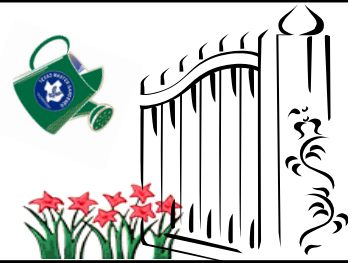




# Ellis County Master Gardener's E-Gardening Newsletter



Volume XII, Issue 2

Official E-Newsletter of the Ellis County Master Gardeners Association, Waxahachie, Texas

February, 2019

Welcome to the Ellis County Master Gardener's **E-Gardening** Newsletter. The purpose of this newsletter is to give you a month-by-month agenda of what you should be doing with your landscape. We will feature horticultural articles that we hope you will find interesting, and important dates where you can find the Master Gardeners speaking, demonstrating, and passing out information relative to your garden. If you would like to receive this newsletter monthly via your email address, log onto our website [www.ECMGA.com](http://www.ECMGA.com) and click on subscribe. Best of all; it's FREE! Editors and Newsletter Team: Susan Ellis, Donna Hubbard, Bree Shaw

## Ellis County Master Gardeners EXPO



Save the date  
**March 30, 2019**



### 2019 Master Gardener Calendar

The Ellis County Master Gardeners are proud to present our 13<sup>th</sup> annual gardening calendar. Our theme this year is **"Gardening in the Extreme"**.

As always, this beautiful and informative calendar includes month-by-month gardening information, soil preparation, fertilization, moon signs, average temperature and rainfall each month, holidays, as well as sponsors' events.

Your **FREE** copy is now available at all of the following calendar sponsors' locations. While you are there to pick up your calendar, please shop at their business. You might find just the Christmas gift you are looking for. Also thank them for sponsoring this year's gardening calendar! Without them there would not be a calendar.



### Our calendars are now available at all sponsor locations

#### Waxahachie

Ann's Health Food Center  
ARK Country Store  
Boyce Feed & Grain  
Carlisle Chevrolet GMC  
Central Kubota  
Citizen's National Bank Texas  
College Street Pub  
Creative Quilters Guild of Ellis CO  
Ellis CO Master Gardeners  
Gingerbread Press  
Larken Farms Orchard  
Lawn Master Pools  
Living Magazine

Pam Daniel, Ebby Halliday Realtors  
Railport Brewing Company  
Texas Tree Farms  
The Dove's Nest  
The Greenery  
The Waxahachie Sun  
Waxahachie Chamber of Commerce  
Waxahachie Civic Center  
Waxahachie CVB  
Waxahachie Daily Light  
Waxahachie Farmer's Market

#### Ennis

Ennis Chamber of Commerce  
Tex-Scapes Greenery  
United Ag & Turf  
Maypearl  
Maypearl Insurance Company  
Midlothian  
ARK County Store  
Citizen's National Bank  
Earthtones Greenery  
Rigsby Garden Center  
Silverado Lawn & Landscaping  
Travis Equipment

### Listen to KBEC

Saturday mornings at 8:10 a.m. on 1390 AM.

The Ellis County Master Gardeners have a fifteen minute segment every week, offering you helpful information on what you need to be doing in your landscape, as well as "happenings" around the county. Be sure to listen in!

Scott Rigsby

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## It's February .... What Needs To Be Done?



### Planting

- \* Cool-season vegetables such as broccoli, cabbage, cauliflower, kale and potatoes should be planted mid-month, or about four weeks prior to the average last freeze date (March 15 in Ellis County). Beets, carrots, lettuce, radishes, spinach, Swiss chard and "greens" (collard, mustard and turnip) should be planted two to four weeks prior to the average last freeze.
- \* Plant asparagus crowns in 10-12 inches of soil. When buying crowns, look for two-year-old root systems with healthy roots.
- \* When buying plants, biggest is not always best, especially with bare-root plants. Small to medium sizes establish faster.
- \* Dig and divide warm season perennials (cannas, coneflowers, perennial salvia, mums) before they break dormancy.

### Fertilizing and Pruning

- \* Prune bush roses around Valentine's Day. Prune old, dead and weak canes back to the ground. Leave four to eight vigorous canes, removing one-half of their growth above an outward facing bud. Wait to prune climbing or leaning roses until after they bloom. Prune errant canes any time to maintain shape.
- \* Herbaceous perennials and ornamental grasses may be cut back now. Prune autumn sage (*Salvia Greggii*) by 50%. Mexican heather grass does not require pruning.
- \* Dig and divide large clumps of ornamental grasses, especially if the center of the plant has died.
- \* Cut or mow liriopse before new growth emerges. Trim Asian jasmine back to four or five inches.

### Garden Watch

- \* Begin controlling insects and diseases on fruit and nut trees. Spraying is essential for a successful harvest. Contact the Texas A&M AgrLife Extension Service – Ellis County for a copy of "Homeowners Fruit and Nut Spray Schedule".
- \* Look for aphids and caterpillars on vegetables, and control with insecticidal soap and Bt (*Bacillus thuringiensis*), respectively.
- \* Check for scale insects adhering to the trunk, branches and leaves of hollies, euonymus, shade trees, fruit and pecan trees. Apply horticultural oil to control these and other over-wintering insects.
- \* For the more difficult-to-control crape myrtle bark scale, apply a neonicotinoid insecticide, such as imidacloprid, as a soil drench to the root zone of infested trees.



Happy Valentine's Day

*James and Melinda Kocian were honored during our ECMGA January monthly meeting for their 15 years of dedication to the Saturday morning KBEC Master Gardeners program. If you had tuned in any Saturday at 8:10 am, you heard wonderful gardening tips and/or information specifically tailored for the Ellis County area, hosted by the Kocians.*

*Fortunately the show will go on.... ECMG Scott Rigsby is taking over this important venue so continue tuning in Saturday mornings and listen to what Scott has in the future on KBEC.*

**99.1 FM KBEC 1390 AM**  
**CLASSIC TEXAS MUSIC**



## Featured Texas Wild Flower of the Month

Submitted by Melinda Kocian  
Ellis County Master Gardener



**Prairie Spiderwort** – Dayflower Family (Commelinaceae)  
*Tradescantia accidentalis* (Britt.) Smyth

**Region:** 1 through 10 (Ellis County is in Region 4)  
**Size:** 6 – 36 inches  
**Blooms:** February – July, Perennial



*Tradescantia* species are in the same family as dayflowers. Like dayflowers, spiderworts bloom for one day, usually in the morning, but have three radically symmetric petals, whereas dayflowers are bilaterally symmetric, or have two large petals and one small one. The flowers of spiderworts are usually bluish purple, but are sometimes violet, pink or white. The plant itself is erect to trailing, with succulent stems. Alternate, narrow leaves are a foot or more long and look as though they have been folded lengthwise, sheathing the stem. The top two leaves subtend the flower cluster like bracts. Spiderworts do well in cultivation, preferring a moist, sandy soil. The succulent leaves and stems are edible, either raw or cooked, but the roots may be poisonous. The fourteen Texas species hybridize, making them difficult to distinguish.



## Ellis County Master Gardener Scholarship 2019

In 2003, Ellis County Master Gardener Association (ECMGA) decided to make scholarships available to graduating high school seniors residing in Ellis County. We wanted to provide opportunities to these students that chose college studies in horticulture and/or life sciences disciplines. Since then, we have awarded 41 graduating high school students with college scholarships totaling \$78,600.

One of the objectives of the ECMGA is to build partnerships with the Ellis County community to expand horticultural education and opportunities. In keeping with this objective, the ECMGA will again make scholarship funds available in 2019 to deserving high school seniors pursuing studies in horticulture/life sciences – related fields. To qualify, the applicant must be a 2019 graduating high school senior residing in Ellis County from an Ellis County High School, Ellis County Charter High School or Ellis County Home School Program. The applicant must have an elected academic major in a horticulture/life sciences – related field that includes, but is not limited to horticulture, agriculture, environmental science, forestry, botany, biology (e.g.: plant genetics, plant physiology), landscape design or entomology. Other horticulture/life sciences – related fields of studies are delineated in the scholarship application package available on the ECMGA website. Applicants must be able to provide proof of acceptance at an accredited institution of higher education. In addition, this year the ECMGA has decided to allow former ECMGA College Scholarship Awardees currently enrolled in horticulture programs/life sciences degree plans to also apply for an ECMGA 2019 College Scholarship to continue their college/university studies.

ECMGA college scholarships awarded to qualifying students in 2019 will be up to \$3,000. Students applying for the ECMGA College Scholarship are invited to visit <http://www.ecmga.com> to download the application package found under the “What’s Happening” tab. The completed application may be submitted by registered mail (return receipt requested) or in person to the Texas AgriLife Extension Service office located at 701 South I-35, Suite 3, Waxahachie, TX 75165. If additional information is needed regarding the ECMGA Scholarship, please call (972) 825-5175 (Ellis County AgriLife Extension Office) or George Cole, Chairman, ECMGA 2019 College Scholarship Program at 972/937-2440 or <mailto:georgedciii@att.net>. All scholarship applications must be received no later than 4:00 P.M. on March 15, 2019.

For more information go to the ECMGA Website <http://ecmga.com/>. Click on the Scholarships tab for the ECMGA 2019 Scholarship Application and ECMGA Acad Discip 2019.



## Light House for Learning

(With the Ellis County Master Gardeners)

For reservations, contact Melissa Cobb at (972) 923-4631 or [mcobb@wisd.org](mailto:mcobb@wisd.org)

Register online at [https://www.wisd.org/apps/pages/index.jsp?uREC\\_ID=1080753&type=d&pREC\\_ID=1369108](https://www.wisd.org/apps/pages/index.jsp?uREC_ID=1080753&type=d&pREC_ID=1369108)

**Join Ellis County Master Gardeners and Ellis County Extension Agency in a variety of classes to prepare your gardens and yards for spring.**



**Monday, April 1—Container Gardening:** Gardening in a container can be as simple as filling a pot. However, there are specific plants that like each other and others that do not. Come to this class and learn some new and old ideas on space, plant choices, soil, sun and water ideas including a demonstration on how to plant a simple container garden. Bring questions, pictures and anything you may want to inquire about. There will be plenty of time to ask questions and get personal answers.

*Instructor: Jane Sloan*

**Thursday, April 4—Hobby Greenhouses:** The world of greenhouses is a magical one; a place where seasons and climates don't matter. This class will take you through the basics of setting up and maintaining a greenhouse. We'll talk about different types of greenhouses and how to assess your needs and how to be successful growing in the greenhouse environment.

*Instructor: Susan Knapp*

**Monday, April 8—Vegetable Gardening:** This timely class will tell you how to grow vegetables such as tomatoes, peppers, asparagus, kale, onions, squash and broccoli. It will also cover site selection, soil testing, weed management and provide instruction on planting seed, using fertilizer, pesticides and much more.

*Instructors: Arlene Hamilton and Jessie Mellon*

**Thursday, April 11—Irrigation:** How to Cut Your Water Bill in Half! If you have a home irrigation system, chances are you could be wasting over 50% of your water usage due to an inefficient system. Learn the basics of designing an efficient irrigation system. Gain the knowledge to install a system yourself or have the tools to ask the smart questions of an irrigation contractor. Information will be provided to help you maintain an existing system and test procedures to determine if any adjustments are required to keep your system in top condition. No matter if you intend to install a new system, maintain an existing system or just want to know more about one of the most ignored systems in the home, this class is for you.

*Instructors: Jim Derstler and Allan Paxton*

**Monday, April 15—Texas Superstars:** Learn a brief history of how plants have been named Texas Superstars and how they have been found. Highlights of these superstars include annuals, perennials, fruits, trees and many more.

*Instructors: Susan Ellis and Gayle Johnston*

**Thursday, April 18—Perennials for All Seasons:** Perennials are valued mostly because they return to the garden each year. However, the gardener needs to know which ones will bloom the longest, when they bloom and how they add to the landscape in other ways before choosing new additions to their gardens.

*Instructor: Maureen Nitkowski*

**Monday, April 22—Plant Propagation:** Want to learn how to propagate plants from some of your favorites or some of your friends? This class will give you information on growing from seeds as well as different methods of propagation such as layering, cuttings and plant division. You will have both classroom and hands on activities.

*Instructor: Walt Friis*

**Thursday, May 2—Firewise:** You can't control wildfires, but you can increase the chances of saving your home if you create defensible space around your property. Attendees are encouraged to bring a flash drive or CD with pictures of their home (up close and from about 50- 60 feet away) to discuss areas of concern and possible solutions.

*Instructor: Lee Dann*

*All classes cost \$14.00 and are taught from 6:00-7:30 pm at Waxahachie High School, Career & Technology Department, 3001 US Hwy 287 Bypass, Waxahachie, TX 75167.*



# Presidents' Day

February 18, 2019



## Herbal Blends

By Arlene Hamilton, ECMG



If you enjoy growing herbs you probably also enjoy cooking with them. It's great fun to snip a sprig of rosemary from your bush and drop it into a pot of soup or gather a few sprigs of chives to chop into an omelet or cottage cheese. But it's even more rewarding to gather a variety of herbs and create a savory blend of your own. Don't be afraid to experiment, just go carefully and add small amounts first. You can always add more but you can't take away if the taste is too strong. If you are not ready to venture out on your own here are some classics to try or adapt to your taste.



**Bouquet garni** simply means a bundle of herbs usually tied together with a string and used in soups, stock and stews. The bouquet is cooked with the other ingredients and removed before serving. There is no generic recipe for bouquet garni, but most recipes include parsley, thyme and bay leaf. Depending on the recipe, the bouquet garni may also include other herbs such as basil, rosemary and savory. Vegetables such as carrot, celery, leek, onion and parsley root are sometimes included in the bouquet. Sometimes the bouquet is not bound with string, and its ingredients are filled into a square of cheesecloth, a net or even a tea strainer.

**Green Bouquet Garni:** Two celery pieces for the sandwich, a bay leaf, two sprigs parsley, one sprig thyme and one sprig rosemary. Sandwich the herbs between the two pieces of celery; tie with kitchen string leaving a long tail so you can find it later. Toss this into soups, stews, green beans or vegetable dishes.

**Herbes de Provence:** The traditional Herbes de Provence includes two parts basil, two parts thyme, one part each savory, fennel and lavender (all herbs found in the Provence region of France). This blend is used to flavor meat, fish and vegetable dishes.

**Fines Herbes** is a combination of herbs that forms a mainstay of Mediterranean cuisine.

The ingredients of Fines Herbes are used fresh and include parsley, chives, tarragon and chervil. These "fine herbs" are not the pungent and resinous herbs that are found in other Italian blends that release their flavor in long cooking. Add Fines Herbes to soups, vegetables and stews during the last ten minutes of cooking, or chop and add to omelets, cottage cheese, cream cheese or butter. Note: Since French tarragon is difficult to grow in Texas, I suggest using Mexican mint marigold as a substitute.

**Herb Salt Seasoning Blend:** One tablespoon coarse salt, one tablespoon chopped onion, one garlic clove, two tablespoons fresh flat parsley leaves, two tablespoons fresh basil leaves and one teaspoon fresh thyme leaves. Pulse ingredients until smooth. Mixture may be used immediately or stored in the refrigerator for up to one week. Makes about ¼ cup. Mixed with a little olive oil it's a great seasoning on meats.

**Italian Herb Blend:** Herbs to include with tomato sauce and served over pasta are basil, marjoram, oregano, rosemary and thyme.

**Pizza Herb Blend:** Use four or five sage leaves, three Italian parsley sprigs, one sprig marjoram, one sprig oregano; all chopped and sprinkled over pizza before baking.



## GARDEN CHECKLIST FOR FEBRUARY

By Dr. William C. Welch, Professor & Landscape Horticulturist, TX A&M



- If you have deciduous fruit trees, look for scale on the limbs this month. It is much easier to spot scale on the branches after the trees have dropped their leaves. Flag the infested branches with fluorescent survey tape so you can find them later in February when they need to be sprayed for best control.
- Complete the bare-root planting of woody landscape plants this month. Container and ball and-bur lapped plants are in good supply and can be set out most any time. Winter and early spring planting provides an opportunity for good establishment before hot weather comes.
- Prune roses during February except in the Panhandle and far North Texas, where roses are pruned in March or April. Use good shears that will make clean cuts. Remove dead, dying and weak canes. Leave four to eight healthy canes and remove approximately one-half of the top growth along the height of the plant.
- Now is an excellent time to select and plant container-grown roses to fill in bare spots in your rose garden.
- Wait until after they finish flowering before pruning spring-flowering shrubs such as quince, azalea, forsythia and spiraea.
- Plant dahlia tubers in late February and early March. Plant gladiolus corms; space planting dates at two-week intervals to extend flowering season.
- Fertilize pansies once again for continued flowering. Don't forget to water when needed.
- A potted plant, tree, shrub or cut flowers make excellent Valentine's gifts for loved ones and shut-ins.

## Texas Superstar—Green Magic Broccoli

Submitted by Susan Ellis, ECMG

Written by David Rodriguez, County Extension Agent-Horticulture, Bexar County 2007



Green Magic is a hybrid which matures in 85 days from transplanting. It is a superb early variety that produces high quality, attractive smooth dome heads with tight green beads. Heads can weigh between 350-400 gm and has good resistance to white rust. It is a hybrid selection from Calabria strains. Three plantings may be considered: late August through mid-September, late September through mid-October and a late planting for early spring around mid-February.

Broccoli is a very nutritious and healthy food source. One cup (91 gm) of fresh broccoli, finely chopped, is very low in saturated fat and cholesterol. It's a good source of: Protein, Vitamin E (Alpha Tocopherol), Thiamin, Riboflavin, Pantothenic Acid, Calcium, Iron, Magnesium, Phosphorus and Selenium. It's also a very good source of Dietary Fiber, Vitamin A, Vitamin C, Vitamin K, Vitamin B6, Folate, Potassium and Manganese.

**Exposure:** Full sun

**Size:** Plants vary between one and two feet in height and spread; heads can weigh between 350–400 gm; good resistance to white rust. Head size is dictated by spacing of plants. Planting further apart will get larger head of broccoli

**Bloom Time:** 'Green Magic' is a hybrid, which matures in 85 days from transplanting

**Soil Preferences:** Fertile, well-drained, medium-textured soils; will do relatively well on heavy soils, but poorly on sands.

**Optimum Growing Conditions:** Cool days (70-80°F) with cool to cold nights (40-50°F). Will tolerate wide temperature fluctuations. Mid 20's is the normal freeze threshold.



### Q&A from Texas AgriLife

**Q.** What causes broccoli to flower almost immediately making the heads inedible?

**A.** High temperatures at heading time usually causes premature flowering and consequently reduces the quantity of home-grown broccoli. Broccoli will flower quickly if it is forced to mature at temperatures much above 80°F.

**Q.** I have harvested the first large heads of broccoli from my garden. The secondary sprouts are now producing heads, but they are not as large as the first head harvested. Is this normal or should we fertilize?

**A.** The center head produced by broccoli is always the largest. The secondary sprouts produce heads about the size of a silver dollar. Side dressing with fertilizer can increase yields and size of these sprout shoots. More of these are required to make a meal, but they will be as tasty as the large center head.

**Q.** My broccoli is magnificent this fall, but some plants rot after I remove the main head. The stem has a hole in it that retains water and causes rotting. What can I do?

**A.** The hole in the stem cannot be corrected now. It is caused by a boron deficiency corrected by the addition of one-half pound per 1,000 square feet of a boron product such as Twenty Mule Team Borax. Since boron is a minor element, add only small amounts. Boron toxicity occurs if too much is added so use only what is required for your gardening area.

## Indian Trail Master Naturalists Events



Join the **Indian Trail Master Naturalists** at their monthly meeting on Monday, February 25, 2019. The program for the evening is entitled "CoCoRaHS". Greg Story will provide a presentation on the National Oceanic and Atmospheric Administration (NOAA) program—"CoCoRaHS" (Community Collaborative Rain, Hail and Snow Network) and how the National Weather Service uses the rainfall data from this important network. CoCoRaHS is a unique, nonprofit grassroots volunteer network made up of people of all ages who measure and map precipitation; be it rain, hail or snow. The program is free and follows the 6pm Master Naturalist meeting that is also open to the public. Meeting location: First United Methodist Church, Family Life Center, 505 W. Marvin Ave., Waxahachie. For more information call (972) 825-5175.

Join the Master Naturalists on February 16, at 10am for their "Mayor's Walk" at Mockingbird Nature Park, Midlothian, TX The walk is free to the public. Participants should bring drinking water and wear comfortable shoes.

## Ellis County Master Gardener Monthly Meeting—You are invited!

Second Tuesday of the month

The Master Gardeners will be working on Expo 2019 during February and March therefore there will be no speakers at the February 12th and March 12th meetings.







## Featured Recipe of the Month

### Broccoli Salad with Garlic and Sesame

By Melissa Clark on Pinterest  
<https://cooking.nytimes.com>



#### INGREDIENTS

1½ teaspoons red wine vinegar  
1 teaspoon kosher salt, more to taste  
2 heads broccoli (1 pound each, cut into bite-size florets)  
¾ cup extra virgin olive oil  
4 fat garlic cloves, minced  
2 teaspoons cumin seeds  
2 teaspoons roasted (Asian) sesame oil  
Large pinch crushed red pepper flakes

#### PREPARATION

In a large bowl stir together the vinegar and salt. Add broccoli and toss to combine.

In a large skillet heat olive oil until hot, but not smoking. Add garlic and cumin and cook until fragrant, about 1 minute. Stir in sesame oil and pepper flakes. Pour mixture over broccoli and toss well. Let sit for at least 1 hour at room temperature and up to 48 hours (chill it if you want to keep it for more than 2 hours). Adjust seasonings (it may need more salt) and serve.

**YIELD:** 6 to 8 servings

**TIME:** 10 minutes, plus marinating



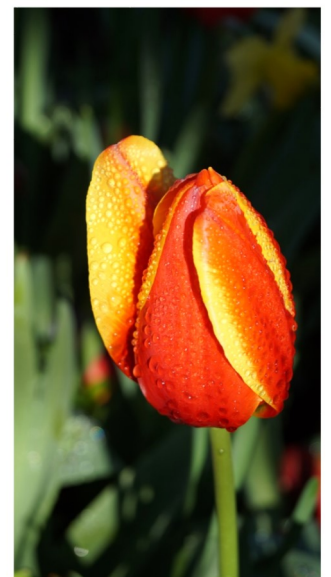
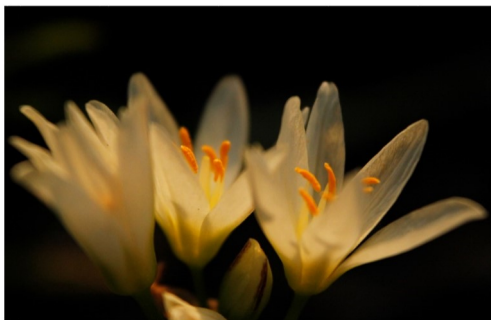
## Announcing the Amateur Photo Contest

Sponsored by the Ellis County Master Gardener Association

Winners will be announced at the Lawn & Garden Expo  
March 30, 2019

Two Categories: "Single Specimen" and "In the Garden"  
Photos must be submitted by midnight March 19, 2019

Photo Contest Rules with link to entry form  
<https://txmg.org/ellis/photo-contest/photo-contest-rules/>  
Photo Submission Form  
<https://txmg.org/ellis/photo-contest/>



## Composting

By Joseph Masabni, Assistant Professor and Extension Horticulturist,  
and Patrick Lillard, Extension Assistant, The Texas A&M University System



If we composted many of the things we throw away, such as kitchen scraps, grass clippings, leaves and other landscape debris, we could divert 20 to 30 percent of the trash currently going into landfills. By composting these materials, we can reduce the amount of waste we generate and produce organic matter and nutrients for our garden, landscape and yard.

Composting is simply the process of organic material decomposition. The resulting substance is called compost. Every garden benefits from the addition of compost because it supplies many of the nutrients plants need and also:

- Improves the soil's physical characteristics
- Increases the soil capacity to hold water and nutrients
- Increases soil aeration

### Materials for Composting

Many materials can be put in compost piles, including:

- Kitchen scraps. Fruit and vegetable trimmings, coffee grounds and filters and eggshells are great items for the compost pile. Do not use animal products such as grease, fat or meat trimmings or dairy products because they break down very slowly, attract rodents and other pests and have an unpleasant odor when they decompose.



- Grass clippings. Grass clippings have relatively high nitrogen content and make good compost. Mix green, fresh clippings with soil or dry plant material such as leaves to keep the grass from compacting as it settles. Compaction prevents air from entering the pile and slows or prevents the composting process.

- Dry leaves. These are plentiful in the fall, and rather than putting them out by the curb, put them in your compost pile. Most leaves decompose faster and more thoroughly when shredded before they are added to the pile. If you do not have a shredder, place the leaves in a row on your yard and cut them up with a rotary lawn mower. Rake up the chopped leaves and add them to the compost pile.

- Manure. Chicken, cow and horse manures are great nitrogen sources for compost piles. Cat and dog feces should never be put in a compost pile because they can carry disease organisms.

- Sawdust. Sawdust is plentiful at sawmills in many areas, especially in East Texas. Always compost sawdust before adding it to your garden because it can tie up nitrogen in the soil as it decomposes. Add extra

nitrogen to sawdust to speed its breakdown.

- Other materials. Sod removed from the lawn, hay, non-noxious weeds, shredded newspaper and hedge clippings can all be composted. Large twigs break down slowly so do not use them.

### Building a Compost Pile

You can buy many types of composting bins, but you can also make one easily with wire fencing, cement blocks, bricks or even scrap lumber. Less room is required if the pile is enclosed, but if you have adequate room you can also leave it free standing. With an enclosed pile, leave an opening on one side so the compost can be turned with a fork to allow air to enter the pile. The compost pile should be located:

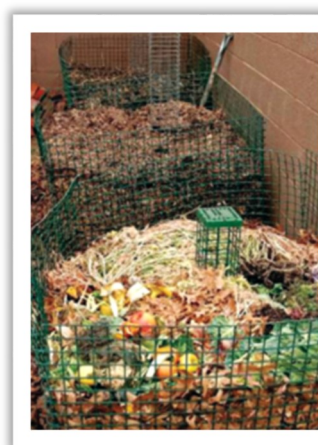
- In a secluded area
- Preferably near the garden
- In a partially shaded area to prevent the pile from drying out too fast
- In a spot with good drainage so it does not become waterlogged

Ideally, a compost pile should be made up in layers. The first layer should be coarse plant material, such as branches and twigs, to allow oxygen to circulate up through the pile. The second layer should be 6 to 10 inches of finer plant material such as leaves, grass clippings and kitchen scraps.

The third layer should be a one-inch layer of soil or manure, which provides microorganisms and nitrogen. The microorganisms are what actually break down the plant material. To do this they need food in the form of nitrogen.

If you use soil for this layer, add 1/3 cup nitrogen for every 25 square feet of compost pile surface area. The nitrogen can be in the form of ammonium nitrate, blood meal or bone meal.

Repeat the second and third layers until the pile is 5 feet tall after settling. A compost pile needs to be of adequate size, usually 4 square feet, to provide a stable environment for the microorganisms. If a compost pile is much smaller than 3 feet in diameter, it will decompose much more slowly.



### Required Elements for Composting

For decomposition to occur, these elements and conditions are essential:

- Organic material
- Microorganisms



## Composting—Continued from page 8

- Air
- Water
- Nitrogen

Organic material comprises all the items previously listed: kitchen scraps, leaves, grass clippings, etc. The size of the material in the compost pile greatly influences the amount of time it takes for it to break down. The smaller the item, the faster microorganisms can break it down.

Microorganisms need a favorable environment, which includes air, water, and nitrogen.

Air is the only part that cannot be added in excess. Turning the pile often will provide an ample amount of air and speed the composting process. If there is too little air in a compost pile because of compaction, anaerobic decomposition occurs, producing an odor like that of rotting eggs.

A compost pile can have too much water, so the pile location should have good drainage. During the summer, you may need to add water so that the compost pile does not dry out. A compost pile should be moist but not soggy. If you squeeze a handful of the material it should be damp, but water should not drip out.

Organic materials have varying ratios of carbon (C) to nitrogen (N), and this ratio influences how fast microorganisms break them down. If the C:N ratio is too high, decomposition will be slow; if the C:N ratio is too low, the pile will lose some nitrogen to the air in the form of ammonia. The ideal C:N ratio for a compost pile is 30:1.

One way of estimating the C:N ratio is by the amount of green and brown materials in the compost pile. Cut grass, kitchen scraps and manure are considered green materials and have low C:N ratios. Sawdust, tree leaves and straw are brown materials and have high C:N ratios. An equal amount (by weight) of green and brown materials will give you the right C:N ratio.

As microorganisms begin to break down the organic material, heat is generated. Within a few days the compost pile should reach an internal temperature of 90° to 160° F. This process will destroy most weed seeds, insect eggs and disease organisms, producing rich, soft humus or compost.

Turn the pile weekly during the summer and monthly during the winter to increase the rate of decomposition. About 90 to 120 days are required to prepare good compost using the layer method. If you have room, make three piles so you will have one ready to use, one being tilled and one being filled up.

## In-Ground Composting

Composting can also be done directly in the ground, preferably where a garden row is to be planted the following season once the raw material has completely composted. To do in-ground composting:

1. Dig up the area—a long row or a raised bed—and remove the soil
2. Fill the hole with the organic materials, such as shredded newspapers and dry leaves
3. Cover it up with the original soil
4. Let this area rest, or compost, for a few months
5. Turn the soil and use it as a new planting bed



## Troubleshooting guide to composting problems

Symptoms	Problem	Solution
The compost has a bad odor	Not enough air	Turn it. Add dry material if the pile is too wet
The compost is not breaking down, and the center of the pile is dry	Not enough water	Moisten and turn the pile
The compost is damp and sweet smelling but will not heat up	Not enough nitrogen	Mix in a nitrogen source such as fresh grass clippings, fresh manure or blood meal
The compost is damp and warm only in the middle	Too few materials and too small area	Collect more material and mix the old ingredients into a new larger pile

*From Composting and Mulching: A Guide to Managing Organic Landscape Refuse by Wayne J. McLaurin (retired) and Gary L. Wade, Extension Horticulturists, The University of Georgia Cooperative Extension Service.*



## Extreme Gardening (Taken from ECMGA 2019 Calendar)

**Extreme Planting - Hydroponics** is a system by which plants are grown in water without the use of soil. Plants are anchored in an inert medium such as clay or gravel pellets. The roots of the plant grow downward through the medium and take up the nutrient rich water, thus eliminating the need for soil. More plants can generally be grown in the same amount of space compared to traditional soil gardening. Also, hydroponics can be stacked to further increase space efficiency thereby growing four times the amount of crop in the same space as traditional gardening. Some crops can grow twice as fast in a hydroponic setting.

## Thank You All!

Thanks to the sponsors, exhibitors and visitors for making the 2018 Ellis County Master Gardener's Lawn & Garden Expo a great success!

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360 Painting of South DFW  
Adam Rope State Farm  
Angie & Teresa's Garden Store  
Artisan Outdoor Lighting  
Barris Pottery & Ceramics  
Beldon Dallas  
Best Bug Bait  
Bertha's Best  
Blue Moon Soaps  
Bluebonnet Worm Farm  
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