



**Winter 2021  
Volume III, Issue 4**

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As I write this, Thanksgiving is less than a week away, heralding shorter days and cooler temperatures. According to *The Old Farmer's Almanac*, the frost date is the average date of the last light freeze in the spring or the first light freeze in the fall. The classification of freeze temperatures is based on the effect on plants:

- Light freeze 29° to 32° F – tender garden plants are killed
- Moderate freeze 25° to 28° F – widely destructive to most vegetation
- Severe freeze 24° and colder – heavy damage to most garden plants

For those of us in East Tennessee (zone 6b or 7a) that means we can expect our first fall frost on October 28 (30% probability calculated using 1981-2010 norms).

But we can also expect warm sunny days before and after allowing us to prepare our gardens for the coming winter season. See page 13 for November garden tasks that include mulching garden beds, planting spring bulbs, and planting dormant trees and shrubs. As far as garden cleanup goes, check out my article on “Pollinator Garden Care – Patience” in this issue.

I am happy to say that my pollinator bed has been successful this year and although it is looking a little ragged, the insects and birds are enjoying the late blooming sunflowers, tithonia and zinnias as well as the seed heads that are forming. I plan to leave it through the winter to provide shelter and seeds.

On a final note, I want to say that Becky Hornyak and I have thoroughly enjoyed being co-editors for the 2021 BCMG Gazette and want to thank all of our contributing authors for their informative, insightful, and fun articles this year. We hope that new editors will step forward for 2022. Best regards, Louminda Torbett

As Blount County Master Gardeners, we are here to assist with gardening questions. Please call 865-982-6430 to have them answered. If you want to learn more about the Tennessee Extension Master Gardener training and volunteer program, visit our website: [bcmgtn.org](http://bcmgtn.org). You can also engage with us on Facebook :

<https://www.facebook.com/BlountCountyMasterGardeners/>

**Happy Holidays and Best Wishes for 2022!**

# A Crop You Might Not Think About

Donna Dixon, Blount County Master Gardener



Fungi are non-photosynthetic organisms with the primary role of decomposition. Each one is a succession of microbes breaking down organic matter. The microbe chain creates a vast interconnected “plant”. Mushrooms are the fruit of the mycelium. Each mushroom has a texture, appearance, and manner of growth. Mushrooms constitute only a small fraction of the fungi in our ecosystem.

Some of these fungi have been tamed!! Mushrooms have been cultured and utilized for centuries. This nutritional and healing fruit is used throughout the world.

My interest in growing mushrooms began with a visit to our property by the Tennessee State Forester. That was many years ago and his name escapes me. During his visit identifying and discussing the health of the trees in our acreage, he turned around saying this is “a great place to grow mushrooms.” As much as we would love to have had a veggie garden, it was impossible without taking out mature tulip poplars and dogwoods. Our yard has a quiet breeze from running water nearby with dappled sunlight.

This advice led to reading books and searching websites. The first stack of logs came when my neighbor decided to cut down a healthy oak late one winter. His reason was odd: “it doesn’t have leaves.” I quickly picked up the logs and got them on plastic and covered tight. A resource in Knoxville, Everything Mushrooms, was the next stop. Shiitake mushrooms!! The stacks have multiplied with a new stack each of the last six years.

There is so much more to learn about the edible and medicinal mycelium. I would like to share a reference from Forest and Field, <https://www.fieldforest.net>. It is one of the sources that is ready to answer all questions regarding cultivating mushrooms.

There are many mushroom varieties that grow on logs - Shiitake, Oyster, Lion's Mane, Comb Tooth, Reishi, Olive Oysterling, and Nameko. Cultivating mushrooms on natural logs is a wonderful long-term method for mushroom production. A prime Shiitake log can fruit for 8 years or longer!

Important: Not all trees make good mushroom logs. As a rule, hardwoods are ideal. Different tree species are better for certain mushrooms than others.

### **Timing your Log Harvest for Best Results**

The timing of tree cutting is important. Healthy, living trees without signs of disease should be cut during the dormant season (after the leaves change color in the fall up until the buds swell in the spring) and rested a minimum of two weeks prior to inoculating. This allows time for the tree's defense system to dieback. Protect the logs from drying out by storing them low to the ground (but off the soil and leaf layer), out of the sun and wind, and where they can receive natural rainfall. Logs can be rested until inoculation for longer than two weeks, however there is increased risk of contamination and losing vital log moisture beyond six weeks.

### **Inoculating Logs**

The logs used in these photos are Maple. White Oak is the ideal. Maple will work but, from experience, I have learned they decompose quicker than oak.

Since the healthy tree was trimmed in late March after buds had started, the logs were stacked on a fiberglass pallette and tightly wrapped. I waited four weeks to allow the tree's defense system to dieback.



Wrapped logs



When the time came, supplies needed were put in order.

1. Wooden plugs growing the mycelium of Shiitake - Night Velvet™ (Lentinula edodes) Plug Spawn
2. Edible wax is used to seal the plugs in helping them to retain moisture and keep the mycelium alive. Other waxes may melt off in the heat. Not all edible wax is red. Melt in a dedicated small crock pot.
3. Wool “dabbers”. Used to apply the wax, these have worked best for me.
4. Specialized drill bit to drill the correct size hole. Holes that are too large, either deep or wide will hinder the uptake of the mycelium.
5. Safety glasses!!!!
6. Rubber mallet.
7. Labels for the date and mycelium stapled to each log.
8. Fiberglass pallet to stack the logs on. Logs should not be stacked on the ground as the mycelium in the soil will likely overtake the log. Thick plastic can also be used.

## Process



Innoculated pegs



Drill holes and insert the plugs, they should fit tight. Then tap into the hole. The top of the plug should be flush with the hole. Holes are spaced in a diamond shape about five-six inches apart.



Apply the melted wax over the plugs with a wool dabber.

Stack the prepared logs. There are several ways to stack logs. Log Cabin style works for me.



Crops from mushroom logs are somewhat predictable. Warm moist weather in late summer and fall are times to watch for "pinning", the small mushrooms. Watch for the next three or more days as the mushroom flush quickly after the pinning begins. Pick by removing from the base of the mushroom with a sharp blade when the cap edges are curved in. Mushrooms will have a thicker cap at this stage. If the caps become flattened the mushrooms are great for drying and then using for broths.

Some will choose to "promote production". One common method is to briefly soak the logs. Some will then cover with a blanket to promote pinning. This method must be done cautiously as too much soaking can drown the spores. Occasionally I take a rubber mallet and tap the logs, this technique is said to loosen the rotting wood and therefore bring on fruiting.

My oldest producing logs are eight years old. And much like older hens producing eggs, they produce fewer mushrooms as the wood rots. But still good quality.

I encourage you to look at the opportunities to grow mushrooms in your landscape. There are many varieties that can be grown in vegetable and landscape beds. Other references to learn more include the Forest and Field website, books *The Mushroom Cultivator* and *Growing Gourmet and Medicinal Mushrooms* by Paul Stamets. The staff at Everything Mushrooms in Knoxville is another recommended source.

I have included a favorite mushroom soup as part of this article.

## Hungarian Mushroom Soup (from [www.littlespicejar.com](http://www.littlespicejar.com))

Prep time 5 minutes; cook time 35 minutes; total time 40 minutes

### Ingredients

- 4 tablespoons of salted butter
- 1 ½ cups white onions, chopped
- 1 lb. mushrooms, sliced (use shitake, crimini, button, etc.)
- 2 teaspoons dried dill weed
- 1 teaspoon EACH: dried thyme AND dried mushroom powder (optional)
- 1 tablespoon EACH: sweet paprika AND lemon juice
- 2 cloves garlic, grated
- 2 ½ cups low sodium chicken stock (or vegetable)
- 2 tablespoons low sodium soy sauce
- 3 tablespoons all-purpose flour
- 1 cup half and half (or whole milk)
- ⅓ cup room-temperature creme fraiche (or sour cream)
- 3 tablespoons chopped parsley

### Instructions

**SAUTE:** In a Dutch oven or soup pot, sauté the onions and mushrooms in the butter over medium heat for 5 minutes. Then, season with dill, thyme, and paprika and allow the mushrooms and onions to continue cooking for an additional 7-10 minutes, stirring often. Sprinkle the grated garlic and mushroom powder 30 seconds before the mushrooms are done.

**WHISK:** Then, slowly pour in the chicken stock, soy sauce, and lemon juice and scrape the bottom of the pot to loosen anything that might be stuck on. Allow the soup to gain a simmer and then let cook and reduce for 5 minutes. (use an immersion blender or food processor to blend soup) While the soup is reducing, whisk together the milk and flour in a small bowl until smooth (you can also just shake it all in a mason jar.) Then pour the mixture into the soup and continue to cook the soup for 8-10 minutes, or until the soup thickens, stirring as required.

**FINISH:** Remove the soup from heat. Stir the soup while you add in the sour cream slowly and allow for it to mix. Sprinkle with parsley to finish and serve warm with grilled bread rubbed with a clove of cut garlic!



## Hosta Addiction—The Little Ones

Elin Johnson, Blount County Master Gardener



Do you have a small yard? Do you think hostas are pretty? Why not grow them in pots or troughs on your deck or patio? Lots of little ones are available, and as long as they are not in too much sun and are watered regularly, they are perfectly happy in containers.

When I first became aware of the little ones, there were only a few available. But in the last 20 years, many named little ones (mini hostas) have been introduced. And they are so popular that they have their own category in the annual popularity survey by the American Hosta Society.

Many of the tiny ones are descended from the species *Hosta venusta*, a tiny green hosta. The *Hosta Journal*, the magazine of the American Hosta Society, had an article about this species in a recent issue, and it was noted that *venusta* is from the Latin word *venustus*, meaning beautiful and graceful. It is “only found on Jeju Island off the southern coast of Korea and on adjoining Chinese land areas to the north.” Several of the cultivars mentioned in the article are ones I have grown: Hostas ‘Tiny Tears’, ‘Masquerade’, and ‘Imp’. Two little ones were developed by Mary Chastain of Ooltewah, Tennessee, and have been favorites of mine: Hostas ‘Lakeside Neat Petite’ and ‘Lakeside Miss Muffet’.

The Hosta of the Year 2008, H. ‘Blue Mouse Ears’, was the first little hosta to be chosen for that honor. It is a unique little hosta with heavily textured, rounded blue leaves, and it usually stays No. 1 on the Popularity Poll for mini hostas. It’s a good grower, and it blooms with a mass of lavender blossoms. (The one shown here has been in its pot for at least ten years). It came on the hosta scene with a bang, and its descendants, the “mice”, are a collector’s dream. There are now many of them--green, blue, and yellow ones, and many have variegated leaves. Even ruffles.



H. 'Blue Mouse Ears'

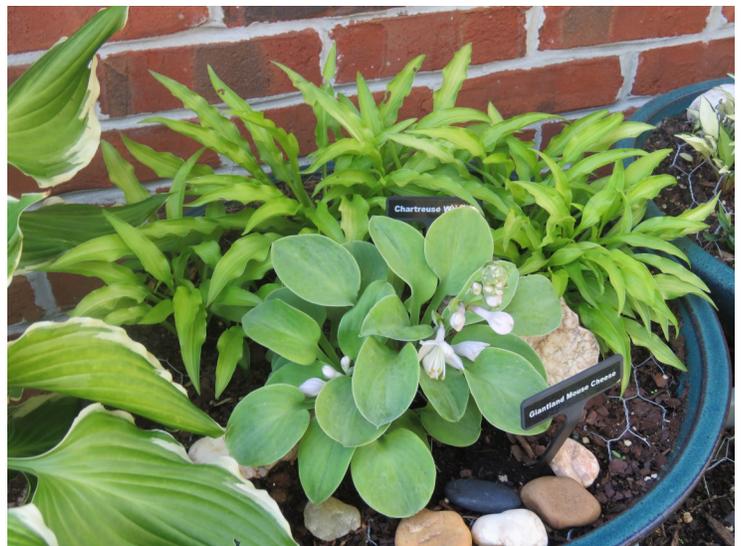


H. 'Church Mouse'



H. 'Mighty Mouse', 'Hideout', 'Sun Mouse'

The first little hostas I bought were 'Ginko Craig' and 'Chartreuse Wiggles', which is still one of my favorites. I planted them among my other hostas and thought they looked pretty there. But there were two problems: 1) The slugs and snails had too easy access to them on the ground. 2) The other, larger plants quickly overwhelmed them. So, it is best to dedicate a special place in your garden for the little ones (maybe a raised bed) or grow them in pots. This picture shows a blue bowl containing 'Chartreuse Wiggles' and 'Giantland Mouse Cheese'.





Another popular descendent of H. 'Blue Mouse Ears' is H. 'Mini Skirt'. When I bought this one, I enjoyed telling people, "Oh, I just bought a mini skirt." Then I'd watch them look astonished because they were pretty sure I wouldn't wear a mini skirt.



Two little hostas that just barely missed being classified as minis but are nevertheless very small are H. 'Fruit Loop' and 'Lakeside Dimpled Darling'. These are two of my favorite hostas because they have absolutely marvelous foliage.

H. 'Fruit Loop'



H. 'Lakeside Dimpled Darling'

I bought three new ones in spring, 2021. In the North American Rock Garden Society Quarterly in the fall 2020 issue, there was an article about preparing a crevice container using flat rocks. I decided to try this for myself, so this is the result. The little variegated one is H. 'Country Mouse', the green one 'Green Thumb', and the yellow one is 'Wonderful'. All three have bloomed this summer and appear to be happy. ('Country Mouse' is not descended from 'Blue Mouse Ears', but I think 'Green Thumb' is.)



The determination of what constitutes a mini hosta is that its leaves cannot be larger than those of 'Blue Mouse Ears' (or leaf blade area must be less than 6 square inches). The very smallest hosta I have grown is this one: H. 'Itsy Bitsy Spider'. The largest of the tiny leaf blades in my container measures 3/8" x 2". Isn't it cute?

It is so much fun to compose a bowl of little hostas and companions. Pretty rocks, miniature conifers, little figures, and other miniature plants are candidates. “Fairy Gardens” are very popular, and many of the garden centers are stocking adorable things with which to compose a tiny garden scene. A 16-inch pot can contain three plants: hostas or companion plants. Be careful that other plants you choose to accompany your hostas are also tiny. A very small fern (*Athyrium felix-femina* ‘Minutissima’) can sometimes be found. There are also tiny conifers that make great companions.



Fairy gardens

**References:** [www.easttnhostasociety.com](http://www.easttnhostasociety.com) – website of East Tennessee Hosta Society  
[www.hostas.org](http://www.hostas.org) – website of the American Hosta Society  
[www.hostalibrary.org](http://www.hostalibrary.org) – pictures and description of all registered hostas

# Winter Garden Tasks

Excerpts from the University of Tennessee Institute of Agriculture

## DECEMBER

- There is still time to plant spring bulbs for them to get the winter chilling they need.
- Soil in Tennessee tends to be acidic. Winter is a good time to apply lime. Have your soil tested to see if and how much lime is needed. Your local UT Extension office can provide you with instructions on how to proceed. It takes months for lime to react with the soil, so the sooner the better. Pelletized lime is the easiest form to apply.



- If you haven't already winterized your irrigation system, do it right away to avoid broken pipes and costly repairs.

- The idea of a living Christmas tree that can be planted outdoors after the holidays often sounds appealing, but without proper selection and care, this can be a disappointing experience. First, you should carefully

select a tree that is suited to your part of the state. While white pine, spruce and fir will work in the cooler parts of Tennessee, they should be avoided in the warmer parts. Virginia pine, eastern red cedar, Japanese cedar and Arizona cypress are good choice for all parts of Tennessee. Avoid hemlock and Leyland cypress due to numerous problems with insects and disease once they are in the landscape. Any living tree brought indoors should not remain inside longer than five days. One option is to go ahead and put the lights on the tree and enjoy the lights outside before time to bring it indoors. Be sure to keep it well watered, but not standing in water.



- Remove frozen plants from pots and hanging baskets and replace them with evergreen boughs, branches with colorful bark or berries, and interesting seed heads from perennials and ornamental grasses. Leave the soil in place and push the cut stems into the soil. Be sure the pots are made from fiberglass, concrete, plastic or some other material that will not be affected by freezing temperatures.
- Small hollies, conifers, twisted willow and red twig dogwoods make great additions to winter pots and can be added to the garden come spring.



- Cyclamen, kalanchoe, poinsettia, paperwhites, amaryllis, Christmas cactus, English ivy and rosemary topiaries offer weeks of added color and interest to the home during the holidays. Most perform best in bright, indirect light away from drafts. Rosemary would appreciate as much light as possible. While some may be attractive for years to come, others such as cyclamen, kalanchoe, and poinsettias are often best added to the compost pile once they begin to decline. Keep your paperwhites from flopping over by adding alcohol.
- Consider adding a heater to your birdbath so our feathered winter visitors have access to fresh water.

## DECEMBER CONTINUED

- Growing rosemary indoors can be tricky. While it is one of the most drought-tolerant plants once established in the landscape, it resents drying out in a pot. Seldom will it recover once it has dried out. At the same time, it does not like wet soil. Check daily and keep the soil slightly moist. In the spring plant it in a sunny, well-drained location once the danger of frost has passed. Most of the topiary rosemary plantings available around the holidays are not reliably winter hardy outdoors in Tennessee. 'Arp' and 'Hill Hardy' are two of the hardier cultivars. 'Arp' has proven to be especially reliable.



Rosemary



Red Twig Dogwood (*Cornus sericea*)

- If you think Christmas lights are the only way to brighten up your outdoor winter scene, you haven't met some of our favorite plants. You will get lots of excitement and winter interest from plants like possumhaw (*Ilex decidua*), winterberry holly (*Ilex verticillata*) and red twig dogwood. Arizona cypress and 'Grey Owl' Juniper are a beautiful blue while conifers like *Chamaecyparis* 'Crippsii,' 'Fernspray Gold,' and 'Vintage Gold' display gorgeous golden colors.

Deck your halls and walls with things found in your garden. Steal a little fresh-cut greenery from your landscape. When pruning, cut back to a branch so as not to leave a stub. When cutting conifers, don't go beyond the innermost needles. If you do, it may not regenerate from that point again. To extend the life of fresh-cut greenery, soak it in a bucket of water overnight to hydrate the leaves and stems before using.

## JANUARY

- In the event of wet snow, brush it off evergreens as it accumulates, or as soon as possible after the storm. Use a broom in an upward, sweeping motion. Serious damage can be caused by heavy wet snow.
- Avoid using salt to melt snow and ice from your walks and driveway, as it can be harmful to your plants and pets. Several environmentally friendly products are available at home improvement stores.
- As long as the ground is not frozen, you can continue to plant new trees and shrubs, just tuck them in with a 2- or 3-inch layer of mulch. Remember to keep the mulch away from the trunk.
- Pansies will benefit if you pinch off their withered and cold-damaged blooms.

## FEBRUARY

- Bluebirds are already looking for a place to nest, so clean out your birdhouse soon.
- Green/English and sugar snap peas can be direct sown in the garden in February. In colder parts of the state, wait until the end of the month. If sown too late, they will not have time to flower and fruit before it gets too hot.
- If your ornamental grasses, such as Miscanthus, Pennisetum, Mexican feather, switchgrass and muhly grass are looking tattered and blowing about the garden, cut them back 3 to 6 inches above the ground. You can also wait until March to do this.
- Barrenwort (*Epimedium*) and Lungwort (*Pulmonaria*) will be in flower soon. Cut back last year's foliage before new growth appears.



- Lenten rose (*Helleborus orientalis*) and its hybrids are one of the first plants to flower in the new year. A little cleanup makes a big difference when these winter beauties blossom. There are two thoughts on removing last year's foliage. Cut back last year's foliage on Helleborus before the flower stalks appear. Follow the old leaves down to the crown and remove the entire leaf stalk near the soil. In mild winters, the foliage often still looks good in February, but as the flowers and new foliage appear, the old leaves will become unsightly. The old foliage will be much more difficult to remove once the new growth has appeared.
- For indoor forcing of blooms, cut branches of pussy willow, forsythia, flowering quince, redbud, and star and saucer magnolia. Choose stems with flower buds that have begun to swell. Cut them at an angle and place in water in a cool location in your home with indirect light.
- Late February and March are good times to trim trees and shrubs. If the limb is larger than 2 inches in diameter, or heavily weighted, use the three-step method for removing branches. Make the first cut on the underside of the limb about 6 inches away from the trunk, cutting about one-third of the way through the limb. On the top side, cut through the limb 3 to 6 inches beyond the first cut. Remember when pruning, to remove dead or diseased branched first, and then take out any rubbing or crossed branches. Prune to maintain a natural form unless formality is appropriate for the design.
- Postpone pruning of spring-flowering and early summer-flowering shrubs like azaleas, forsythia, spirea, and mophead hydrangea until just after they flower.
- Cut back monkey grass (*Liriope*) before new growth appears. Use a string trimmer for larger areas.
- Apply dormant horticulture oil, such as Ultra-Fine, to fruit and nut trees to eliminate scale and other pests. It must be applied before spring growth appears. These oils also can control scale insects on hollies, euonymus and camellias. For best results, be sure to completely spray the entire plant including the underside of the leaves.

# Sustainable Gardening

Terri Lyon, Blount County Master Gardener

## Worms in Your House? How To Embrace Vermicomposting and Receive Glorious Fertilizer in Return

“The garden suggests there might be a place where we can meet nature halfway.” ~ Michael Pollan

I love the Michael Pollan quote for its suggestion that we reimagine why we garden. That our garden is a place where we can serve our needs and honor nature’s needs.

In a previous newsletter article, I reviewed different types of composting you can use to recycle your household waste and enhance your garden. My composting efforts include traditional methods such as compost bins, leaf mold, and brush piles. In addition, I use the less conventional methods of bokashi and vermicomposting.

Vermicomposting is the official name for using worms to eat waste and provide excellent fertilizer.

In this article, I will go into more detail about using worms to process your household waste. Those of you who feel squeamish about the thought of worms in your house may be surprised.

### Why is Vermicomposting Good for The Environment and Your Garden?

#### Vermicomposting for your garden

Vermicompost can be used in many ways in the garden. You don’t need a lot because of how rich it is.

- When you put your seedlings in the ground, sprinkle the compost into the hole to give your plants a good start. Sprinkle it into seed rows.
- As a fertilizer throughout the season, vermicompost provides good nutrition. Just sprinkle the compost around your plants, and don’t worry if you use too much; it won’t burn your plants like other fertilizers. It helps with water retention and soil quality, too.
- Add a bit to your house plants every 2 months.
- You can mix the compost into a ‘worm tea’ to spray on your plants, which some research has shown will help fight diseases.

*“Vermicompost has a profound effect on plants. It boosts the nutrients available to plants, helping seeds to germinate more quickly, grow faster, develop better root systems and produce higher yields...vermicompost also helps suppress plant diseases and insect pests.” - NC State Extension*

- If you make your own potting soil, add worm compost. Here is a recipe from *Worms Eat My Garbage*.

*1/4 worm castings*  
*1/4 peat moss*  
*1/4 perlite*  
*1/4 sand or garden soil*

## Vermicomposting for the environment

Vermicomposting is good for the environment, too.

- Reduce your waste. Instead of putting your household waste into the trash, put it to use in your garden. Worms break down waste into compost that is rich in nutrients and good microbes. Your garden will thank you with better yields, soil quality, and water retention.
- Food waste added to the landfill makes the greenhouse gas methane. When food waste is composted, you are helping reduce these dangerous emissions.
- Much fertilizer is made of animal by-products, such as bone meal, blood meal, chicken feather meal, and manures. Much of these by-products are from factory farming of animals, which is terrible for the environment. Factory farming is not small, local farms, where using the manure from farm animals is routine. Instead, it is large-scale agribusiness where multitudes of animals are crammed together in terrible conditions. In addition to generating significant amounts of greenhouse gases, factory farming of animals is the number one source of water pollution.
- Communities can use vermicomposting to manage solid waste, and the resulting compost can be given to gardeners.

## How to Start in Vermicomposting

### Where to Get Worms

The Red Wiggler (*Eisenia fetida*) is the worm of choice. I got my original batch from PetSmart. Just make sure you don't get nightcrawlers. I have also received them by mail from Uncle Jim's Worm Farm. Yes, USPS mail! They arrived safely, with instructions on how to care for them.

### Caring For Your Worms

You do not need to pay much attention to your worms, but they do need the right environment to do their best job.

### Moderate Temperature

This has been the issue that has caused me the most grief with my worms. They cannot be too hot or too cold, ideally between 59 and 77 degrees. They will burrow to the center if conditions aren't good, but I've lost all my worms on a frigid night, even though they were sheltered in my garden shed. Consider what location will work best for your household: garage, basement, kitchen, or outdoors.

## **The Right Amount of Moisture**

Your worms need moisture, although mostly they will get that from the kitchen waste you add. If it is hot or the bedding is not moist, simply spray with water.

## **Excellent Aeration**

Good air conditions support the worm and the microbes that are part of the composting process. So, no air-tight bins. In my original homemade bin, I drilled holes in the bottom and sides for air circulation.

## **Food**

Worms are not picky. If you forget to add kitchen waste, they will just start in on their bedding. In my experience, they love pretty much all kitchen scraps. Although they don't like tough foods like citrus and avocado skins, meat, or oil, they'll eat everything else, including the grit of coffee grounds. All the guides I've consulted say you should chop up the kitchen scraps, but I'm not very attentive to this, and the worms do fine.

## **Bedding**

Bedding is simply filler that provides shelter from extreme temperatures and light. You have many choices here. I use shredded office paper, another way to reduce my household waste (and protect my vital information.) Other options are coir, shredded newspaper, leaf mold, and wood chips.

## **Light**

Worms like the dark, so make their environment as light-free as possible.

## **Worm Farming Techniques**

One of my outdoor compost bins became an accidental worm farm when worms crawled up through the drainage holes. The resulting compost was terrific. That doesn't always happen, though, because the outdoor temperature and water conditions might not support it.

## **Make your own bin**

For years I had an upcycled, homemade worm bin, which consisted of a plastic bin seated inside another plastic bin. The outside bin helped shelter the worms from light and caught any liquid that might drain from the inside bin. Watch the video "We made a worm bin for \$5 and it was easy!" to see the entire process, including how his Uncle Jim's worms arrived for his bin. <https://www.youtube.com/watch?v=AxKrXeVtPdY>

*Worms Eat My Garbage* by Mary Appelhof is a good resource for getting started in vermicomposting. She has detailed instructions for homemade worm bins. She even has plans you can use to build a patio bench worm farm!

## Purchase a bin

I moved straight from a homemade bin to the Urban Worm Bag, so I have not tried other options. Mary Applehof recommends these:

- Can-O-Worms
- Worm-A-Way

The website Uncle Jim's Worm Farm offers a Worm Hobby Kit that includes everything you need to get started, including the worms, for \$69.99.

## My favorite: The Urban Worm Bag

After much research, I purchased the *Urban Worm Bag*. I put kitchen scraps in the top, which draws the worms up. The castings they leave behind are harvested from the bottom. It has been about 5 months since I started my Urban Worm Bag. Here is my review:

### Advantages

- My worm bag is in a nook in our kitchen, so I find it easy to compost our kitchen waste. Just unzip the top and add the scraps.
- There has never been a smell from the bin, I imagine because of the fabric used for the bag. We have also never had insects like fruit flies from the bin.
- I made my first harvest from the bottom, and the compost that came out was absolutely perfect.
- You don't have to handle worms. Because the worms are attracted up to the new scraps at the top, there was only one worm in my compost harvest.
- My sweet dog Ben sniffed the worm and chose not to bother the little fellow.
- When I sprinkled the compost on my plants, the worm left to start a new life in my garden.



## Disadvantages

- The Urban Worm Bag is pricey, selling for \$129 at Amazon.
- It is also a bit bulky compared to other worm bins you can purchase. The bag sits in a frame that is 27” by 27” and is 32” tall.

## Try Vermicomposting

I hope I have convinced you that vermicomposting is worth a try. Some techniques allow you to avoid touching the worms at all, and I bet you’ll grow to appreciate all these little creatures do for our garden.

### Reference:

Appelhof, M. A., and J. Olszewsk, *Worms Eat My Garbage: How to Set Up and Maintain a Worm Composting System.*, 2017

# Battling Invasive Plants on My Five Acres

Elaine Jollay, Blount County Master Gardener



Japanese honeysuckle



Poison ivy

My five acres are a haven for invasive plants. Recently, while clearing out a flower bed, I found several. It had been many years since I had worked on that flower bed. The Japanese honeysuckle was the most prolific, growing about two feet deep. I pulled it up for hours before I finally found the mother root. I sawed it off using a battery powered saw then painted it with stump and vine killer. For certain, there are more roots hiding down there somewhere. Let's hope this will take care of this for a while.



Next was the poison ivy. Wearing rubber gloves and long sleeves, I pulled and snipped the vines. I dug up the roots the best I could and applied the stump and root killer to the cut ends. Yes, I did get poison ivy between my fingers while working on the honeysuckle and I know the poison ivy will return eventually, but I am satisfied for now.

Bermuda grass



Trumpet vine



Chinese privet



Bush honeysuckle

Then there was the Bermuda grass. I dug down fourteen inches (eighteen inches are recommended) and removed all the rhizomes I could see. The whole fourteen inches of grass and soil was loaded on the wagon and dumped in the burn pile. I chose not to use stump and vine killer on the remaining soil because I was planning to plant canna lilies in that place. Later I will add daffodils and four o'clocks.

The last invader was a solitary trumpet vine. The only place it was anchored was at the base, so I pruned it off at the ground and used the stump and vine killer on the cut area. It doesn't go away without a fight, so I will be on the outlook for little sprouts coming up.



The flower bed looks great, for now. The rest of the five acres still has dense areas of Chinese privet, bush honeysuckle, and blackberries. I don't mind pruning and weeding the blackberries since I profit \$300 every summer selling them. The rest should continue to keep me busy during this wonderful cool weather.

Flower bed debris



Cleared flower bed

# Planting for Pollinators

Louminda Torbett, Blount County Master Gardener

## Garden Care—PATIENCE!

Many of us, myself included, used to think that putting the garden to bed for the winter meant much pruning, raking and weeding. However, a garden intended to benefit pollinators like my two-year-old pollinator bed is a better habitat with less aggressive fall and winter cleanup. Many species of native bees including bumblebees hibernate underground or in small nests during the winter and benefit from a light layer of leaves. Some butterfly offspring spend fall and winter in a chrysalis clinging to dried plant stems. Some butterflies overwinter as eggs or caterpillars and bury deep in the leaf litter. Other beneficial insects over winter in hollow stems such as Joe Pye Weed and Stonecrop (*Sedum*).



Photo: Ceratina Bee by Colleen Satyshur, Univ of Minnesota Bee Lab

Wait until mid-spring to cut back perennials and flowers. If perennial plants are exhibiting some summer/fall disease or are infested with injurious insects, then these damaged plants should be cut back, and scraps thrown away in the trash, not the compost, to prevent the disease or pests from spreading.

Seed bearing perennials such as Purple Coneflower (*Echinacea*), Joe Pye Weed (*Eupatorium*), Hummingbird Mint (*Agastache*), Lavender (*Lavandula*), perennial Sunflower (*Helianthus*), and others, also provide valuable winter food for songbirds. Additionally, species with stiff stems and ornamental seed heads, such as Yarrow (*Achillea*), Purple Coneflower (*Echinacea*), Tall Stonecrop (*Sedum*), and others with flat or cone-shaped dried flowers, add to the garden's winter beauty. Also, perennials are more cold hardy when their stems are left standing over the winter. This is especially true for young plants (in the ground one to two growing seasons).

Leave your ornamental grasses standing until late spring. Their foliage and seed heads offer texture, movement, and beauty in the winter. Plus, many beneficial insects use these grasses to provide protection for overwintering egg masses, larvae, and adults and birds will use the grasses for seed and for shelter. Leaving ornamental grasses standing until late spring gives the insects time for their eggs to hatch and their larvae to change into adults. Remember many of these insects and larvae provide food for nesting birds to feed their babies.

Warm-season grasses such as Little Blue Stem should be cut back in mid-spring. This will protect the crown of the plant, and encourage new growth as temperatures warm.

Cool-season grasses have evergreen foliage that should not be cut to the ground. Instead, vigorously "comb out" dead leaves with gloved hands and clip off the dead leaf tips in late fall. In early spring, clip off old seed heads from stalks as far down into the foliage as possible to leave room for late spring flowers.



Leave some leaves. Leaves are a valuable resource for soil building and mulching. They also provide habitat for pollinators, such as bumblebees and beetles, beneficial insects, and wildlife. Rake them from the lawn and put a light layer in the garden or put them in a compost pile.

If you absolutely must cut back your plants, consider leaving the seed heads in the garden and the birds will benefit. You can also take the cut hollow stems and place them in the garden so that stem nesting bees can lay eggs in the stems. Place the cut stems somewhere in your yard out of the way so any bees nesting in the stems get a chance to emerge. You could also leave some stems about 8" above the ground so they can form new nests. The rest of your perennials can be cut down to the ground.



Photo: Julie Weisenhorn, Univ of Minnesota Bee Lab

So, you might ask, “when can I cut back last year’s plants?” Here is an excerpt from a terrific article from Justin Wheeler, a Penn State Extension Master Gardener, on the Xerces Society website.

“Spring is here. A time when warmer weather naturally turns a winter-weary homeowner’s thoughts towards tackling outdoor chores. The first warm weather of the season may coax us out into the yard, but pollinators in your garden aren’t ready to take a chance on the first warm day. Chrysalides still cling to last season’s dried standing plant material. While you may begin to see bumble bees and ground-nesting bees emerge as flowering trees and shrubs burst into bloom, they still need cover during chilly nights and when “April brings the sweet spring showers, on and on for hours and hours.” While mining bees, mason bees, carpenter bees, and bumble bees may be out and about by early April, other species such as sweat bees are still hiding out, waiting for the warmer days that arrive in May. Meanwhile, last year’s leaf litter is still providing protection for both plants and invertebrates against late-season frosts.

“So when is the right time to unleash your itchy green thumbs and reach for the rake? Unfortunately there isn’t a hard and fast answer to this question, and the exact date will vary based upon where you are in the country. To offer some guidance, consider the following: **Would I plant tomatoes now?**

“Any gardener will tell you it’s not a good idea to plant your tomatoes outdoors until evening temperatures are reliably in the 50s. The tender tomato will shut down and suspend growth and fruiting if subjected to temperatures below 50 degrees or above 90 degrees. If it’s time to plant tomatoes in your area, chances are conditions are neither too hot nor too cold for pollinators to be out and about.”

So when spring comes and the temperatures are right, get out your pruners or a string trimmer to cut the plants to the ground, rake up and remove the debris to ensure new plants have plenty of direct sunlight. The pollinators and other wildlife will thank you for your patience.

Resources:

<https://www.agdaily.com/lifestyle/tips-winterizing-pollinator-habitat/>; <https://www.highcountrygardens.com/gardening/fall-garden-clean-up-dont-prune-these> <https://xerces.org/blog/dont-spring-into-garden-cleanup-too-soon>; <https://blog-yard-garden-news.extension.umn.edu/2020/03/ask-extension-is-it-too-early-to-cut.html>; <https://www.americanmeadows.com/blog/2016/11/08/garden-maintenance-cutting-back>





My pollinator bed photographed in mid-October featuring late blooming plants including zinnias, Mexican sunflower (*Tithonia rotundifolia*), and tall sunflower (*Helianthus giganteus*). The bees and butterflies are busy on those late blooms. The birds are already gathering seeds from the seedheads of blackeyed Susans, cup plant and coneflowers. I have just added five Gaillardia plants as the seeds I sowed last Spring did not materialize (possibly eaten by the birds). I had hoped for some common sunflowers but believe the birds got to those seeds as well.

## Orchids as Houseplants

Becky Hornyak, Blount County Master Gardener



*Phalaenopsis* orchid in bloom

Orchids are readily available and can be relatively inexpensive to purchase, but they have a reputation for being finicky and difficult to keep as houseplants. That has not stopped me from going to orchid shows and giving them a try!

According to a talk given by John Tullock at the UT Gardens a few years ago, orchids present some challenges. For one, they like higher humidity than humans (50% compared to 35-40%). This can be provided by misting with distilled water and keeping them away from drafts. Contrary to popular opinion, sitting them in a tray of water doesn't help increase humidity. They like light, so a sunroom or south or east facing window in winter is ideal. In the summer, they prefer filtered sun or partial shade and can be summered outdoors. With insufficient light, leaves will become wrinkled; with too much light, leaves will become reddened.

I have my orchids in a sunroom with a primarily eastern orientation. They have been doing well, as you can see from the photos. I have two *Phalaenopsis* plants, and two *Oncidium* or "dancing lady" orchids. One of the latter I got from the class, and the other is marked "Aka Baby Raspberry Chocolate."



*Oncidium* orchid in bloom

Repot every year or so, in fir bark or sphagnum moss, after the plant finishes blooming. Orchids are not repotted to give them more room, but to change the potting mix. Water to soften the mix first. Work old medium loose, then clip dead roots. Give the plant less light until it has had a chance to adjust to its new mix.



Repotting a *Phalaenopsis*; orchids like to drain, so I use pots with liners. And a happy *Phalaenopsis* orchid.

Orchids typically bloom once a year, at the same time each year. Judy White, author of *Bloom-Again Orchids*, says not to be afraid to give up on or give away plants that don't do well in your conditions—then buy a different type of orchid!

Stanley's Greenhouses in Knoxville (3029 Davenport Rd.) has orchids, as does The Barn Nursery in Chattanooga (1801 E. 24<sup>th</sup> Street Pl., Exit 181 off I-24).

**Resources:**

Tulloch, John, *Growing Hardy Orchids*, 2005, Timber Press

White, Judy, *Bloom-Again Orchids: 50 Easy-Care Orchids that Flower Again and Again*, 2009, Timber Press

*Growing Orchids in the Home*, UT Extension Publication PB1634

American Orchid Society, [www.aos.org](http://www.aos.org)

## Kids' Corner

Sandy Vandenberg, Blount County Master Gardener

As Master Gardeners, we should foster children's love of nature and gardening. What could be more exciting than studying Monarch butterflies? It is an excellent activity to do with a group of children or as a family activity.

You can start by planting milkweed in the spring and watching it grow. When Monarchs arrive in August and September on their journey to Mexico, you may see them lay their eggs on milkweed plants. Keep observing, and eventually, the tiny caterpillars will emerge. The children will be amazed at how much they eat and how quickly they grow. You can also hunt through the yard for the chrysalis. They could be on a limb, house, furniture or plant.

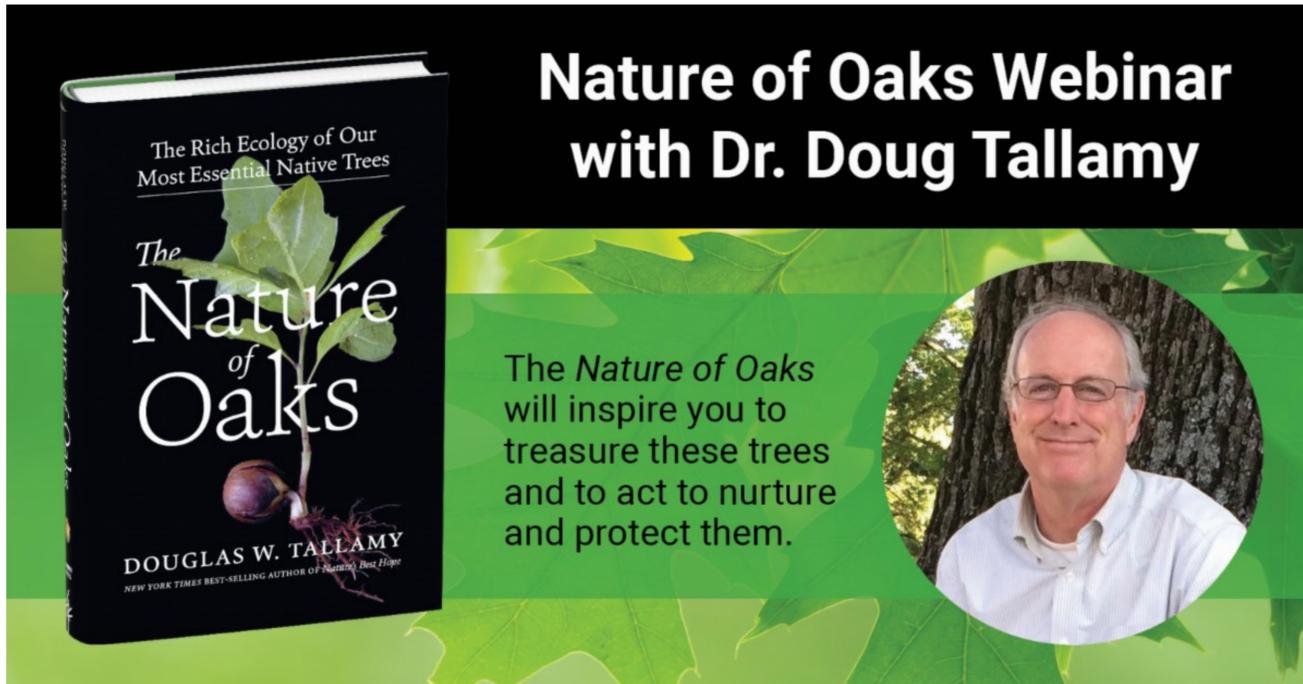
For a fall school project, you can observe caterpillars on milkweed, or Monarch caterpillars can be collected and fed milkweed continuously until chrysalis form. Children learn that milkweed is essential for Monarchs. We were lucky to see the caterpillar form the chrysalis within a few minutes at a Fairview Elementary school event. Children also saw a butterfly emerge from a collected chrysalis. We set up four stations, one with milkweed varieties, one with caterpillars, one with chrysalis, and one with butterflies. After the program, we netted and tagged several Monarchs and let students release. It is fun to see if any arrive in Mexico.

Adults enjoy Monarchs as much as children, so plan to plant your milkweed next spring. Ideal sources for information and projects are <https://www.monarchwatch.org/> and <https://journeynorth.org/>.



Photos by Sandy Vandenberg

# The Book Nook



*The Nature of Oaks: The Rich Ecology of Our Most Essential Native Trees* by Dr. Doug Tallamy

On his property, Dr. Tallamy started an oak from an acorn and recorded his observations of it. Eighteen years later, it was 45' tall, providing evidence to dispute the myth that oaks grow slowly. He took pictures of every creature he saw on the tree. The variety of the caterpillars he spotted is amazing. He equates no holes in leaves to a dead food web.

Why the focus on oaks? Dr. Tallamy describes them as a keystone species, and says they are lifelines to countless creatures. There are 91 species of oaks, supporting 950 species nationwide. Leaf litter provides a protective blanket for the soil community; it decays and provides nutrients, and supports 70 species of litter moths. So, mowing over leaf litter is not recommended.

He stated that “We have a biodiversity crisis,” and are killing birds, insects, and other creatures in a sixth great extinction. It is a “global crisis with a grass roots solution.” Planting an oak leads to an almost immediate ecological contribution.

Jays of all kinds share a mutualism with oaks, burying acorns and then forgetting 75% of the locations, leading to lots of baby oaks. Many other birds depend on the caterpillars for food.

He said that many oaks transplanted from pots into yards are root bound and will strangle and die. Balled and burlapped trees will grow slowly while reestablishing their root systems, and are still likely to die—about 50% chance. So starting a tree from an acorn is just as quick and more likely to succeed.



The Southeast is the center of oak diversity. If there is no room in a landscape for one of the large oaks, there are several varieties of Eastern small oaks: dwarf chestnut or chinquapin (*Quercus prinoides*) is the only one of these found in TN. According to the North Carolina Extension Gardener

Plant Toolbox, “dwarf chinquapin oak is a native deciduous oak tree that can be grown as a large shrub or small tree. It is found in sunny sites, often in rocky or acid sandy soils on dry plains, rocky bluffs, ridges and woodland edges. It is easily adaptable to garden loams for the home landscape and tolerates poor, dry soils. It has a deep taproot and is difficult to transplant. The male and female flowers bloom in spring and produce acorns in fall. Unlike many oaks, this tree produces acorns in 3-5 years and has a good crop each year that wildlife love. Use in an open woodland setting, small groupings for wildlife, or as a shade or specimen tree for smaller yards. It can be used in areas with poor, dry soils to help with erosion.”

One of the grass roots solutions proposed by Dr. Tallamy is Homegrown National Park, a social media attempt to unite groups in the common goal of cutting the amount of lawn in half. You can “get on the map” by registering your native garden area(s) at [homegrownnationalpark.org](https://homegrownnationalpark.org).

Dr. Tallamy closed the webinar by giving another grass roots solution:

**“Plant an oak—plant the future!”**

Reference: <https://plants.ces.ncsu.edu>

View the webinar at: <https://wildones.org/the-nature-of-oaks-2021>



## BCMG Note Cards

The photo note cards are \$10 per set and are blank inside, making them perfect for all occasions: birthdays, thinking of you, etc. They also make wonderful gifts for family and friends. To place your order, please go to <https://bcmgtn.wildapricot.org/Flower-Theme-Note-Cards>

The note cards feature Honey Bee on Crimson Clover by Sandy Vandenberg; Sunflowers by Sharlee Hatten; Eastern Tiger Swallowtail by Dan Curry; Coneflowers and Russian Sage by Mary Alford; Morning Glory and Bumble Bee by Brandi McCray; Spicebush Swallowtail on Tithonia by Wanda Banks; Green Pepper by Corinne D'Aprile, and Bee on Autumn Clematis by Thomas Carpenter.





## DECEMBER

**thru Jan. 1** Winter Lights at the North Carolina Arboretum ([ncarboretum.org](http://ncarboretum.org))

**4** Holiday Wreath Making Program at UT Gardens, 10 a.m.-12 noon, \$50

**9** Native Plants, Phytoremediation and Green Infrastructure: How Native Plants Can Be Used to Improve Environmental quality webinar, Eric Fuselier, 7 p.m. (Eastern), Wild Ones, [wildones.org](http://wildones.org)

**14** *Blount County Master Gardeners Holiday Social - 6:00 at the Blount County Public Library*

## JANUARY

**13** America's Public Gardens: A Resource for Native Plants webinar, 7 p.m. (Eastern), Wild Ones, [wildones.org](http://wildones.org)

**18** Winter Tree Identification webinar, Dave Walters & Dr. Cindi Smith-Walters, 7:30 p.m. (Eastern), Tennessee Native Plant Society, [tnps.org](http://tnps.org)

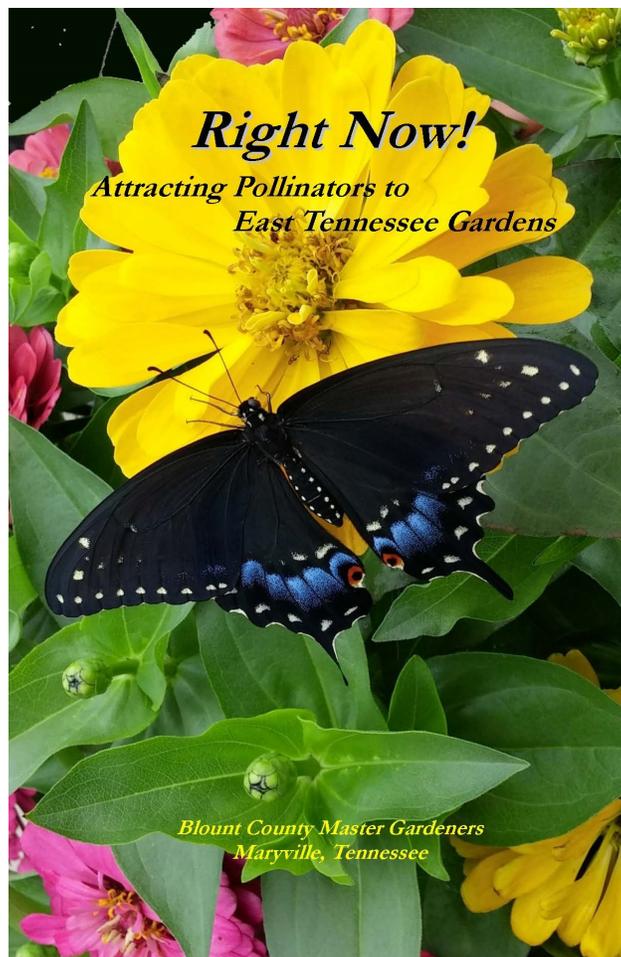
**25-29** Wilderness Wildlife Week, Ramsey Hotel & Convention Center, Pigeon Forge—Free events

**25** *Blount County Master Gardeners Monthly Meeting - 6:30 p.m. at the Blount County Public Library*

## FEBRUARY

**22** *Blount County Master Gardeners Monthly Meeting - 6:30 p.m. at the Blount County Public Library*

***Right Now! Attracting Pollinators to East Tennessee Gardens*** is a publication of the Blount County Master Gardeners, with all articles written by members. It features 81 plant descriptions, about 2/3 of which are native to Tennessee, and photos of all the plants, most taken by members. There is an extensive chart of plants attractive to pollinators, including bloom time and whether the plant is a pollen source, a nectar source, or a host plant for butterfly larvae. Finally, there are website and book recommendations, and native plant, nursery, garden center, and online plant resources. *Right Now!* is available at these locations in Maryville: Agricultural Extension Office, AgCentral Co-op, Out of Eden Garden Center, Salon Nouvelle, Innovative Garden Supply, and Southland Books; in Knoxville at Wild Birds Unlimited and Stanley's Greenhouses; in Townsend at All Good Things Garden Center, and by mail order through the BCMG website, [bcmgtn.org](http://bcmgtn.org).



## Blount County Master Gardeners

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We're on the Web at <http://bcmgtn.org>

Like us on Facebook, too.

***Blount County Master Gardeners (BCMG) is a volunteer service organization with the goal of training volunteers who can provide the public with research-based information on a variety of horticultural topics. It is built upon solid visions, values, and community support.***

