CONVERSATIONS
FROM THE DIRECTOR

Happy Spring from your State Botanical Garden!

It’s hard to believe, but this year we celebrate the thirty-fifth anniversary of the UT Gardens! In 1983, Doug Crater, professor and head of what was then known as the Department of Ornamental Horticulture and Landscape Design, initiated the planting of the first annual flower trials in Knoxville. It is truly amazing to see how those trials have bloomed into the Gardens we know today.

Two of our Gardens now have an outdoor pavilion and classroom to support their educational programming and special events. The staff has grown as well at two locations thanks to increased support in revenues, memberships, and gifts. And two of the Gardens have established endowments designed to secure their financial future. These milestones didn’t happen in isolation. Many people worked passionately and tirelessly to grow these horticultural resources.

If you’re looking for new, interesting, and proven plants for your own garden, be sure to check out the “Best and Beautiful” listing in this issue. These plants have proven their performance in our Gardens across the state, and you can feel confident that these plants are good investments for your own home garden and landscape. Be sure to check our Gardens’ websites for plant sale dates, educational programming, and special events.

Finally, I want to take the opportunity to thank all of you who so generously support the UT Gardens. I hope you will join me in cultivating that bright future by continuing your membership with the Gardens and, if possible, supporting the Gardens at a higher financial level, attending our special events and educational programs, volunteering, and visiting us frequently. Together we will continue to grow.

I look forward to seeing you in the UT Gardens!

Sue Hamilton, PhD
Director, UT Gardens

ON THE COVER
Helianthus annus, sunflower
The Botanical Photography of Alan S. Heilman, copyright Alan S. Heilman.

KNOXVILLE INTERNs
Seth Davidson, Jason Miller, Morgan Cox, Cyna Gehring, Lydia Harrison

CROSSVILLE INTERN
Brianah Castleberry

JACKSON INTERN
Matthew Davis

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SPECIAL THANKS
The faculty and staff of the UT Gardens would like to thank the hundreds of volunteers, members, and supporters in Jackson, Crossville, and Knoxville who continue to help our UT Gardens grow.
Are you looking to add a unique plant to your summer garden that blooms all season, loves hot sun, attracts pollinators, and is easy to grow? Is there even such a plant? Well, yes! And it is *Celosia spicata*, or wheat celosia, as it is commonly called.

Wheat celosia is a summer annual flower which blooms prolifically from May until frost. As the common name suggests, the velvety flower spikes look like those of wheat. Numerous varieties varying in height and color are on the market. Height can range from 8 inches to 5 feet tall, and colors range from soft pink to hot pink, white, and red.

Wheat celosia is grown easily from seed and can be started indoors eight to ten weeks before the last frost. It also can be sown directly in your garden after danger of frost has passed. This plant gives off an abundance of seeds and is a perfect choice for seed saving or as a pass-along plant to friends. It’s not unusual to have volunteer seedlings in your garden from the previous year’s plants.

Thought to have originated from Africa, it’s no surprise this plant craves full sun and heat, although it does require adequate moisture until it is established. For best performance, pinch back the first few flowers for a bushier plant and more blooms. *Celosia spicata* makes a great cut flower and dries well for use as an everlasting. To dry, simply bundle five to ten stems with a rubber band and hang upside down in a cool, dry room with good ventilation.

*Celosia spicata* is the perfect, easy-to-grow, summer-blooming annual that pretty much any gardener, regardless of skill, can grow. Try adding it to your garden this year for a striking look.

**CHOICE VARIETIES**

- ‘Flamingo Feather’ Series
  - 3 feet tall, silver-white flowers tipped in either pink or purple
- ‘Asian Garden’
  - 3½ feet tall, magenta
  - 2017 AAS Winner
- ‘Pink Candle’
  - 3 feet tall, silver with pink tips
- ‘Startrek Rose Pink’
  - 4 feet tall, dark rose pink
- ‘Celway Rose Pink’
  - 5 feet tall, rose pink
- ‘Kosmo Purple Red’
  - 8 inches tall, dark rose
- ‘Spiky Pink’
  - 1 foot tall, pink
- ‘Kelos Purple’
  - 14 inches tall, pink with magenta tips
- ‘Cramer’s Hi-Z’
  - 3 feet tall, magenta
- ‘Enterprise Dark Pink’
  - 1 foot tall, dark pink
- ‘Enterprise White’
  - 3 feet tall, white/pale yellow
- ‘Punky Red’
  - 3 feet tall, dark red/magenta
If there’s anyone reading who searched for rare and unusual plants in the late 1980s and 90s, you probably have fond memories of Heronswood Nursery. It was established by Dan Hinkley and Robert Jones in 1987, on 15 acres in Kingston, Washington. It was the place to find rare plants grown from seed, many introduced by Hinkley himself from his expeditions to remote regions of the world. If you are not familiar with Hinkley, he’s the equivalent of a rock star in the horticultural world—a noted plant explorer, consultant, nurseryman, naturalist, gardener, lecturer, and author. He also has his own brand of plants through Monrovia, the Dan Hinkley Plant Collection.

The nursery included a woodland garden and was considered one of the most stunning in America. It was filled with exotic forest-floor plants that visitors travelled from near and far to see. It popularized woodland plants such as *Arisaema* (Jack-in-the-pulpit) and *Podophyllum* (mayapple). The garden showcased an impressive collection of trees, shrubs, vines, and perennials and was recognized internationally for its environmentally friendly and creative use of plants and garden design.

The nursery, along with the garden, was sold in 2000, then shuttered in 2006. The garden went through a long period of neglect, and it seemed it would be forever lost. Then, in 2012, the Port Gamble S’Klallam Tribe purchased Heronswood with a commitment to restoring the garden, and the doors were opened to the public. The Tribe appointed Hinkley director, and under his leadership the garden is again exceptional.

Many of the original garden plants have been recovered, and rarities collected by Hinkley on his explorations to China, Vietnam, Tasmania, and other remote locations around the globe have been added.

I had the great fortune of visiting Heronswood in 2017. One of the most striking elements that caught my attention was the arched hedge of European Hornbeam (*Carpinus betulus* ‘Fastigiata’) used to create the walls of other garden rooms. A breathtaking blue and yellow border used a semicircle of golden Monterey cypress as a backdrop, while the shrubs, vines, grasses, and perennials offered color; in it, *Hakonechloa macra* ‘Aureola’, was the only plant repeated. There was a potager, arbor beds, and beauty everywhere your eyes could see.

The current staff of Heronswood and the Port Gamble S’Klallam Foundation, not wishing to recreate a monument to the past, are devoted to making a new Heronswood with greater sparkle and botanical fascination than before, and once again, it’s attracting visitors both locally and worldwide. The staff recommends you plan your visit in advance as access to the garden is limited to prescheduled dates and times. Specialty plant and vendor sales happen often, so be ready to shop!

I always felt fortunate to have seen Heronswood the first time, and I never thought that I’d see it again once it closed. I’ve asked myself more than once if it was better the second time than the first, and I believe that it is. It’s one of those rare, extraordinary garden gems that leaves a footprint in your memory and makes you want to go back to visit again.

If you find yourself in the Pacific Northwest, make sure it’s on your itinerary!
MY FAVORITE THINGS

Fall-Blooming Hardy Camellias

Jason Reeves, UT Gardens, Jackson, Research Horticulturist

When most people think of camellias they think of the Deep South. New Orleans, Mobile, Savannah, and Charleston come to mind. Camellias are famous for lustrous, evergreen foliage, opulent colorful flowers, and a lack of winter hardiness. An estimated 30,000 cultivars exist worldwide, but only a small fraction of that number is winter hardy in Tennessee. William Ackerman, former president of the Camellia Society of the Potomac Valley who served as a research horticulturist at the US National Arboretum in Washington, DC, led the way in hybridizing for cold hardiness in the ‘80s and ‘90s. He introduced approximately forty cultivars for reliable winter hardiness as far north as zone 6. His hybrids are divided into two groups: fall blooming and late winter/early spring blooming.

The fall bloomers provide a much needed burst of color just as the growing season is winding down. Bloom time depends on cultivar. Some flower as early as September, with others blooming right up to Christmas. Flowering typically last four to six weeks. Some of Ackerman’s noteworthy fall selections include ‘Ashton’s Supreme’, ‘Frost Prince’, ‘Frost Princess’, ‘Polar Ice’, and the ‘Winter’ series, ‘Ashton’s Ballet’, ‘Snow Flurry’, and ‘Winter’s Star’ have been exceptional performers.

‘Ashton’s Ballet’ is vigorous, dense, and upright; it grows 10 to 12 feet tall and two-thirds as wide in ten years. The 3-inch double, medium-pink flowers have approximately thirty petals with pale yellow anthers. Listed as hardy to zone 6a, it has survived to 17 degrees below 0.

‘Snow Flurry’ produces an abundance of pure white flowers of twelve petals, with a prominent center of petaloids (small petals) in October/November. A moderate grower, it has a graceful, arching habit, reaching 5 feet tall and nearly as wide in ten years.

‘Winter’s Star’ may not be the showiest of the Ackerman hybrids, but it is more readily available and has stood the test of time. In October and November it puts on a show with its violet-pink, 2 ½- to 3 ½-inch flowers of six petals. Adding to its appeal, the center of each is adorned with bushy yellow stamens. The upright, open grower reaches 6 to 7 feet tall and two-thirds as wide in ten years. Its more open growth habit lends itself to placement as an espalier against a wall. A north- or east-facing wall is ideal, but it can be grown on a south or west wall with protection from hot afternoon sun.

Hardy camellias are best planted in spring and summer, giving them time to become established before winter. They perform best in well-drained, moist, slightly acidic soil and are drought tolerant once established. Camellias prefer some shade, although many will tolerate full sun when other conditions are good. The north or east side of a structure or the dappled shade of pine trees is ideal. Protection from winter winds is helpful. They can be grown as foundation plantings, in a woodland border, or as a specimen. Bigleaf, oakleaf, and smooth hydrangeas (H. macrophylla, H. quercifolia, and H. arborescens) enjoy similar growing conditions and combine beautifully. These hydrangeas flower in late spring and early summer, so as these plants begin shutting down, fall-blooming camellias kick in.

Thanks to the National Arboretum and Ackerman, camellias are available that thrive in all but the highest elevations of Tennessee. Look for hardy cultivars at the UT Gardens Plant Sales or at your local garden center.

ABOVE: ‘Snow Flurry’ Camellia
Spring and summer are the best times to visit the UT Gardens, Crossville, so let's go on a tour! First, let's visit the birdhouse information box to grab a copy of a self-guided walking tour brochure and head out for a walk.

I have loved daylilies since I visited my first daylily garden in New England. I have forgotten the name of the place but I still remember the beautiful colors and varieties of the blooms. So, I am heading for Bed 22 on the guide—daylilies!

We also can check out these eastern Redbuds. These were part of a research trial (2009–2015). The most successful are on view here (along with more in Bed 15) on the west side of the Gardens.

Here we are with my favorites. They were planted in 2014, and it looks like it is time to divide and transplant! Perhaps this is the time to dig some up for our annual plant sale.
Which is my favorite? This one called Wolf Eyes, maybe . . .

I like this one, too. It is called Tropical Depression, I think. I am going with Tropical Depression for my favorite; it has kind of a funky look that suits me today.

Which way next? How about we take this grassy path up the hill between those Redbuds and the ornamental grasses? Oh, you have to leave already? When can we meet out here again? The Gardens are open 365 days a year during daylight hours . . . just let me know.
1. The Cornelia B. Holland Tranquility Garden has over 500 varieties of hosta, is one of the largest public displays in the Southeast, and is sanctioned by the American Hosta Society as a demonstration garden.

2. US Secretary of Agriculture Sonny Perdue visited the UT Institute of Agriculture and toured the UT Gardens in Knoxville for Ag Day 2017. Gardens intern Cyna Gehring is pictured here relating to Perdue and Gardens director Sue Hamilton how working here has provided her with valuable experience that enhanced her education.

3. The American Conifer Society has accredited the UT Gardens, Knoxville, as a conifer reference garden because of its outstanding collection of conifers that provide year-round interest. Pictured from front to back are a ‘Saybrook Gold’ and ‘Holbert’ junipers, Cryptomeria Japanese cedar, Arizona blue cypress, Taxodium ascendens pond cypress, and Cunninghamia.

4. We tapped into a new audience with one of our new fall fundraising events — “Beer (in the) Garden.” Local craft beer brewers offered tastings of their selections while participants enjoyed live music and a pleasant evening in the UT Gardens.

5. Our fourth annual Howl-o-ween Pooch Parade and Pet Expo was frightfully successful. Over thirty dog rescue groups and pet product vendors staffed information booths, food trucks provided tasty fare, and the pet costume parade was fun for both participants and spectators.
1. If you’re looking to improve your lawn this season, you may want to stop by the Turf Wheel at the UT Gardens, Jackson. This circle of sod features fourteen different turfgrass varieties. Choosing a lawn grass will be easier when you can see and feel the difference.

2. The Summer Celebration Lawn and Garden Show is Thursday, July 12, from 9 a.m. to 5 p.m. A favorite feature for many guests is the Plant and Pest Diagnostic Center. Have a sick-looking plant or an insect that needs to be identified? University experts will do it. Free soil testing, too.

3. The Spring Plant Sale was Saturday, May 5, from 7 a.m. to noon. Due to ongoing construction and limited space, the sale was split between two locations—the West Tennessee AgResearch and Education Center and the UT-TSU Extension Madison County office. Go to west.tennessee.edu for information on future plant sales.

4. Southern Living has described the Chinese snowball Viburnum macrocephalum as “spring’s most elegant flowering shrub.” This viburnum is certainly a standout in our Gardens from April to May. If you’re planning to visit soon, look for this showstopper north of the main parking area near the Big House.
Learn with Us

The UT Gardens—in Knoxville, Crossville, and Jackson—offers a number of ways to learn about the world around us. Join us for tours, lectures, workshops, plant sales, and special events suitable for all ages throughout the year.

UT GARDENS, KNOXVILLE
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TINY.UTK.EDU/UTGARDENSCROSSVILLE

UT GARDENS, JACKSON
WEST.TENNESSEE.EDU/ORNAMENTALS
TINY.UTK.EDU/UTGARDENSJACKSON

KNOXVILLE
Plan now for the many classes, workshops, and events offered in the UT Gardens, Knoxville. All events require preregistration. Visit utgardens.tennessee.edu to learn more. Knoxville is located in the Eastern Time Zone, and event times are listed accordingly online.

CROSSVILLE
Classes and events are held at the UT Plateau AgResearch and Education Center in Crossville. Visit ag.tennessee.edu/plateaugardens regularly for an updated list of happenings, or email ccmgnews@gmail.com to receive email updates. Registration is required for all classes. You may register in person at the AgResearch and Education Center office, or by phone/email to Jennifer Burns at 931-484-0034, jburns35@utk.edu. Crossville is located in the Central Time Zone, and class times are listed accordingly online.

JACKSON
For more information regarding events, visit west.tennessee.edu or call 731-424-1643. Jackson is located in the Central Time Zone, and event times are listed accordingly online.

Photo by Alan S. Heilman
The arborvitae leafminer (ALM) is a native pest of eastern arborvitae (Thuja occidentalis L.). This pest is common in eastern Canada and the US, generally as far south as Maryland and west to Missouri. The browned foliage does not resemble typical leafminer damage and can be confused with winter injury.

In the last few years, we have received ALM samples from Knox, Sullivan, McMinn, Blount, Claiborne, Cumberland, and Davidson Counties at the UT Soil, Plant and Pest Center in Nashville. It appears that ALM is expanding its range within the state and it can be a pest of arborvitae in the nursery and landscape.

The tiny, slender moths are 3/16 inches long with a wingspan of 5/16 of an inch. The wings are silvery white with brown markings. In the spring, if you suspect that you have ALM, shake the foliage in late April to May to detect the tiny glittering moths. Also, examine the foliage for minute, round exit holes through which the moths emerge in the spring. If exit holes and moths are found, spray the foliage with a recommended insecticide (extension.tennessee.edu/publications/Documents/PB1690.pdf).

The browned foliage can be examined under a dissecting microscope for the presence of ALM. If the pest and damage are detected in the fall through winter, a soil drench application of a recommended systemic insecticide can be made in March to April.

A good cultural practice in the fall through early spring is to shear off brown infested foliage into a trash bag and dispose of the plant material offsite.
If you read Tolkien, The Hidden Life of Trees: What They Feel, How They Communicate (Vancouver/Berkeley: Greystone Books, 2016) by Peter Wohlleben will surely cast your mind back to the Ents. Like Tolkien, the author loves trees and forests, and his trees are nonfiction. Wohlleben trained as a forester, worked many years in the industry, and, for the last twenty-some years, has managed a forest in the Eifel Mountains near Hummel, Germany. For him, there was a truly wonderful transformation from the commercial optimization of lumber to forest ecology.

The Hidden Life is a small book, 246 pages of text divided into 36 chapters, and it is full of ideas that could well spark a re-examination of traditional attitudes and concepts. In simple, everyday language, Wohlleben makes the case that trees compete, cooperate, communicate, form alliances, nurture the young and the ill, and form symbiotic communities in the forest. He stops a scant inch short of claiming they are intelligent beings.

Rest assured, there are no tree spirits; the author is a scientist, not a folklorist. Evidence is presented with facts gleaned from years of close observation and buttressed with research reported in reputable sources such as Nature, New Phytologist, and MaxPlanckResearch. Readers will learn a good deal about that “one giant root ball” gardeners talk about, no joke, and perhaps develop an appreciation for the fungal network at root tips. (Will we ever be able to dig through roots so ruthlessly, again?) “Network” is a key word underlying the forest, the book and, yes, life on Earth. The title of the last chapter, “More Than a Commodity,” is an apt coda. The Songs of Trees: Stories From Nature’s Great Connectors by David George Haskell (New York: Viking, 2017) is written from a different perspective, but it, too, is about the life, death, and worth of trees. Haskell, a professor of biology at the University of the South and a Pulitzer Prize finalist for The Forest Unseen: A Year’s Watch in Nature (2012), spent two years making repeat visits to twelve specially chosen trees in varied environments and countries. He ranged far afield, physically and metaphorically, in the United States, Canada, Scotland, Ecuador, Israel, and Japan. From a giant ceibo (Ceiba pentandra) to a 500-year-old bonsai pine survivor of Hiroshima, all are part of the same global network of interconnected forests.

Trees matter. The two authors are preaching from the same book, albeit each from a different page. Wohlleben would surely second Haskell’s prefatory note (page x), “Our ethic must therefore be one of belonging, made all the more urgent by the many ways that human actions are fraying, rewiring, and severing biological networks worldwide. To listen to trees, nature’s great connectors, is therefore to learn how to [join] relationships that give life its source, substance, and beauty.” I’m guessing that Peter Wohlleben, the forest advocate, might add a reassuring reminder that trees do things very s-l-o-w-l-y, but surely, and that they live for hundreds, even thousands of years.

Both books will give you food for thought. They are available in area libraries.
Plants are the basis for all great intoxicating beverages of the world. From rice wine in ancient China to the modern American trend of microbrewed ales, humans have been tinkering with the process of combining yeast and plant-based sugars to create fermented delights for thousands of years.

Once the alcohol is formed as a byproduct of fermentation, it can be distilled down to an even stronger form that we know as liquor. For most distilled spirits, the flavors of the original sugar source are lost during the concentration process. At this point, plants are turned to once again, but this time to emphasize their flavor compounds. Whiskey, for example, is made from rye, barley, wheat, or corn, but the majority of the flavor develops as the liquid ages in oak barrels. The chemical properties of oak provide flavors of vanilla, buttery coconut, and even hints of fruit. Vodka, which most often is made from grains but also can be made from potatoes or even grapes, is generally distilled to a point of purity that is devoid of flavor. This makes it a wonderful base for all kinds of creative concoctions.

If you are interested in delving deeper into the world of masterfully constructed libations and craft cocktails but aren’t ready to commit to a complete home distillery, a great place to start is with a little botanical mixology. Adding fresh, pure ingredients from your garden or local farmers market can elevate your cocktail hour to tantalizing new heights. One key to integrating those fresh flavors into your drink is to use a muddler. This small wooden club is used to combine ingredients in the bottom of the glass before you add liquid or ice. Muddling intensifies flavors by releasing the essential oils and flavor compounds that may otherwise stay locked up. The goal isn’t to completely obliterate your ingredients but to gently mash them just enough to release the flavors you want. Overworking them can bring out grassy or bitter flavors. When strawberries come into season this year, try muddling them with basil leaves and honey, and then add gin, club soda, and lime for a delicious summertime concoction.

Alcohol infusion is another technique worth trying. This is done by soaking different botanical elements in distilled spirits. You simply add the fruit, herb, or spice to the liquor; let it soak; and then strain. The alcohol extracts the flavors and you are left with all-natural, custom-flavored liquor. Soaking times will vary according to the ingredients. Vanilla beans can be left to infuse for weeks, but other spices may become bitter if left for too long. As long as you efficiently strain out all the bits and pieces, your product should last for the same length of time as the original liquor. For a spicy twist on a vodka tonic, start with fresh, ginger-infused vodka. The warm, earthy ginger adds depth and complexity to create a truly satisfying beverage.

You can also make infused syrups, small batch bitters, fruit, and fancy edible garnishes. There is a whole world of garden-fresh artisanal drinks just waiting to be discovered. Want to learn more? The Drunken Botanist, by Amy Stewart, is a great read with lots of great plant information and over fifty recipes.
2017

BEST & BEAUTIFUL

Prepared by UT Gardens Staff
Susan Hamilton, Director
Holly Jones, Kitchen Garden Manager, Knoxville
James Newburn, Assistant Director, Knoxville

Andy Pulte, Senior Lecturer, UT Department of Plant Sciences
Beth Willis, Trials Webmaster
Osteospermum: Bright Lights Moonglow—Proven Winners; ‘Akila White Daisy’—PanAmerican

Pelargonium (Geranium): ‘Pinto Premium White’—Syngenta

Petunia: new Supertunia Vista Fuchsia—Proven Winners; Supertunia Lovie Dovie—Proven Winners; Supertunia Vista Bubblegum—Proven Winners; Supertunia Bordeaux—Proven Winners; TriTunia Rose Star—Syngenta; ‘Red Velour’—PanAmerican; new Headliner Banana Cherry Swirl—Selecta; new Headliner Blueberry Swirl—Selecta

Phlox: new Intensia White

Thunbergia: A-Peel series (Lemon, Orange, Tangerine Slice) —Proven Winners

Torenia: ‘Kauai Lemon Drop’—PanAmerican

Verbena: Superbena Violet Ice—Proven Winners

Vinca: ‘Vitesse Peppermint’—Floranova; ‘Titan Polka Dot’ PanAmerican

Zinnia: ‘Giant Coral’—Benary

PROMISING AND PROVEN PERENNIALS

Calamintha nepeta ‘Marvelette Blue’—Marvelette Blue calamint

Dianthus ‘Kahori’—Kahori hardy pink

Echinacea purpurea ‘Feeling Pink’—Feeling Pink purple coneflower

Eucomis ‘Sparkling Burgundy’—Sparkling Burgundy Pineapple Lily

Euphorbia x martinii ‘Ascot Rainbow’—Ascot Rainbow Spurge

Fartgugium japonicum ‘Giganteum’—Giant Leopard Plant

Muhlenbergia capillaris ‘White Cloud’—White Cloud muhly grass

Muscari comosum ‘Plumosum’—grape hyacinth, tassel hyacinth

Penstemon x mexicali ‘Red Rocks’—Red Rocks beardtongue

Phlox hybrid ‘Wanda’—Wanda Phlox

BEST IN SHOW

NEW Coleus Flamethrower Salsa Verde—Ball Floraplant

TOP SEED CULTIVAR

NEW Capsicum Ornamental Pepper Midnight Fire —PanAmerican Seed

TOP ROOTED CUTTING VARIETIES

NEW Salvia Rockin’ Playin’ the Blues—Proven Winners

TOP SERIES

Begonia Whopper—Ball Seed

Canna Toucan—Proven Winners

NEW Pentas Lucky Star—PanAmerican

TRIED AND TRUE

Zinnia ‘Zahara’ series—PanAmerican

Zinnia ‘Profusion’ series—Sakata

AWESOME ANNUALS

Alternanthera: new ‘Purple Prince’—PanAmerican; Plum Dandy—Proven Winners

Begonia: new Megawatt series (Red Bronze Leaf, Rose Bronze Leaf, Pink Bronze Leaf)—PanAmerican; ‘Big Rose Bronze Leaf’—Benary Seed; ‘Senator Rose Bicolor’—Sakata

Calendula: Lady Godiva Orange

Canna: “South Pacific Scarlet”—American Takii; Cannova ‘Orange Shade’—Ball Seed; Tropical Bronze Scarlet—Takii

Celosia: new Twisted series (Yellow, Orange, Red Improved)—Ball Ingenuity

Colocasia: Royal Hawaiian Aloha—Proven Winners

Corn (Ornamental): ‘Field of Dreams’—Floranova

Dahlia: Dahlightful Crushed Crimson—Proven Winners; Dahlightful Tupelo Honey—Proven Winners; Dalaya Yellow 18

Guara: ‘Sparkle White’—Kefit Seed

Hypoestes: Hippo series (Rose, Red)—Proven Winners

Lantana: Luscious Royal Cosmo—Proven Winner

Osteospermum: Bright Lights Moonglow—Proven Winners; ‘Akila White Daisy’—PanAmerican

Pelargonium (Geranium): ‘Pinto Premium White’—Syngenta

Petunia: new Supertunia Vista Fuchsia—Proven Winners; Supertunia Lovie Dovie—Proven Winners; Supertunia Vista Bubblegum—Proven Winners; Supertunia Bordeaux—Proven Winners; TriTunia Rose Star—Syngenta; ‘Red Velour’—PanAmerican; new Headliner Banana Cherry Swirl—Selecta; new Headliner Blueberry Swirl—Selecta

Phlox: new Intensia White

Thunbergia: A-Peel series (Lemon, Orange, Tangerine Slice) —Proven Winners

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Vinca: ‘Vitesse Peppermint’—Floranova; ‘Titan Polka Dot’ PanAmerican

Zinnia: ‘Giant Coral’—Benary

PROMISING AND PROVEN PERENNIALS

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Dianthus ‘Kahori’—Kahori hardy pink

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Penstemon x mexicali ‘Red Rocks’—Red Rocks beardtongue

Phlox hybrid ‘Wanda’—Wanda Phlox

TREMENDOUS TREES AND SHRUBS

Abelia x grandiflora ‘Rose Creek’—Rose Creek glossy abelia

Acer palmatum ‘Tsukasa Silhouette’—Tsukasa Silhouette Japanese Maple

Buddleia x—Lo & Behold ‘Blue Chip Jr.’ butterfly bush

Callicarpa americana—American beautyberry

Cornus sanguinea ‘Cato’—Artic Sun twig dogwood

Hibiscus syriacus ‘Gandini Santiago’—Purple Pillar rose-of-Sharon

Hydrangea paniculata ‘Little Lime’—Little Lime hydrangea

Juniperus virginiana ‘Taylor’—Taylor juniper

Spirea japonica ‘NCSX1’—Double Play Candy Corn spirea

INCREDIBLE EDIBLES

Basil: ‘Pesto Perpetuo’, ‘Purple Ball’—NARIC Fruitculture

Calendula: Lady Godiva Orange

Lavender: ‘Bandera Purple’

Mizuna: ‘Red Kingdom’

Pepper: ‘Candy Cane Red’—PanAmerican Seed

When shipments of plant material for research trials arrive unexpectedly at the UT Gardens, Jackson, Jason Reeves never flinches. Even though these cuttings need to be quickly transplanted in the greenhouse and even though there are about a million other things to do around the grounds, Reeves calls on a trusty volunteer who helps out at a moment’s notice—Virginia Stewart.

Virginia, a retired administrative assistant from the West Tennessee AgResearch and Education Center, is one of the first people Jason will call when an urgent project pops up. No matter the time or day, he can count on Virginia to show up right away. Once she arrives, she brings her best effort, requiring little instruction or oversight.

Virginia is also Jason’s go-to volunteer for greenhouse transplanting. In the past three years, she’s logged more than 350 volunteer hours transplanting seedlings and rooted cuttings. Her energy, commitment, and passion for the UT Gardens, Jackson, are positively inspiring.

Thank you, Virginia, for all your contributions to the Gardens and for exemplifying a true volunteer spirit.
Knoxville
Beth Willis, UT Gardens, Knoxville, Membership & Volunteer Coordinator

Eighty new and veteran volunteers joined UT Gardens, Knoxville, staff on February 21 at our annual Volunteer Appreciation and Kickoff Luncheon. The Gardens recognized two extraordinary volunteers: Kathy Thomas was the 2017 Volunteer of the Year for her tireless work during all seasons, and P.J. Snodgrass (pictured with Gardens assistant director James Newburn) was named the 2018 Distinguished Service Volunteer for her many contributions to the UT Gardens over the last twenty years. We also recapped the volunteer accomplishments of 2017. One hundred fifty volunteers contributed 3,234 service hours, which has a value to the Gardens of $78,172 ($24.14/hour published by Independent Sector’s valuation of volunteer time to nonprofit organizations). Our volunteers help us with many aspects of our mission, from helping us to plan and implement special events, to assisting with our educational classes and camps, to ensuring that our demonstration gardens are in tip-top shape for the public. Volunteers are critical to our success! If you are interested in joining us, we have a wide range of opportunities available. No particular garden experience is required; in fact, volunteering is a great way to learn new skills and to meet a wonderful group of like-minded gardeners!

Crossville
Carol Burdett, Tennessee Extension Master Gardener, Cumberland County

How to pass along credit to all the dedicated volunteers that make our little part of the world so great? Because the mission of our University is to spread education, let me highlight how the UT Gardens, Crossville, is working to fill that role. We pull a lot of weeds and prune a plethora of plants, but we don’t spend all our energy there. Diversity of jobs is probably what we do best. When we go to pass along horticultural information, it gives us a diversity of life specialties to draw from.

This year, as the core group at our Gardens lines up talks, lectures, and demonstrations for 2018, they’ve come up with nearly sixty varying subjects to interest the public. This is done through our classes in the Gardens.

Our Gardens site is also a destination place for the American Conifer Society, the Quilt Trail, a Monarch Way Station, and—our newest identification—a certified Nature Explore classroom (natureexplore.org). For the curious and interested, you can follow a link on that website to become a participant in the latest Nature Explore workshop, to be held at our UT Gardens, Crossville, on July 27. We have a unique Children’s Garden in use with outdoor music instruments and activities individually crafted rather than purchased.
Spring into the Many Seasons of Redbud Beauty

Carol Reese, UT Extension Western Region Horticulture Specialist

Roadsides throughout the eastern United States are brightened in early spring by the blooms of redbud Cercis canadensis.

Why this tree is called redbud is anyone’s guess as the flowers are a color that hovers between pink and purple. Color names are debatable, so where some people see intense violet, others see magenta.

In spite of the brilliant floral display that signals the end of winter, redbud was not a tree that dwelled in the top tier of my landscape recommendations, simply because it was such a “one-hit wonder.” Sure, the flowers were pretty, but gone in a couple of weeks . . . and then the tree itself was not particularly handsome. In fact, it can look downright ratty with the numerous dry brown beans that follow the bloom. Fall color can be a decent yellow, but not enough to make anyone’s list of trees noted for fall color.

Plus, while it seems so adaptable and easy to grow, sometimes a specimen will suddenly bite the dust, even after a few years of flourishing. Cankers are often the issue, or verticillium wilt. All this taken into consideration, I couldn’t find enough reason to plant one, that is until redbuds appeared in the trade that had much more to offer.

Now it is possible to find redbuds with golden, purple, or variegated foliage, even weeping forms and dwarf forms, along with redbud flowers of varying hues. Redbuds change form a bit in their western range, enough to warrant being designated a subspecies, called texensis. These western cousins tend to have a more handsome full form than their eastern cousins, and a shiny undulated foliage that retains vigor during times of heat and drought.

Redbud breeder extraordinaire and Alumni Distinguished Undergraduate Professor Emeritus Denny Werner, used all of these exciting traits in his program at North Carolina State University, and at last count has introduced four new cultivars. Perhaps the most exciting is a purple weeping redbud with the glossy undulated margins of the Texas form. It was given the charming name of ‘Ruby Falls’, and provides year-round interest as a wintry piece of living sculpture.

Of the golden foliaged forms, I seem to be in the minority, preferring ‘Hearts of Gold’ over one called the ‘Rising Sun’. Yes, the orangey tones on the newly emerging leaves of the ‘Rising Sun’ are striking, but for overall habit and summer-long good looks, I’m taking ‘Hearts of Gold’. Perhaps a side-by-side test at my home will disabuse me of favoritism.

This abundant native usually falls into the category of small tree, and can be expected to be 20 feet to 25 feet in height and spread in the average landscape, though the national champion is about double those numbers. It likes full sun but prospers equally in partial shade, as evidenced by its habitat of choice in the edge of the woodland. Good drainage is a requisite. By the way, the descriptive term of bean for the seed-holding structures is botanically accurate, as this tree is a member of Fabaceae, the family of legumes.
'Hearts of Gold' Redbud

'Silver Cloud' Redbud

'Ruby Falls' Redbud
FUNCTIONAL LANDSCAPES:

The Wonder of Wetlands on Display

Andrea Ludwig, Associate Professor,
Department of Biosystems Engineering and Soil Science
From spectacular Tennessee natives to the latest cultivars, the UT Gardens in Knoxville has long been a place to discover plant species and combinations.

Until recently, however, there was little opportunity to showcase the unique diversity of water-loving plants found in Tennessee landscapes. In 2013, faculty at the UT Institute of Agriculture secured a grant from the Tennessee Stormwater Association to build a wetland at the Gardens. By the end of 2015, the vision had come to life, literally.

Wetlands are the kidneys of the Earth, naturally cleansing the water that flows through them, protecting the streams and rivers that lie below. Wetlands are highly productive and diverse ecosystems, holding an estimated 40 percent of all the world’s species and providing habitat for 12 percent of all animal species. The Millennium Ecosystem Assessment valued wetlands in the United States at $15 trillion in ecosystem services, such as water purification, outdoor recreation, shoreline protection, and wildlife habitat.

Approximately half of historic wetlands in Tennessee have been lost due to human activities. Restoring and constructing wetlands is a trend gaining popularity among land managers to reduce the harmful impacts that land use change has on our environment. This project is part of a larger effort led by UT Stormwater Management to demonstrate practices on campus that alleviate pressures from urbanization on our aquatic ecosystems and water resources in the Tennessee River watershed.

The quarter-acre constructed wetland is composed of four pools, each showcasing a unique planting strategy and varying in size from 20 to 50 feet in diameter and 1.5 to 3 feet deep. Impermeable synthetic liners are buried along the bottom of three of the four pools to ensure year-round aquatic habitat. When it rains, runoff from a parking lot and manicured garden beds inundates the area, connecting the pools by filling the surrounding shallow marsh and saturating the soil. This sustains the hydric soil conditions needed for the obligate wetland plants.

Around one pool, a native wet meadow seed mix was broadcasted and included grasses and forbs, such as Virginia Wildrye (Elymus virginicus), Panicgrass (Panicum anceps), and Greenwhite Sedge (Carex albolutescens). The largest pool was seeded as well but also planted with 5-inch plugs in groupings based on proximity to the normal water line. River Oats (Chasmanthium latifolium), Marsh Hibiscus (Hibiscus moscheutos), and Rice Cutgrass (Leersia oryzoides) are a few plants that may be found in the shallow marsh areas between the pools. Blue Flag Iris (Iris versicolor), Sweet Flag (Acorus americanus), and Soft Rush (Juncus effuses) were plugged at and just above normal water line around the pools. Pickerel Weed (Pontederia cordata), Arrow Arum (Peltandra virginica), Bulltongue (Sagittaria lancifolia), Lizard Tail (Saururus cernuus), and Softstem Bulrush (Schoenoplectus tabernaemontani) were plugged at and down to 6 inches below normal water line. Submerged aquatic vegetation, such as Spatterdock (Nuphar advena), as well as floating Duckweed (Lemna minor) may be found in the deep-water areas.

This project provides a unique opportunity for experiential learning. Over 1,000 student hours have been spent in engineering design, construction, and monitoring as part of university courses. Extension faculty and landscaping professionals use the wetland to show interested homeowners plant options available to them. Each fall, student volunteers from the UT Wildlife and Fisheries Society conduct an ecological inventory, identifying all the plants, insects, and amphibians inhabiting the wetland. To learn more, visit tiny.utk.edu/utgardenswetlands.
ABOVE: The vegetable garden at Tennessee’s Executive Residence shows youth exactly where their food comes from. Page says the impact of this garden on young lives is “immensely inspiring.”

BELOW: UT’s stellar new 4-H Conference Center, Lone Oaks Farm, is of breathtaking beauty. The center will prepare tomorrow’s leaders through diverse camp and outdoor experiences.
One of Southeast’s foremost landscape architects, Nashvillian Ben Page, says he invests both a micro and macro focus to the projects he accepts.

The dual vision enables him to maximize their potential for each client and ensure from start to maturation, that the projects serve their needs. From the micro angle, Page must have intimate knowledge of plant material to consider for his projects. From the broader macro perspective, Page takes a holistic approach both to his focus on the overall physical context of each project and to the collaborations he has, ones that often involve not just the clients but also often architects, engineers, arborists, artists, and ecologists.

A recent project is the Tennessee Executive Residence. Page describes this 1920s-era house as exquisite, yet over the decades this home of Tennessee governors and family had developed an institutional feel. The initial charge from First Lady Crissy Haslam was to restore a home-like quality to the residence’s grounds.

“Mrs. Haslam is one of my heroes, and this project was deeply satisfying,” Page says. Through teamwork involving arborists, artisans, horticulturists, landscape contractors, lighting consultants, and historians, the home’s landscape has been fully restored to its original form, and its vision significantly expanded. Additions include a greenhouse and vegetable garden, along with the addition of significantly more horticultural diversity, so something is in bloom or fruiting every month of the year.

The vegetable garden provides a large portion of the food served in the mansion, yet just as important is the learning it provides to visiting schoolchildren from all over the state. For many, the garden marks their first exposure to the reality of how important fresh and healthy food is to their lives.

Another project Page calls deeply satisfying is Lone Oaks Farm in West Tennessee. The collaboration began with a phone call from a potential client to discuss the acquisition of a small farm for a rural retreat. From there, Kathy and Scott Ledbetter became visionary clients who involved Page in steady expansion and improvement of the land to today’s 1,200 acres. Careful and vigorous ecological restoration has resulted in a breathtakingly beautiful landscape.

Through the combined energies and visions of a spectrum of people, Lone Oaks Farm has become the University of Tennessee’s new 4-H and Conference Center. With the property’s rich and diverse assets, Lone Oaks is well on its way to serving as a national model in preparing the future leaders of agriculture and many other fields, too.

“I can only imagine the quality of experience Lone Oaks Farm will provide these young future leaders,” Page says, “and how they, in turn, will enrich our culture in the future. It’s very exciting.”
Fresh strawberries are one of spring’s finest pleasures. While the bright red berries often are featured with shortcakes and whipped cream, or in parfaits, pies, and jam, leave it to an herbalist to dream up mixing them with pink lemonade and chopped mint. Yet this combination makes for an unusual and delightful dessert. Another delight is how fast it is to prepare.

**TIPS:**

- Growing mint is exceptionally easy. Just plant it in soil and water until established. Mint’s invasiveness is another story. To control, you can plant mint in a five-gallon bucket with its bottom removed or simply plant the mint in an area where there is plenty of room and let it do its thing.

- Many mint flavors are easily interchangeable. If the choice you prefer is not available at a garden center, switch to another or search for an herb farm in your area. You may also want to explore mail-order catalogs. Some offer an overwhelming array of this herb.

- Sun tea is refreshing in the summer. To add a cooling flavor of mint, simply drop in a handful in the morning (lemon balm also works) and let the tea steep throughout the day. Yum, delicious!

The Memphis Herb Society partners with the UT Gardens on an herbal recipe for each issue of *Cultivate*. The Society celebrates herbal foods at its monthly meetings and in cookbooks it publishes. Find more about the Memphis Herb Society on Facebook. The recipe that follows is from the Society’s cookbook, *Today’s Herbal Kitchen—How to Cook and Design with Herbs Throughout the Seasons*.

**SALLY G’S STRAWBERRIES**

- 1 quart strawberries, cleaned and sliced
- 6 ounces frozen pink lemonade concentrate, thawed
- 1 tablespoon chopped fresh citrus mint
- Whipped cream and sprigs of fresh citrus mint for garnish

Place strawberries in a bowl. Pour lemonade concentrate over strawberries. Add citrus mint and mix well. Refrigerate several hours. Serve in sherbet glasses topped with whipped cream and sprigs of mint. Serves 4 to 6.

**NOTE:** Spearmint can be a substitute and others can too. Experiment with what you have on hand. Keep in mind the coarser the leaf, the finer to chop.
In 1983, when professor Doug Crater initiated the establishment of annual flower trials in Knoxville, he called on assistant and fellow horticulturist Sue Hamilton to plant them. For more than thirty years, Hamilton has tended and cultivated the UT Gardens, Knoxville, from a few annual trial plots to what is now one of the three locations of the State Botanical Garden of Tennessee. Her passion is often evident by the dirt under her fingernails and the hours spent among the shoots, encouraging students, and overseeing research. It is Hamilton’s dream to make sure the Gardens will continue to bloom well into the future.

The UT Gardens Growth Endowment to benefit the UT Gardens in Knoxville is one way to ensure continued funding. An endowment serves as a long-term investment by holding the capital or principle in perpetuity and earning funds, which are used to enhance the Gardens. Hamilton believes an endowment is the key to keep financial pace with the physical and programmatic growth of the Gardens. And she has made the first gift.

“I really believe in what we are doing, and it’s my passion.”
—Sue Hamilton

“The long-term goal is to raise $1 million. Earnings from the endowment will support Gardens improvements and staff needs for the future. The UT Gardens, Knoxville, relies on private donations for approximately 60 percent of its budget.

“We have a long way to go, but I know there is a passion to see the mission of the UT Gardens expand and impact even more of our community. This is an opportunity for us to plant trees for future generations to enjoy their shade,” Hamilton says.

Currently, the UT Gardens, Crossville, affectionately known as the Plateau Discovery Gardens, is maintained entirely by volunteers. They have enjoyed steady growth in visitors and growing demand for programing.

“It is amazing what this group of volunteers has been able to accomplish, but the exponential growth increases the demand for horticulture expertise and educational programing,” says Walt Hitch, director of the Plateau AgResearch and Education Center. “A paid staff member is needed to coordinate and streamline our volunteer efforts and grow the Gardens to become an even better resource for the gardening community of the Cumberland Plateau community.”

Dedicated supporters of the Gardens see this need as well, and in 2015 the establishment of the Plateau Discovery Garden Endowment was made. Future support is still needed in order to make the staff position a reality. Hitch said he is humbled by the generous start and is optimistic that generosity of the Gardens family will make this goal a reality.

If you are interested in supporting either endowment please visit AdvanceUTIA.com/EndowtoGrow to make your gift today.
Some of our country’s first inhabitants are believed to have hunted and camped in what is now Tennessee thousands of years ago.

The Spanish passed through what is now Tennessee on three expeditions in the mid-1500s. In 1795, a territorial census revealed a sufficient population for statehood and Tennessee became the sixteenth state to join the union in 1796.

Our state is skinny, just 115 miles wide, but it stretches over 400 miles from the Appalachian Mountain boundary with North Carolina to the Mississippi River in the west. Tennessee is known for blues and country music, and has played host to some of the most well-known musicians in history. People from all over congregate in Memphis each year for its famous barbecue event Memphis in May. We have a lot to celebrate in Tennessee, but have we considered the plants that have impacted this great state?

Tennessee has a strong horticultural history. Beyond the basics of conversion of carbon dioxide to oxygen, a multitude of plants have been important to our history. During the first half of 2018 the UT Institute of Agriculture will be accepting nominations from people across the state to help choose the Ten Plants That Changed Tennessee. Participants will be asked to choose a plant to nominate that fits into one of six categories: environmental, economic or industrial, cultural/spiritual, historical, food/sustenance, and landscape.

Plants will be judged by their impact—both positive and negative—across all of our state’s history.

This is more than just a fun exercise; based on the results of nominations, a panel of experts will choose an official list of the ten plants that have had the broadest impact on Tennessee. This information will then be used to create educational curricula for Tennessee’s elementary schools on a variety of subjects including biology and history. This is your chance to play an important role in this initiative. We need you to take time to ponder a plant to nominate, then go to the website tenplants.tennessee.edu and make your submission. The submission process is quick and easy. Additionally, we are asking elementary schools across the state to nominate plants, so please help us spread the word to this important group.

We have a lot to celebrate in Tennessee, but have we considered the plants that have impacted this great state?

“Smoky Mountains Hiking Club enjoying the big chestnut tree stop. The day before the snowstorm.” Albert “Dutch” Roth Digital Photograph Collection
Ten Plants That Changed Tennessee Categories

Is the plant important for the Tennessee economy or businesses or industries?

Was the plant important in Tennessee history?

Are there spiritual or cultural factors that make this plant important to Tennessee?

Is this plant important in some way in protecting or degrading our environment?

Is this plant an important food or sustenance crop?

Is this plant important in our landscape?
LAST LOOK

BREAKING GROUND

Thirty-five years ago, Doug Crater, professor and head of what then was known as the Department of Ornamental Horticulture and Landscape Design, initiated the planting of the first trial beds that would grow into the UT Gardens in Knoxville. Crater is pictured here in 1992 with Sue Hamilton, left, and the late Harold Elmore, center, breaking ground on the woody phase of the Gardens.

Today our Gardens are still growing across the state. Help us continue to break ground. Become a member at tiny.utk.edu/utgmember.
In July 2017, the UT Gardens lost a special friend, Alan S. Heilman, retired professor of botany at UT Knoxville. Heilman spent a good portion of his retirement photographing plants, his real love and passion, in the UT Gardens, Knoxville. His macrophotography captured the detail and beauty of his subjects, bringing to life the intricacies of plants that most of us never slow down enough to see.

As a result, it’s been a purposeful decision to feature many of Heilman’s photographs on the cover of Cultivate. His works have been featured in exhibits at the McClung Museum of Natural History and Culture and other venues, and fortunately, hundreds of his photographs have been archived by the UT Libraries. You can view many of Heilman’s choice photographs at digital.lib.utk.edu/collections/heilmancollection.

In Remembrance of Our Friend

Alan S. Heilman