seed) gracefully arching over it. These central elements are accented by green/yellow roses, parsley, thyme, and a swirl of vines and tendrils. The flowers are grouped to give a stronger image to the eye. The color of the flowers also pick up the tiny yellow broccoli flowers and contrast with the white cauliflower. Parsley is placed in a florist water tube because it is too tender to push into the Oasis foam. It is used as a bright green accent. This design is a study in texture, color, and grouping.



Cabbage Rosette on a Pedestal Dish

A purple cabbage is cut into six segments and submerged in water for a few hours, to allow the leaves to unfurl like petals, making it look like an exotic flower. Use a cabbage that is not too hard. This cabbage rosette is paired with luscious purple tulips, and framed by the herbal elements of myrtle and kale. A branch of eucalyptus with side leaves removed provides a clean line. A blooming red bud branch gives height and lifts the whole arrangement.



Clay Pot Fruit Salad

Various sized clay pots are lined with plastic so they won't leak before the water-laden Oasis foam is placed at the bottom. The tiny pots are then glued to a tapered stick and positioned. The apples and grapes in the arrangement are also anchored into place with picks on wires – two picks per apple for greater stability. The grapes are allowed to drape gracefully over the edge of the container. The various-sized clay pots are bedded with moss and thyme, and each holds different ingredients: red “Cherry Love” roses, red bud blossoms, and toad flax. The roses are on short stems so they will last longer, since they are closer to their water source. Each floral element is grouped in this arrangement to make a stronger presence. Nothing is lost in the other material.



Dramatic Armature

A dramatic armature structure is made of willow branches and held together with florist paper-covered wires (more attractive than ugly plain wire). “Green Goddess” calla lilies stem ends are painted with floral sealant or liquid glue. The lilies are then gently massaged to make them more pliable for placement, and then are attached to the armature to provide a great dynamic, in which the flowers look almost like dolphins. They float above a sea of undulating black eggplant. Rosemary in three groupings add texture and excitement to the bold eggplant.



Floral Pizza Mosaic

A plastic saucer is covered with a “crust” of tree branches and twigs, tied together with raffia. The branches cross the mouth of the container to add structure. In between the branches are placed green broccoli crowns, yellow/orange calendulas, arranged asymmetrically for more interest. Other flowers can be used too. Basically this arrangement is a mosaic of color with branches as structure. Gravel is poured in the bottom to hide base of container. Kale leaves are used as an accent.



Naturalistic Delight

A container filled with Oasis foam is covered by chicken wire to provide “seat belts” for heavy material that will be held in place. Flowering cherry and peach branches are used as outer frames while kale, large-leaf myrtle and small leaf myrtle are used as the bottom background. In the center, purple kohlrabi anchors the dish, and a delightful arrangement of hydrangea, bells of Ireland, and numerous lavender “Blue Curiosa” roses provide the focal area of freshness and beauty.

Texture is All

This arrangement is all foliage and all green. But the different textures create a fabulous, lively arrangement. The height is provided by a nandina, somewhat like a tree. Allspice and bay are clustered to provide a frame, while the long smooth leaves of the aspidistra are accented with the busy texture of rosemary. The boxwood in the middle is a color contrast to the elements around it such as eleagnus, eucalyptus, persicaria, and many others. “When using many materials, you have to think of it as a symphony,” says Johnson. “The purple kales are the violin section, the aspidistra are the trombones, the tinier elements are the flutes.”



Spring Basket

In a plastic lined basket to hold the Oasis foam, moss or some tiny-leaved herb can cover the bottom while bridal wreath flowers serve as the frame. The heart of the basket contains fresh strawberries and light green roses while scented geranium foliage drapes gracefully over the edge. Allspice is used as an accent, and sweet pea tendrils climb the basket handle.

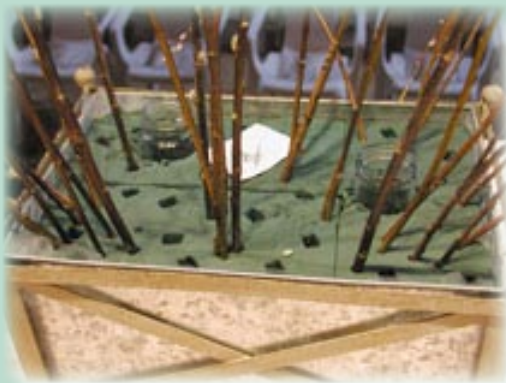
Spring in the Cloister Garden

This arrangement creates a wonderful spring scene, a slice of life in the cloister garden. Asparagus spears rise from a flat container (with Oasis foam) with delicate thyme covering the bottom. Larkspur, columbine and nasturtiums all create a wonderful, delicate spring scene.

Heavenly Natural Symphony

Pussy willows form the natural armature structure, and dead oak leaves raked from the lawn cover the foam at the bottom of this arrangement. Since grape hyacinths have such fragile stems, a hole was carved into the Oasis foam, then a small jar of water positioned there, to place the clustered grape hyacinths directly into water. Wonderful riotous daffodils are added to compose dynamically “in the manner of a crescendo,” says Johnson, a symphony to the energy of spring.





Johnson's Favorite Herbs for Floral Design

Jim Johnson says that the herbs with mature stems and leaves hold best in both clear water and wet foam. Many herbs have soft and tender stems that won't push into wet foam. Some of these can be bundled into water tubes or small glass jars and inserted into wet foam. It is always best to cut herbs in the coolest part of the day and have a bucket of water at hand so they can be put into room temperature water immediately as they are cut. One useful technique for reviving wilting plant material is to submerge the entire piece (including the flower) under room temperature water for a short time, until it revives.

Allspice – large distinctive leaves, woody stems, use framing large designs holds well in wet foam

Artemisia – delicate foliage, silvery colored, soft stems, holds best in clear water but not always dependable

Basil – tender foliage and stems, wonderful colors, holds best in clear water

Bay – medium to small leaves, woody stems, use to add volume to a design, holds well in wet foam

Chives – use blossoms only, the long clean stems give this blossom a very elegant presence in any design

Dill – strong stems, great height, lends a diaphanous feeling to any design, gold colored flower heads and foliage are equal in effect

Fennel – medium stems, delicate texture, another diaphanous effect

Kales – ruffled and otherwise, all kale leaves have incredible colors and forms. Entire plants can be used as dramatic focal points and individual leaves can be used as effective accents. Holding quality varies.

Lambs Ear – amazing character of silver fuzziness! The plant does not hold in wet foam or clear water, but the leaves are incredible for covering a block of foam in the manner of fish scales. Single leaves can be laid over the foam and pinned in an overlapping manner. They retain their character even as they dry.

Mexican Mint Marigold – small foliage, small yellow flowers, effective as filler in between other flowers

Mints – many different colors, textures and stem lengths, hard or woody stems hold best in water, experiment to see which holds in wet foam

Parsleys – great charm in color and textures, soft stems must be used in clear-water. Place little bundles in water tubes then insert into wet foam.

Queen Anne's Lace – this wild carrot is much like Dill and Fennel, also available at the florist.

Rosemary – my favorite! Rustic texture, great fragrance, graceful lines or erratic lines are always interesting and pleasing. Tiny blossoms can be an added bonus, holds well in water and wet foam.

Sages – soft foliages, many interesting colors, holding quality is not very Dependable, test the variety first.

Scented Geranium – foliage lends its unique velvety texture, fragrance and form to any composition, mature stems often have interesting character.

Thyme – delicate texture, woody stems, holds well in water and wet foam, makes a unique statement.

Verbenas – like the sages, their holding quality varies among varieties, test first. Distinctive linear stems are often topped with graceful spires of delicate blue, violet and white flowers.



CHAPTER 9

HERBS AND SCENT

Herb gardening is a sensual experience, distinguished from other types of gardening by the myriad of aromas presented by the plants themselves. Have you ever watched someone at a nursery selecting an herb plant to bring home? Notice how they gently brush the surface of the plant, rub a leaf or take a sniff to detect its treasured scent.

Imagine the refreshing smell of peppermint after a gentle rain, or basil wafting through the air when the sun is high at mid-day. Yes, herbs are known for their characteristic scents. Yet some have no noticeable scent at all. So what is it about the scent of these powerful little plants that so entrances us?



Herbs for Scent:

Basil
 Bay laurel
 Bee balm
 Coriander seeds
 Hyssop
 Lemon balm
 Lemon grass
 Lemon
 Marjoram
 Mints
 Oregano
 Patchouli
 Rosemary
 Salvias
 Scented geraniums/pelargoniums
 Southernwood
 Sweet woodruff
 Tansy
 Thyme
 Wormwood

Scent

We have many words to describe scent: smell, odor, and aroma. The terms 'fragrance' and 'perfume' refer to a blend of several scents. Other words delve into the quality of scent: sweet, woody, nutty, fresh, spicy, earthy, smoky, pungent, acrid, and powdery. All of these words expand our awareness and understanding of this important quality.

The way an herb smells distinguishes it from other herbs and often reflects its healing qualities. For instance, peppermint does not smell like rosemary. The smell of peppermint is fresh, uplifting and invigorating, while the smell of rosemary is pine-like, medicinal and restorative.

Brain chemistry dictates the effect of scents on people, pets and pests. In humans, the sense of smell is believed to operate directly on the brain, through the olfactory system, triggering memories, altering mood and emotions, and stimulating taste. This is why we feel uplifted when we smell flowers such as roses and lavender, or herbs such as peppermint and lemon balm. Our sense of smell also explains why our favorite food tastes so good.

The flowers of herbs are relatively scentless and usually delicate, more attractive to bees and butterflies than to humans. Yet, most herbs are known for their scents. So, to what do we attribute an herb's scent?

Essential Oils

Essential oils give the herb its characteristic scent. In roses and other fragrant flowers, essential oils can be found resting on the surface of flower petals. In herbs, the scent lies mostly in the leaves, stems and roots. A gentle wind or brushing of the plant is often all that is needed to release its scent. The oils are volatile and evaporate quickly in the heat of a sunny day. When herbs are dried their scent and flavor can be released by crushing the leaves.

Once believed to be part of the plant's natural metabolic process of eliminating waste, essential oils are now believed to have a much more important role in a plant's survival. Essential oils are thought to be responsible for the plants ability to attract pollinating insects and repel insects and other animals. Essential oils are also thought to protect the plant from disease and aid in healing if the plant is wounded.

How are essential oils harvested from the plants? An herb's essential oils can be captured through the processes of steam distillation, expression or extraction. Steam distillation is the most common and the most economical process. Herbal plant material is exposed to heat and steam, leading to evaporation of the essential oils into the steam. When cooled, condensation occurs, leaving essential oil and a sort of aromatic water called a hydrosol. Expression is used to produce citrus oils. The oils are squeezed out by the manual application of pressure. Extraction involves the use of solvents or other materials to draw the oils out of the plant. The resulting product is not really an oil, but more of a solid substance. Extraction is suitable for materials that have a very small quantity of volatile compounds that might be damaged through distillation or expression such as jasmine flowers.

Commercial production of essential oils is a viable industry in the United States. When you think about it, essential oils are in many cleaning and

personal hygiene products used on a daily basis. Two of the most popular essential oils produced in the United States are orange and cedarwood. Cedarwood oil is refined in the Texas Hill Country, near Leakey. If one wanted to produce essential oils in Galveston County, the challenge would be finding a suitable herb and the farmland to support production. Because of the large quantities of plant material, special equipment and an involved process necessary to produce a tiny amount of essential oil, production is not practical for the home gardener. Oils may be purchased online or at a health food store.

Aromatherapy

Aromatic oils have been used since ancient times for healing purposes and for making perfumes. The word “aromatherapy” is believed to have been introduced in the 1920s by French chemist René Maurice Gattefossé. As the story goes, Gattefossé was burned when a fire broke out in his laboratory. He thrust his burning arm into a vat of lavender oil nearby and experienced unexpected pain relief. He also found that the healing process was shorter than expected with little scarring. The miraculous healing was attributed to the power of lavender essential oil. So, professionally speaking, the term aromatherapy refers to the therapeutic use of essential oils.

Professional aromatherapy is related to herbal medicine and is a complementary therapy accepted as part of nursing care in the United Kingdom. Aromatherapists are trained in the application of essential oils through inhalation, massage and other topical methods for healing purposes. While rapidly gaining popularity in the United States since the mid-1970s, aromatherapy has diverse applications beyond alternative and complementary medicine therapies.

Aromatherapy is currently a popular buzzword used by the perfume, cosmetic, spa, home decorating and hobby industries. Taken broadly then, the term aromatherapy refers to the “healing power of scent.”

When we talk about creating an aromatherapy garden, we think of cultivating flowers and herbs with noticeable scents that help us think or feel better in some way, usually by encouraging relaxation and tension relief. Such a garden might include aromatic herbs for wreaths and table arrangements or herbs to simply enjoy on a leisurely afternoon stroll. Other herbs grown there might be used to flavor dinner or dried for potpourri. Keep in mind that some herbs are insect repellents which can indirectly help us feel better by keeping the bugs away.



Flowers for Scent:

Chamomile
Dianthus
Heliotrope
Lavender
Orange blossoms
Roses
Sweet woodruff
Tansy
Valerian
Violet, sweet





Flowers for Color

Borage
Bougainvillea
Calendula
Chamomile
Hydrangea
Nasturtium
Pansy
Tansy
Violet

Potpourri

A potpourri can be a small sachet of powdered perfume hidden in a closet amongst the linens and lingerie or a sweet bag tucked away inside a trunk to repel moths. Perhaps you have even experienced falling asleep on a dream pillow stuffed with fragrant sleep-inducing herbs such as chamomile and scented geraniums. Potpourris are easy to make and a great way use the bounty of fragrant herbs and flowers from the garden.

There are two methods for making potpourri: the moist method and the dry method. The earliest potpourris were moist, made from fresh flowers and herbs, along with aromatic oils, woods and resins, buried in pots for extended periods of time. If successful, the herbs fermented into a lovely subtle fragrance that would last for years. The moist method of preparation, however, was long and involved, with high risk of spoilage. From this method came the French term “potpourri,” literally meaning “rotten pot.”

A basic dry potpourri is a mixture of fragrant and colorful flowers, aromatic leaves and other fragrant plant matter such as fruit peels, spices, and wood shavings to which essential oils and a fixative have been added. The quantities of ingredients can be adapted, depending on the fragrance desired and what you have on hand. Lavender makes a wonderful addition to a potpourri, but unfortunately, does not grow well in our area. Lavender and other desired ingredients can be purchased to balance the blend. Many excellent recipes for potpourris can be found in books and on the Internet.

To Make a Potpourri

Select herbs and flowers for both scent and color to make the mixture visibly attractive as well as fragrant. Be sure to collect more than you think you will need. Once dried, the herbs and flowers will reduce in bulk by 60 to 65%. Pick roses in the morning, after the dew has evaporated, before it is too hot. The scent of roses is best when blossoms are just barely opened. Petals can also be collected from spent roses to use as filler. These petals will not be as fragrant since the scent dissipates after the flower has reached full bloom.

Gently remove the petals and dry them on a rack, in a warm place, away from direct sunlight. Drying should take about 10 days by this method. Petals can also be dried in an open oven at about 110 F. degrees in less than an hour. Shake or stir petals occasionally to insure even drying. Some roses have fragrant leaves. These leaves and other plants and herbs can be dried in the same manner. Dry all material to the crispness of cornflakes cereal, then it is time to prepare the fixative and essential oils.

A fixative such as orris root (*Iris florentina*, *I. pallida*, *I. germanica*), calamus (*Acorus calamus*) powder or gum benzoin (*Styrax benzoin*) is added to slow the evaporation of the essential oils and preserve the scent of the mixture. A general rule of thumb is to use ½ oz. fixative per quart of plant material. Spices such as cinnamon, cloves and dried fruit peels can also be used, depending upon the aroma desired for the overall blend. When fruit peels are used, make sure that the white pulp between the fruit and the skin has been removed and that the peel is thoroughly dried.

Orris root is the most popular fixative and easiest to work with, but it can sometimes irritate the skin. It comes in both chipped and powdered form and has a violet scent that goes well with lavender or woody blends. If grown in the garden, the thinly sliced or coarsely chopped rhizomes of the irises can be dried for an extended period of time, two years or so, and ground up to add to a potpourri. These roots can be poisonous if ingested, so keep them out of the reach of children and pets. About $\frac{1}{3}$ cup is used for four to eight cups of petals and plant material. Calamus, also known as “sweet flag,” is native to Texas and can sometimes be found growing along the marshy areas of the Upper Texas Gulf Coast. Calamus also has a violet scent, but it is not as strong as that of orris root. Gum benzoin, also known as “benjamin” or “oil of ben,” is a resin from the bark of a tropical spice bush of the genus *Styrax*, native to the Far East. It has a powerful balsamic scent that goes well with sweet florals such as lilac. One ounce of the powder is enough for eight to 12 cups of dried material. Orris root, calamus and gum benzoin may be purchased at health food and craft stores or online.

Essential oils are a welcome enhancement to a potpourri, especially the oils of herbs and flowers from other parts of the world. Synthetic fragrance oils can be used in place of natural essential oils. Fragrance oils are usually less expensive and imitate natural fragrances. Keep in mind that essential oils are very concentrated. Some oils may irritate the skin. So avoid direct contact, keep hands away from the eyes, and never take oils internally. Keep oils away from children and pets. Avoid spills, as the oils can damage furniture finishes. Be careful to clean up after use.

Combine the fixative and any essential oils used. Some recipes call for essential oil by the drop. Others recommend as much as a teaspoon full. Perhaps it would be a good idea to go slowly, adding oils a drop at a time, and letting your nose be your guide, to carefully control the blend. If you have time, cover and allow the mixture to sit for a few days. The fixative will blend with the oil and absorb the scent.

Combine the fixative-essential oil mixture with dried herbs and flowers. Tiny pine cones, scented rose hips, cedar shavings and other materials can be added at this time.

Seal into a crock or plastic bag and store in a warm, dry, dark place for six weeks. Shake gently daily. Check the fragrance after about a week. The blend may smell a bit raw, but you will have some indication of what the end product will be like. Adjust the blend with essential oils and spices as desired. If the mixture is too strong, add more dry material.

Select a container that allows for the aroma of the potpourri to perfume the room and visually displays the beautiful mix. The best containers are made of glass, pottery, china, ceramic or enamel. Do not use plastic or metal containers in making or storing your blend. Essential oils may melt the plastic. Plastic tends to be absorbent and may retain the color or smell of the blend. Metal containers should not be used because essential oils may react with the metal and give the potpourri an unpleasant smell. A metal lid on a glass jar is fine as long as the metal does not touch the potpourri. Glass containers are great for showing off a colorful mix. Attractive containers can be found at flea markets and garage sales.



Dried Flowers to Hang

Bayleaf branches

Calendula

Chamomile

Chili Peppers

Garlic braids

Hydrangea

Lavender

Nasturtium

Onion Blossoms

Oregano

Pansy

Tansy

Violet



Hanging dried herbs traditionally fragrances rooms



Potpourri in country basket



Handmade sachets make wonderful gifts

Summer Days Potpourri Recipe

- 2 cups dried roses
- ½ cup dried lavender buds
- ½ cup dried lemon verbena
- ½ cup dried scented geranium (rose or lemon leaves and flowers)
- ¼ cup dried rosemary
- ¼ cup dried mint, any kind
- 1 tablespoon orris root
- 2 drops peppermint essential oil
- 5 drops lavender essential oil
- 3 drops rose essential oil

Mix essential oils with orris root, cover, and let set a few days. Combine herbs and flowers in a bowl. Stir in orris root and essential oil mixture. Seal and store covered in a warm, dry place and allow to cure for about 4 to 6 weeks, until the scent is absorbed. Check and stir mixture occasionally to make sure no mold has formed. Remove any spoiled material. Once cured, remove to a decorative container.

The mixture can be adapted, depending on materials available.

Sachet

Sachet is essentially a potpourri that has been powdered or crumbled and placed in an envelope or small fabric bag. Often called “sweet bag” to reflect the sweet scent, sachet is used to perfume clothes, linens and stationery and to repel insects. A flat bag of relaxing herbs can be tucked inside the pillow case for a restful night’s sleep. Old potpourri can be ground up and refreshed by adding essential oils to make great sachet. Scraps of fabric left over from sewing projects can be used to make the little bags.

Moth Repellent Sachet

This is an adaptation of an old French recipe

- ½ cup dried rosemary
- ½ cup dried thyme
- ½ cup dried tansy
- ½ cup southernwood or wormwood
- ½ cup dried mint
- ¼ cup dried cloves (or 2 tablespoons crushed cinnamon stick)

Crush all ingredients together. Pour into small fabric bags and tie with ribbon.

Place bag in a drawer or closet to repel moths and other bugs.

Herbs to Repel Bugs

Bugs in the garden, bugs in the air, bugs in the closets, are there bugs everywhere??? Yes, Galveston County has bugs, and bionic ones, it seems. We also have a longer growing season, which gives our bugs time to really thrive. Herbs can be helpful to deter some of these bugs and make your garden and your home smell better at the same time. And, don’t expect to be rid of bugs altogether, especially the beneficial ones.

So, how can you discourage some of these undesirable bugs? One way is to plant herbs in your garden amongst your vegetables, a method called

companion planting. You might be wondering how companion planting works. One theory is that something about the scent of the herb may attract or repel plant pests. Scent also attracts, or repels, pollinators. If you want your plants to reproduce, it is not advantageous to have a plant nearby that repels the other plant's pollinating insect. By the same reasoning, if you want to discourage a bug from the garden and say, the bug likes one of your vegetables a lot, plant something nearby that the bug can't stand to smell or taste. The herb's scent may mask the scent of the plant the bug really wants to eat. And hopefully the bug will stay away.

Pests and herbs reputed to repel bugs

Ants - Mints, Pennyroyal, Tansy

Aphids - Nasturtium, Garlic, Coriander

Fleas - Pennyroyal, Lavender, Mints

Flies - Basil, Rue, Tansy, Wormwood

Mosquitoes - Mints, Catnip, Sassafras, Rosemary, Wormwood, Southernwood, Lavender

Moths - Wormwood, Southernwood, Santolina, Tansy, Mint, Rosemary

Snails and Slugs - Garlic, Rosemary

Squash Bugs - Nasturtium, Tansy

Tomato Hornworm - Borage, Purple Basil

Weevils - Garlic, Bay Laurel

Repellent herbs can be planted near entrances or along paths to deter ants, flies and mosquitoes. Crushed herbs, either fresh or dried, can be sprinkled wherever bugs appear, such as in areas where fleas might be found, or around the base of a plant. Mulches and sprays made from repellent herbs may also be effective. Essential oils can also be incorporated in insect repellent sprays.

Recipes are available for sprays using such herbs as garlic and hot peppers, mixed with mineral oil, water and oil-based dish soap and then further diluted with water. Strong herbal teas are also popular, as are emulsion sprays using essential oils. Success depends on the strength of the repellent and how long it remains viable. Most recipes are not scientifically proven or guaranteed, but are worth a try and are an interesting, and hopefully helpful, way to use your herbal harvest. Caution is advised when using herbal sprays, as they may deter beneficial insects as well as the bad guys. If used, do not spray indiscriminately. Target only the problem areas. And be careful with those peppers. They can really irritate the eyes!

Companion Planting

Herbs can also be used in combination with vegetables and other plants to encourage growth and production. Garlic, a favorite of rose growers, is said to ward off blackspot, mildew and aphids. Basil has a long standing reputation amongst gardeners for enhancing the growth of peppers and tomatoes. Yarrow is said to increase the fragrance of most herbs, perhaps by enhancing companion plant's essential oil production. Yarrow also attracts beneficial insects such as lady beetles and parasitoid wasps. Borage, with its colorful flowers that attract pollinating bees, is a good companion to strawberries. Borage is said to strengthen neighboring plant's resistance to insects and disease.



Herb bundle for fragrance and insect repellent



Hedge of Bay Laurel



Spray made from habanero peppers for use as insect repellent



Caterpillar on fennel



Bees are attracted to lavender

Unfortunately, not all companions are happy together. For instance, fennel and coriander do not get along with each other, and each is a bad influence on beans and tomatoes.

Sometimes herbs, such as wormwood, give off toxic chemicals that inhibit the growth of other plants. So, if one of your plants is not thriving, look around and see what is planted nearby.

Using herbs by strategic planting is another method. Nasturtiums can serve as “trap plants” for aphids, luring these insects to a corner of the garden, away from other plants.

Dill and fennel lure caterpillars from vegetables and other plants while making a great habitat for butterflies. Plant them away, but not too far away, from the vegetable garden.

Companion planting is really quite an art. And who knows if it is really the scent that attracts or repels or something else? Some of the recommended herbs and combinations have been passed around from gardener to gardener, with insufficient scientific research. Results will vary depending on what else is planted in the garden, and in the neighbor’s garden, for that matter. Part of the fun of gardening is trying new methods and talking about the results with other gardeners. As for getting rid of bugs, our Upper Gulf Coast bugs are pretty persistent, but it can’t hurt to try!

Herbs to Attract Beneficial Insects

Some bugs are naturally eliminated by predatory beneficial insects, lured to the area by aromatic herbs. Parasitic wasps, such as the trichogramma and braconoid wasps, lay their eggs inside the larvae of other insects. These wasps are effective in controlling pest insects such as aphids, caterpillars, grubs and numerous others, but often feed on the larvae of desired butterflies as well. Parasitic wasps are attracted by such herbs as coriander, common fennel, dill, lemon balm, parsley, rue, and tansy. Lady beetles consume a number of pest insects, including aphids, leafhoppers, mealybugs, mites, scale, thrips and whiteflies. Ladybugs are attracted by nasturtiums and common fennel. Green lacewings are greatly beneficial. Their larvae feed on aphids and many other insects. Lacewings are attracted by caraway, common fennel, and tansy.

Bees are excellent pollinators and are attracted by lavender, lemon balm, hyssop, marjoram, mints, tansy, thyme, and yarrow.

Tussie Mussies

QUESTION: My friend sent me a fragrant little bouquet after a recent visit. It contains a single red rose surrounded by sprigs of rosemary, sweet basil, lemon thyme, with bay leaves in the background. Some one told me this friend might be sending me a special message. What was it?

ANSWER: The little bouquet is a posy called a “tussie mussie.” Tussie mussies were carried throughout the Middle Ages to dispel unpleasant odors. During the Elizabethan era these little nosegays became a romantic expression of sentiment, exchanged between lovers, conveying secret messages through meanings given to the flowers and herbs it contained. The language of flowers became more formalized and documented during the Victorian era. Tussie mussies were worn as pins, kept fresh in little silver vases.

Today, tussie mussies make a unique and charming gift. One will last a week or so in a glass of water or a champagne flute. A tussie mussie can be preserved for years if dried in silica gel. When given as a gift, it is always helpful to enclose a card listing the herbs, flowers and their sentiments. A good resource on the meanings associated with herbs and flowers is *Flora's Dictionary* by Kathleen Gips.

The tussie mussies' message from my friend, for instance, included love (red rose) and good wishes (sweet basil). The time we spent together was enjoyable (lemon thyme) and memorable (rosemary), and I will always be admired (bay leaves).



A typical tussie mussie



CHAPTER 10

GREAT REGIONAL HERB GARDENS TO VISIT

There is no better way to learn about herbs than to visit one of the great herb gardens in our region. One can see how herbs are used in the landscape, how they are cultivated, what kinds and varieties there are available, how herbs smell and taste.

We are blessed to be located geographically near some of world's great herb gardens.

McAshan Herb Garden at Festival Hill



The tiny town of Round Top, Texas (population 77) lies between Austin and Houston, in green rolling country. Round Top hosts many cultural events at the beautifully restored Festival Hill Concert Hall, including the annual Herbal Forum in late March. Adjacent to the Concert Hall are the enormous McAshan Gardens, dedicated to collection, propagation, and cultivation of herbs from around the entire globe. This huge site features thousands of different herbs in a magnificent series of settings including a Mediterranean garden (with ancient herbs) placed in a 1st century classical setting, a dappled sunshade garden, a medicinal garden (featuring medicinal herbs from six continents), a Marian garden (in which all herbs and plants are named after the Virgin Mary), and much more.

For more information

www.festivalhill.org, then click on “Gardens”

Phone: (979) 249-3129



Fredericksburg Herb Farm

The charming Hill Country Texas town of Fredericksburg offers many charming historic sites and shops. The Fredericksburg Herb Farm has three large garden areas along with a fine restaurant that features herbal cuisine during lunch and dinner everyday. The gardens are free, and the shop has a selection of herbs and herbal products for sale.

For more information

<http://www.fredericksburgherbfarm.com>

Phone: (839) 997- 8615 or (800) 227-HERB

Arbor Gate Nursery

Arbor Gate Nursery is located in Tomball, Texas and features a wide variety of difficult-to-find herbs and plants for sale. Arbor Gate’s herb garden was installed in May, 1998, and was named The Madalene Hill Herb Garden in 2005, to honor the life-long contribution of the great herb expert. Many herb lectures and seminars are held throughout the year.

For more information

www.arborgate.com

Phone: (281) 351-8851



The Herb Garden at Moody Gardens

Moody Gardens in Galveston, Texas offers a wide array of museums, gardens, and entertainments including a tropical rainforest pyramid, an aquarium, a discovery pyramid, an IMAX theater, a paddle-boat ride, a water park for children, and several restaurants and shops. Tucked between the various museums is an extensive free herb and flower garden, which attracts butterflies and hummingbirds to the delight of all visitors.

For more information

www.moodygardens.com

Phone: (800) 582-4673



Carbide Park

The herb garden at Carbide Park is located in LaMarque, Texas. The Galveston County Master Gardener Association has a large assortment of test orchard and gardens, including some fine raised beds featuring our best herbs.

For more information

<http://aggie-horticulture.tamu.edu/galveston>

Phone: (281) 534 3413





BIBLIOGRAPHY

Books

- Adams, William D. and Thomas LeRoy, *Commonsense Vegetable Gardening for the South*. Taylor Publishing Company, Dallas, Texas, 1995.
- Beck, C. Malcolm and John Howard Garrett, *Texas Bug Book: The Good, the Bad, and the Ugly*. University of Texas Press, 1999.
- Bown, Deni, *The Herb Society of America: Encyclopedia of Herbs and Their Uses*. Dorling Kindersley, New York, New York, 1995.
- Brandies, Monica, *Ortho's Guide to Herbs*. Ortho Books, San Ramon, California, 1997.
- Crockett, James Underwood and Ogden Tanner, *Herbs*, Time-Life Books, Alexandria, Virginia, 1997.
- Bremness, Lesley, *The Complete Book of Herbs*. Penguin Books USA Inc., New York, New York, 1988.
- Clevely Andi, Katherine Richmond, Sallie Morris and Lesley Mackley, *Herbs & Spices: A Cook's Bible*. Lorenz Books, London, 2000.
- Crockett, James Underwood, *Vegetables and Fruits*. Time-Life Books, New York, New York, 1975.
- Farrow, Joanna, *Herbs: The Cook's Guide to Flavorful and Aromatic Ingredients*. Lorenz Books, London, 2001.
- Fettner, Ann Tucker. *Potpourri, Incense and other Fragrant Concoctions*. Workman Publishing Company, New York, New York, 1977.
- Gips, Kathleen. *Flora's Dictionary: The Victorian Language of Herbs and Flowers*. TM Publications, 152 South Main Street, Chagrin Falls, Ohio 44022, 1987, 1995 (Completely Revised).
- Hériveau, Jacqueline. *Potpourris and Other Fragrant Delights*. Penguin Books, New York, New York, 1978.
- Hill, Madalene and Gwen Barclay, *Southern Herb Growing*. Shearer Publishing, Fredericksburg, Texas, 1987, 1997.
- Hutson, Lucinda, *The Herb Garden Cookbook: The Complete Gardening and Gourmet Guide*. University of Texas Press, Austin, Texas, 2003.
- Johnson, James, William J. McKinley, Jr. and M. "Buddy" Benz, *Flowers: Creative Design*. San Jacinto Publishing Company, College Station, Texas, 2001.
- Kowalchik, Claire and William H. Hylton, editors, *Rodale's Illustrated Encyclopedia of Herbs*. Rodale Press, Emmaus Pennsylvania, 1987.
- Lawless, Julia. *The Fragrant Garden: Growing and Using Scented Plants*. Kyle Cathie Limited, London, 2001, 2005 (Paperback Edition).
- McClure, Susan, *The Herb Gardener: A Guide For All Seasons*. Garden Way Publishing, Pownal, Vermont, 1996.

- Meltzer, Sol. *Herb Gardening in Texas*. Gulf Publishing House, Houston, Texas, 1997.
- Sitton, Diane Morey. *Texas Gardener's Guide to Growing and Using Herbs*. Texas Gardener Press, Waco, Texas, 1987, 1989, 1990 (Third Printing).
- Traunfeld, Jerry, *The Herbal Kitchen: Cooking with Fragrance and Flavor*. William Morrow, New York, New York, 2005.
- Traunfeld, Jerry, *The Herbfarm Cookbook*. Scribner, New York, New York 2000.
- Varney, Bill and Sylvia. *Along the Garden Path*. Favorite Recipes Press, Nashville, TN, 1995.

Magazines

- Franklin, Claudia, *The Doctor's Healthful Garden*, Better Homes and Gardens Magazine, March 1996.
- McCormick, Ann, *Enhancing the Bounty With Herbs*, Texas Gardener Magazine, Waco. May/June 2005.
- Phillips, Harriet Flannery, *The Essence of Herbs: Essential Oils from the Ground Up*, The Herb Companion, December 1992/January 1993, Vol. V, No. 2.
- Pipher, Jan, *Peppers, the Hottest Thing in Gardening*, Texas Gardener Magazine, Waco. March/April 2003.
- Robinson, Lana, *Garlic Galore*, Texas Gardener Magazine, Waco, September/October 2001.
- Year of the Onion*, Texas Co-op Power, June, 1995.

Newspapers

- Huber, Kathy, *Think Short and Sweet when Planting Onions*, The Houston Chronicle, Houston, September, 1995.

Texas AgriLife Extension Bulletins

- Bulletin GC 2001 – *Building Bins and Boxes for Composting*
- Bulletin GC-126 – *Parsley, Sage, Rosemary and Very Little Time*
- Bulletin L 1580 – *Easy Gardening... Onions*
- Bulletin L 1581 – *Easy Gardening... Peppers*
- Bulletin L 1628 – *Easy Gardening... Composting*
- Bulletin L 2239 – *Garlic Production in Texas*
- Bulletin GC 217 – *Two...Four...Six...Eight...Propagate!*

Internet

- About: Chemistry. "Nepetalactone Chemistry: Catnip's Cool Cycloalkane." <http://chemistry.about.com/library/weekly/aa103001a.html>.
- Arbor Gate Nursery and Madalene Hill Herb Garden, www.arborgate.com
- Buckle, Jane. "Aromatherapy: What is it?" HerbalGram: The Journal of the American Botanical Council, 57 2003, 50-56.
- <http://www.herbalgram.org/iherb/herbalgram/articleview.asp?a=2450/>.
- Douglas, Sharon M. PhD, *Basic Techniques for Propagating Plants*, The Connecticut Experiment Station, New Haven, 2000.
- www.caes.state.ct.us/PlantScienceDay/2000PSD/BasicPropPlants.htm
- Fredricksburg Herb Farm, *Herb of the Month*, Fredricksburg, Texas
- www.fredricksburgherbfarm.com
- Basil*, July, 2005

Coriander, October, 2004
Lemon Grass, October, 2005
Lemon Verbena, August, 2004 and May, 2006
Mexican Marigold Mint, March, 2006
Mints, July, 2004
Oregano, 2005
Parsley, March and April, 2005
Sage, November, 2005
Sweet Bay, January, 2006
Thyme, April, 2004
 Galveston County Master Gardeners, *Carbide Park Demonstration Garden*, <http://aggie-horticulture.tamu.edu/galveston/index.htm>
 Herb Companion, <http://www.herbcompanion.com>
 Herb Society of America, <http://www.herbsociety.org/>
 Ingram, DeWayne L., *Propagation of Plants*, University of Florida, Gainesville.
<http://edis.ifas.ufl.edu/MG275>
 Iowa State University, College of Agriculture. "*Catnip Drives Cats Wild, But Drives Mosquitoes Away.*" Iowa State University. <http://www.ag.iastate.edu/aginfo/news/2001releases/catnip.html/>.
 Katzer, Gernot, *Gernot Katzer's Spice Pages*, University of Graz, Austria.
www.uni-graz.at/~katzer/engi/cymb_cit.html
 Lady Bird Johnson Wildflower Center, *Native Plants Database*, The University of Texas at Austin. <http://www.wildflower.org/plants/>.
 Magnificent Mints, www.io.com/~wilson/magnificentmints.htm
 "Nepetalactone Chemistry: Catnip's Cool Cycloalkane." About.com. <http://chemistry.about.com/library/weekly/aa103001a.htm>
 Moody Gardens, www.moodygardens.com
 Ogg, Barb PhD, *Choosing Wood Materials Carefully to Prevent Termite and Rot*, University of Nebraska Cooperative Extension in Lancaster County, Lincoln.
<http://lanaster.unl.edu/enviro/pest/Articles/WoodChoices.htm>
 Parsons, Jerry, Sam Cotner, Roland Roberts, Calvin Finch, Doug Welsh, and Larry Stein, *Efficient Use of Water in the Garden and Landscape*, Texas AgriLife Extension, Texas A&M, College Station, Texas. aggiehorticulture.tamu.edu/extension/homelandscapes/water
 Pike, Dr. Leonard and Paul Leeper, *The Onion that Came to Texas but Never Left the Same – History of the Sweet Texas Onion*, aggie-horticulture.tamu.edu/Plantanswers/publications/onions
 Sara's Superb Herbs, Prides Corner Farms Wholesale Nursery, Lebanon, CT. <http://www.superb-herbs.net/>.
 USDA, NRCS. 2007. The PLANTS Database (<http://plants.usda.gov>, 15 August 2007. National Plant Data Center, Baton Rouge, LA 70874-4490 USA. United States Department of Agriculture, Natural Resources Conservation Service, Plants Database.
 Welch, Dr. William C., *Hill Hardy Rosemary*, Southern Garden, July, 2003. [Aggie-horticulture.tamu.edu](http://aggie-horticulture.tamu.edu)
 Welsh, Dr. Douglas F., *Plan for Onions Now*, Horticulture Update. <http://aggie-horticulture.tamu.edu/extension/newsletters/hortupdate/jan06/hu>jan06.html>



Always grow where you are planted
Madeline Hill
Gwen Barclay
3-02





Fragrant, Beautiful, and Delicious: Herbs for the Upper Gulf Coast of Texas is the cherished work of Galveston County's Master Gardeners. We invite everyone to appreciate and explore the wonderful world of herbs with us, and to have herbal fragrances, beauty, and flavors grace their gardens and their lives.

We are enthusiastic about our mission to share the most useful and accurate horticulture information with our community. We extend our warmest gratitude to all those people who have supported the Galveston County Master Gardeners by attending our educational programs, coming to our plant sales, and strolling through our demonstration gardens and orchards.

If you have any questions or comments, please feel free to call us at (281) 534 3413. Or visit our website: <http://aggie-horticulture.tamu.edu/galveston>

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