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Tennessee Yards & Neighborhoods

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Gardening Tip #1

August is a great time to get good deals on fall-blooming perennials, like Anemone



Master Gardener Joy Stewart

Preparing Your Own Native Plant Seed Mix

One of my favorite activities is preparing my own native plant seed mix. It is especially fun in late fall when the weather is chilly and all the gardening is over for the season. I can almost pretend that I am a master chef creating a gourmet recipe. I can design the mix to have all the features that I want and to be specifically suited to the site where the seed will be planted.

Selecting Your Seed Source

If you're planting an area of any size, purchasing seed by the packet

(*Anemone*), Swamp sunflowers (*Helianthus*), Goldenrod (*Salidago*), Stonecrop (*Sedum*), and Toad lilies (*Tricyrtis*).

Lots of nurseries and hardware stores will be discounting plants that have not yet been sold.

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## Newsletter Glossary

### Stratification

/strat-uh-fi-key-shuhn/

The process of pretreating seeds to simulate natural winter conditions -- such as periods of cold and moist conditions -- that causes certain seeds to germinate.

### Hydrogel

/hahy-druh-jel/

A substance added to soil that absorbs, holds, and slowly releases water into the soil.

### Milo

/mahy-loh/

A reddish-colored, round grain that is often a major component of inexpensive seed mixes.

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wreaks havoc on your budget. **The best option is finding a nursery that sells seed in bulk.** If possible, it is also good to buy seed as locally as you can so that you are getting seeds adapted to your specific area. Unfortunately, I have found that it is usually not possible to do both because there are relatively few nurseries in the United States that sell native plant seed in bulk.



I rely on four main seed sources, which I can recommend to you. I depend primarily on Prairie Moon Nursery in Winona, Minnesota, whose catalog is an easy-to-read encyclopedia of information about native plant seeds. The company offers almost 500 species of flowers and grasses, which are sold in a range of quantities -- packets, 1/8 oz, 1/4 oz, 1/2 oz, 1 ounce and, 1 pound. There is no minimum order requirement, and the staff are always available by phone to answer your questions. I also use Easyliving Wildflowers of Willow Springs, Missouri; Missouri Wildflower Nursery of Jefferson City, Missouri; Everwilde Farms of northern Wisconsin; and Wildseed Farms of Fredericksburg, Texas. Although these do not have as wide a selection as Prairie Moon, they are very good seed sources with informative websites and/or catalogs.

Selecting Your Plant Species and Seed Quantity

If you want to limit your selection to those that are native to Tennessee, there are some very good resources for determining whether a species is a Tennessee native. These include the USDA Plants Database Web site, the Lady Bird Johnson Wildflower Center Web site, University of Tennessee Herbarium Web site, and the book *Gardening with the Native Plants of Tennessee* by Margie Hunter.

Learning about your plant species is key to a successful garden. Good homework pays big dividends by reducing plant problems and failures. Most of us are not familiar with the wide diversity of native Tennessee plants, and I find that I frequently end up selecting

Gardening Tip #2

Avoid pruning trees and shrubs this late in the season. Cutting back branches can stimulate new growth that will not have time to set before the cold weather hits. If you haven't pruned yet, wait until next spring.

Stay Tuned!

Some of our most valuable lessons come from our failures. Next month, Joy will kindly share these with us along with some of her greatest gardening successes.

Gardening Tip #3

Continue to keep your grass mowed high, especially during the dry season. Taller grass has deeper roots and requires less water to thrive. Deeper root systems also help hold soil in place, which prevents erosion. 2.5" - 3" tall grass is ideal.

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Gardening Tip #4

Photograph your garden to document what has worked and NOT worked for you this year. Then on a cold winter day, analyze the photos to begin mapping out your spring

unfamiliar plant species. I don't know whether they're aggressive, have a prolific germination rate, are weedy, or have other potential problems. But you don't have to be a research scientist to learn about plants -- a good native seed plant catalog often has some of the best information.

It can't be stressed enough to match the plant species to the light, water, and soil conditions at your site. From my experience it is surprisingly easy to get excited about a plant and forget to double-check exactly where you are putting it. It is also easy to think you know your site well, e.g. how many hours of sun it gets and how much rainfall runs across it. Visit the site at different times of the day and during a heavy rain storm to assess the conditions. Check to see if there are variations in different areas of your site; it may have a higher, dry end and a lower, wetter end. When you're selecting plants, most catalogs will provide detailed information about light and water needs, and many native plants thrive in a range of light and moisture conditions.

When you're using a seed catalog from another state, especially one with a significantly different climate, sometimes the cultural information about a species doesn't match that plant's requirements when it is grown in Tennessee. For example, plants that need full sun in Wisconsin may need a little shade when grown in Tennessee, such as cardinal flower. It is helpful to be alert to this possibility. You can also cross-reference information provided in catalogs from native plant nurseries located in Tennessee.



Practical Tips When Determining Seed Quantity

1. **Determine your initial targeted seed quantity for your gardening space.** To determine how many seeds you need for your planting, use a fixed rate of seeds per square ft. This

gameplan!

Plant Spotlight

Gaillardia x grandiflora
'Arizona Sun'



Arizona Sun Blanket Flower

This hybrid from a native plant is compact, 10-12 inches in height, and covered with hot, desert-colored flowers. It is incredibly hardy, tolerating poor soils, heat and cold, and even persevering through droughts -- once it has developed a good root system. Give this plant full sun and it will bloom its heart out from early summer to late fall. And the butterflies will love you for it.

is your target amount. The typical rate of seeding ranges from 50 to 100 seeds per sq ft. You can call your seed supplier, describe what you are planting and ask what seeding rate per sq ft they recommend. However, you may want to adjust your rate based on other factors, as well. This could include input from local seasoned gardeners, ease of germination of the species you are planting, and/or planting conditions (e.g., are you dropping the seed on dead sod or bare soil?).

2. **Check the number of seeds in an ounce.** Seeds per ounce can range from less than 100 to 3,000,000. Successful germination is generally lower with very small seeds and higher with larger seeds. Adjust the number of seeds you order for a specific species based on its seed size.
3. **Check the germination requirements of each species.** Most native plants require a period of pretreatment, such as "dry, cold stratification," which typically means about two months of cold, dry conditions. Most seed companies will have done this for you but ask to be sure. Some seeds may require "cold, moist stratification," or two months of cold, damp exposure -- this you'll have to do yourself. The easiest way to prepare seeds for germination is simply to plant all your seed in late fall or early winter and let Nature do it all for you. Checking the germination requirements will keep you from wasting money and time.
4. **Watch for the "easy" designation in catalogs.** This may be helpful but it may also be a warning sign to cut back on how much you order. Wild bergamot (*Monarda fistulosa*) is a good example. I first used it in my 600- sq-ft rain garden and ordered 1/8 ounce -- 9,100 seeds. It germinated so well that I had to dig up and throw away almost 300 young plants. So for a species designated as "easy," proportionately reduce the number of seeds you order.
5. **As a rule, avoid species with a "caution" label.** This means they're aggressive or rhizomatous. On my very first attempt at a native plant community, a friend warned me that I had selected a helianthus that was very aggressive. My confident response was, "That's fine. The plants can fight it out, and whoever wins is fine with me." I lived to regret that response. A single plant ultimately led me to dig up and remove over 200 well established progeny throughout my planting area before I finally wised up and removed the culprit.
6. **Pay close attention to pricing.** Seed prices can vary dramatically. For example, you can purchase an ounce of little bluestem grass (15,000 seeds) for \$2, or you can purchase 1/8 ounce (190 seeds) of Dwarf blue indigo for \$20. If you're on a budget and trying to diversify your planting, things can add up pretty fast. If a species you want is too expensive, buy a packet and start your seeds in little pots.



Get Serious or Keep it Simple -- You Choose

If you enjoy working with Excel or OpenOffice software, it's fun to use a spreadsheet to tally your species selection and seed quantities. It does the math for you, and a spreadsheet is especially nice if you like to play with different order combinations. You can specify number of seeds per ounce for each species and the size of your order for that species. Then you can experiment with different order sizes, and the formulas will automatically recalculate your seed order. You can also set your total seed target for your total area and keep a running comparison of total seeds selected versus number of seeds needed. However, if spreadsheets give you the hives, they certainly are not essential.

When you're finished compiling your list, you can call your seed supplier and ask someone to walk through your list with you and see if they spot any potential problems. Nurseries have knowledgeable staff that can help you.

Don't let all these guidelines fool you. This process is not a science, and the goal is to do it your way. If all this sounds like anything but fun, you can always order a prepared seed mix. Most native seed nurseries have prepared mixes designed for specific types of sites. Or you can have the best of both worlds-order a prepared seed mix and order a few extra species to add to the mix to personalize it.

Survival Tips for Summer Containers



Beth Babbitt

As the summer starts to really sizzle, so do our container gardens. If you water your container in the morning and it's wilted by late afternoon, don't fret. We have compiled some simple tips to help you keep your container hydrated during the day and even while being away for a few days.

Before planting:

1. Add a hydrogel (drought crystals) to container media before planting. Thoroughly wet the soil media before planting.
2. Make sure you have more "soil water" available for your plants by using a larger container.
3. Use half the ratio of liquid fertilizer or use a slow-release fertilizer.
4. For each container, choose plants that have similar water requirements. Drought-tolerant plants may not always be the best choice for containers if the soil stays too wet during part of the growing season. Consider plants that can tolerate both wet and dry periods.
5. Space plant material adequately; don't overplant the container unless you want an instant garden. Overplanting causes plants to compete for water and nutrients. You can remove a plant later as the container becomes more crowded.
6. Don't overfill the container with soil. After watering and the soil settles, you should have 2-3 inches below the rim. This will allow you to add more soil or mulch as the summer heats up.

After-planting care and maintenance:

1. Never allow containers to completely dry out. Peat moss has a wetting agent that, when dry, is very difficult to rewet. Use your finger to check the soil moisture in the top 4 inches.
2. Cover the surface of the soil with a couple of layers of newspaper (cut to containers shape) and 2-3 inches of fine pine bark mulch.
3. Increase the container



Fauna Spotlight

Northern Mockingbird



Tennessee's state bird, the northern mockingbird, is arguably the most accomplished songster. A mature male (over five or six years old) may know over 200 song phrases. In fact, the males with the largest repertoires are most successful at attracting mates in the spring. To lure mockingbirds to your yard, plant native berry-producing trees and shrubs like beautyberry, American holly, dogwood and serviceberry.

Ruby-throated Hummingbird



Everyone's favorite feathered pixie, the ruby-throated hummingbird sips nectar and eats small insects they find on flowers. But since each flower only gives them a sip, they have to fly from flower to flower to

size and add more soil if plants continue to wilt after a morning watering.

Before you leave for a trip:

1. Consider adding a drip source of water for extended absences. Poke holes the size of BBs in the bottom of a milk jug. Place the jug next to the plant. Use another jug to fill it with water during a long dry spell. You may want to put pebbles in the bottom of the container to keep it from blowing away.
2. Saucers should be placed under containers to create a reservoir and allow dried soils media to rehydrate. (Be aware that standing water is the perfect breeding ground for mosquitoes.)
3. Consider moving the container to a cooler location (part sun or heat protected).
4. You can recycle water by irrigating your outdoor plants with your bath or dish water. "Before you pull the plug . . . fill the jug!"

Ms. Babbitt is an Urban Horticulture Area Specialist and the State Master Gardener Coordinator at the University of Tennessee Extension

Backyard Birds Need Your Help in Summer



Lyn Bales

Summer can be a difficult time for birds. Most of the nesting is over, but this means your backyard is filled with young birds just learning how to take care of themselves. Parent birds teach their fledglings the basics -- where to find food and water, where to roost, and how to communicate. But after this brief tutorial ends, the immature birds are on their own.

A single pair of Carolina wrens may produce three clutches per year, so your backyard wren population swells by midsummer. The same is true for chickadees, titmice, cardinals, and the other species. There are usually plenty of insects and spiders for birds to eat, but natural seed and berry crops are not quite ripe yet, so keeping at least one seed feeder is important. This reliable food source also keeps birds loyal to your yard.

The heat of summer and days without rain mean birds are constantly looking for fresh water. Birdbaths and water features are bird magnets. Water features usually have a trickle that ripples the surface thus preventing mosquitoes from laying eggs. But even a simple shallow pan, emptied and refilled every other day, will be mosquito-free and provide birds with necessary water.

flower to get a belly full, passing along the plant's pollen as they go. To attract them to your yard, plant red native flowers like trumpet creeper, beebalm, crossvine and trumpet honeysuckle.

A hummingbird feeder actually attracts more birds July through September than it does in spring simply because of all the new immature hummers buzzing around looking for a sweet sip of sugar water. But be mindful, the summer heat sours the imitation nectar quicker. Check it daily, and if it looks cloudy, replace it with fresh nectar.

Tips:

- Keep at least one seed feeder filled. Use sunflower seeds or a good mix - one without milo. It's only a filler seed and has poor nutritional value.
- Birdbaths or water features are a must.
- A spray or mister attracts birds that need to cool off or take a shower.
- Keep hummingbird feeders clean and filled.
- Mix hummingbird sugar water four parts water to one part sugar.

Stephen Lyn Bales is senior naturalist at Ijams Nature Center and author of *Natural Histories* and *Ghost Birds* by UT Press. Visit his blog: nature calling at <http://stephenlynbales.blogspot.com>.

Q & A with the TYN Advisory Board



Robert Karesh has worked for the Tennessee Department of Environment and Conservation for six years under the Division of Water Pollution Control, managing its Stormwater Program.

Q. As TDEC's Stormwater Coordinator, what role do you play in helping to clean up our state's Waterbodies?

A. As the statewide stormwater coordinator, I help protect and improve state waters by providing technical assistance to entities like municipalities that must comply with the Clean Water Act's stormwater regulations. That often requires helping local stormwater programs understand the intricacies of these regulations so they can then apply these to create effective initiatives that minimize Tennessee's stormwater pollution. As you would speculate, enforcement also comes with the job, but I like to think of myself as a motivator as well, encouraging others to meet the spirit of the law, just not the letter.

Q. How would you describe the current conditions of Tennessee's

waterways?

A. Over half of the stream miles and almost all the large reservoirs in Tennessee have been monitored and assessed. About 58% of assessed streams and 68% of assessed reservoir are found to be healthy. The remaining assessed waterbodies are considered impaired, or unhealthy, to some degree.

Q. What are the most common causes of water pollution?

A. Once it has been determined that a waterbody is impaired, it is necessary to determine what the pollutant is (cause) and where it is coming from (source). The most common causes of pollution are sediment, habitat alteration, pathogens and nutrients. The main sources of these pollutants are both regulated and unregulated, and include municipal and industrial dischargers, construction activities, agricultural activities, and overall watershed alterations.

Q. Taking into consideration total pollutant input into our waterbodies from industry to agriculture, how significant would you say stormwater pollution is from Tennessee's residential areas?

A. In general, the quality of point source discharges (i.e. wastewater treatment plants and industrial dischargers) have improved such that they are no longer the primary sources of stream pollution. We've found that the remaining pollution is due to the cumulative effect of unregulated non-point source stormwater discharges. Examples include agriculture and residential stormwater runoff contaminated by fertilizers and animal waste.

Q. Knowing the many stormwater contaminants that can come from a household, in your professional judgment, which have had the greatest impacts on Tennessee's waterways?

A. Homeowners can unintentionally harm water quality by misusing lawn fertilizers and herbicides, improperly disposing of household chemicals and yard waste, and failing to collect pet waste. Homeowners can also harm water quality by removing trees and vegetation along the stream banks, or by directly connecting roof drains or other impervious areas to a stream, which results in stream bank erosion and instability.

Q. What actions can the homeowner take to reduce or eliminate these contaminants?

A. Homeowners can protect water quality by following the manufacturer's directions for lawn fertilizers and herbicides, picking up pet waste, and protecting and enhancing natural streamside vegetation that include a combination of trees, shrubs and grasses.

Q. As a TYN homeowner, we encourage individuals to find out more about the conditions of their local waterways. What is the best way for them to go about finding out this information?

A. TYN homeowners can find out more information about the conditions of their local waterways by visiting TDEC's interactive map website at: <http://www.tn.gov/environment/gis/>. Information may also be found in two state reports. The "305B" report provides an overview of the health of Tennessee's waterbodies and is provided to Congress every two years. In contrast, the "303d" list provides a list of waterbodies that do not meet their "designated uses" (e.g., fishable and swimmable) because of their degraded conditions. This list identifies how each waterbody has been impacted.

- [2010 305B Water Quality Status report](#)
- [303d Impaired Waterway list](#)

See ya' next month!

Thanks so much for reading! Check back in with us next month for details on our new projects and more tips on achieving a healthy home landscape!

Until then, follow us on Facebook! 

Keep in Touch!

Ruth Anne Hanahan & Dr. Andrea Ludwig

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