

# NATIVE SEED

ADKINS ARBORETUM, A 400-ACRE NATIVE GARDEN AND PRESERVE, PROMOTES THE CONSERVATION AND RESTORATION OF THE CHESAPEAKE REGION'S NATIVE LANDSCAPES.

Volume 16, Number 2, Fall 2011

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# REVOLUTION *of the forest*

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*By Julianna Pax, Arboretum Docent Naturalist*

**The walk along Blockston Branch is about to undergo a dramatic change. All summer long, visitors could count on the refreshing greens of lady fern, ironwood tree, and green ash. Walking along the meadow, visitors could enjoy soothing green sumac, sassafras, and swamp maple along the edge of the woods. This reliable green color was due to the domineering nature of chlorophyll that was masking all the other colors...at least for a while.**

*(continued on page 5)*

Fast forward to mid-October, when reds begin to creep in, setting off a revolution along the edge of the woods. The first hint of green's waning power can be seen by closely examining a sumac leaf—find the marks at the end of the petiole or leaf stem that are turning brown from newly forming scar tissue. This scar formation is the plant's method of preparing to drop its leaves so that it can survive the winter. As it does, the green chlorophyll in the leaf is choked of its supply of nutrients. As the all-powerful green chlorophyll breaks down, other chemicals and their colors can express themselves more freely. This is happening on all the deciduous trees.

*The idea of naturalizing plants in the garden isn't new, but it takes on new meaning if we imagine our gardens playing major roles as repositories of existing diversity, and as engines for the diversity of the future.* —Rick Darke from "Balancing Natives and Exotics in the Garden" in *The New American Landscape*

**I**t may not become seismic in impact, but I feel change is in the air. The love of all things native is being tempered (or possibly expanded) by an appreciation for the reality that there is no turning back time to create a pristine verdant paradise. Our time and resources will be best spent imagining a new way forward. In this issue of *Native Seed*, ecologist Sylvan Kaufman explains the purple box kites hanging in the trees on our roadsides to detect the emerald ash borer, and Master Gardener Carol Jelich writes about the recently published *The New American Landscape*, a collection of essays by smart thinkers who are helping us see a way forward. I want to share with you my thoughts about this change that is in the air.

It is a fragile moment in time when the divide, Chesapeake Bay, between Maryland's Eastern Shore and Western Shore is inhibiting the spread of emerald ash borer that has led to the quarantine of all Western Shore counties from the movement of ash trees or ash tree products. For a moment, it seemed great progress was being made to hold back the tide of this threat by felling and destroying thousands of healthy ash trees to deny the borer its fuel. Sadly, Kaufman reports that this pest may extend its reach to be as impactful as the great chestnut blight. The optimism about stopping this pest has been replaced with a grounded reality that it cannot be stopped, and we will have to cope.

Author and lecturer Rick Darke's essay in *The New American Landscape*, "Balancing Natives and Exotics in the Garden," explains why and how he chooses exotic plants for his garden, which is dominated by native plants. Darke has developed a protocol for acceptable exotics that "blend" with native plants. When one has gardened as long and seen as many gardens around the world as Darke, these become intuitive decisions. He knows the similarities between the native habitats of the exotic plants that he tends and his southern Pennsylvania garden.

Though I have yet to see a sourwood (*Oxydendrum arboreum*) thrive on the Eastern Shore, southern (*Magnolia grandiflora*) and big leaf (*Magnolia macrophylla*) magnolias reach impressive heights in gardens here even though we would readily acknowledge their native habitat is west and south of the Eastern Shore. When large native mountain laurel (*Kalmia latifolia*) colonies persist for generations here, it is hard to justify forbidding exotic rhododendrons when in so many parts of the world these species thrive together.

It is through these observations that I have coined the role "global gardener." The global gardener is aware that the decisions he/she makes in the garden impact the globe. It goes beyond the definition of "sustainable gardening" as the editor, Thomas Christopher, defines it in *The New American Landscape*, "to meet present needs without compromising the ability of future generations to meet theirs," or the Hippocratic Oath, "to do no harm." The global gardener assumes these principles only as a place from which to begin their practice. Their practice is actually to enhance, build, create, envision, enrich, and nurture a healthy and more beautiful place for all creatures, embracing natives and exotic plants.

How did we become a nation carpeted with lawn except as a result of the decisions of many individuals whose behavior was influenced by the marketplace, their neighbors, and government agencies? Lawn persists because we tend it. When individuals choose otherwise and allow nature to return, selectively managing noxious weeds and introducing natives and beneficial exotics in appropriate habitats, we will create a new verdant paradise after all.

My best,

  
Ellie Altman  
Executive Director

Adkins Arboretum is operated by the not-for-profit Adkins Arboretum, Ltd. under a 50-year lease from the Maryland Department of Natural Resources.

Adkins Arboretum, a 400-acre native garden and preserve, fosters the adoption of land stewardship practices for a healthier and more beautiful world.

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www.adkinsarboretum.org

#### HOURS

10 a.m. to 4 p.m. daily except Thanksgiving and Christmas

#### ADMISSION

\$3 for adults  
\$1 for students ages 6–18  
free to children 5 and under.  
Admission is free for members.

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Illustrations by Barbara Bryan



Dear Friends,

**I'm sure you'll agree with me that we are blessed to have such a special place as Adkins Arboretum in our community.**

As a member, a volunteer, and an Arboretum Trustee, I treasure the time I spend here walking my dog along the paths framed by this magnificent oasis of trees, meadows, and native plants.

**This year, I invite you to join me in helping the Arboretum thrive and continue to be a special place for all. I invite you to support the Arboretum through a gift to the 2011 Annual Appeal.**

The Annual Appeal is the Arboretum's primary source of operating funds. Annual Appeal helps the Arboretum buy needed supplies and equipment to maintain our 400 acres of native plants and trees; design, print, and distribute *Native Seed*; and bring speakers, scholars, and artists to share their unique perspectives on horticulture, ecology, art, and environmental initiatives that impact this beautiful region we call home.

Your gift will help in so many ways. Thank you for being a member and for supporting Adkins Arboretum's Annual Appeal. You can make your gift by using the giving envelope enclosed in this issue of *Native Seed* or by visiting the Arboretum's website, [www.adkinsarboretum.org](http://www.adkinsarboretum.org).

Thank you.

*Sydney Gadd Doehler, Arboretum Trustee*



*(continued from page 1)*

The reds, created by a pigment called anthocyanin when it combines with the trapped sugars in the leaf as a result of the newly formed scar tissue, are the first to express themselves. Those leaves and berries that contain anthocyanin (and not all do, which is why not everything turns red in autumn) begin to turn a brilliant scarlet, a quality that endears them to landscapers and homeowners who want a colorful autumn landscape. This red color can even sometimes extend into blue or purple, depending on plant genetics and the acidity of the soil.

In berries, this red color helps the birds and other creatures identify which food is ripe. Insect eyes have also evolved to home in on colors that coincide with ripeness at the end of the season. Some, like the blue-purple berries of sassafras and devil's walking stick, are held on red pedicels that add to the fall color and may help birds find the berries. The red leaves may also help attract birds to less colorful fruits.

The reasons why plants contain anthocyanins are not completely understood. One theory is that the anthocyanin may protect the leaves from ultraviolet rays from the sun. This might be why the red in the fall is more evident on the side of the tree that faces the sun and on leaves that are not shaded by other leaves. Another theory is that the red color draws beneficial insects to help the plant. Alternatively, the red color may repel other harmful insects

and prevent them from laying eggs that will hatch in the next growing season.

The second stunning color in autumn is yellow-gold. This comes from another natural plant chemical, xanthophyll. Like chlorophyll, xanthophyll helps leaves make sugar from sunlight to help the plant grow and store food for winter in its roots. Xanthophyll is also present in the leaf all the time but is only visible as the green disappears. Sometimes this disappearance is uneven, resulting in a characteristic green and yellow patterning in the leaf.

Adkins' familiar tulip tree, the tallest tree in the forest, has this lovely yellow hue in autumn. The leaves resemble a cat's face, and they sometimes cover the Arboretum trails in a soft carpet of yellow. The large pawpaw leaves at the trail's entrance—so deeply green all summer long—sport a brilliant yellow by October, lighting up the forest with a midstory layer of amber. Other plants with xanthophyll's yellow are summersweet, spice bush, hickories, river birch, green ash, and of course the magnificent beech trees.

The youngest beech trees will hang on to some of their leaves, the color fading over time to a papery brown texture. When the breeze blows in winter, the leaves whisper to visitors as they walk

*(continued on page 11)*

# MAGIC *in the meadow*

An enchanted evening to benefit Adkins Arboretum

Saturday, September 24

**Magic in the Meadow, Adkins Arboretum's annual fundraising gala, promises an exciting evening of tantalizing hors d'oeuvres; cocktails; a sumptuous dinner prepared by the exclusive Eastern Shore caterer, PeachBlossom; delicious wines; and the jazzy sounds of pianist Stef Scaggiari. The classy yet casual event will celebrate the beauty of the Arboretum's 400 acres of majestic native gardens, meadows, and forests while directly supporting the Arboretum's education and conservation programs.**

Live and silent auctions, orchestrated by Pat Bowell and her committee, will offer an alluring array of wonderful travel opportunities, luscious American wines, local experiences, and incomparable art and collectibles.

New this year is "12 Nights on the Town." The winner of this unique live auction item will receive gift certificates for 12 of the Mid-Shore's finest restaurants, including 202 Dover, Bartlett Pear Inn, Kentmorr, Martini's, Mason's, The Narrows, Out of the Fire, Hemingway's, Rustico, Scossa, Hunter's Tavern at the Tidewater Inn, and Two Trees, plus a dozen crab cakes and a Smith Island cake to take home at the end of the evening celebration!

Trips for two including all accommodations and round-trip airfare to France, China, Tuscany, Jackson Hole, or Salzburg and Vienna are just a few of the exclusive vacation packages that will be up for bid. Silent auction items that are sure to be hotly contested include:

- a behind-the-scenes tour for six of the Walters Art Gallery with lunch at the Mount Vernon Club;
- four club-level tickets to an Orioles game of choice including parking and special home team perks;
- a guided canoe trip on Leeds Creek followed by lunch at historic Hope House, hosted by Peter Stifel;
- a weekend of surf fishing with accommodations and lessons provided by Wayne Bell;
- a fine wine and luncheon cruise hosted by Susan and Larry Blount aboard their 35-foot Mainship Trawler;
- a pottery demonstration and lunch with potter Paul Aspell;
- a private Soup 'n Walk for 16 led by nutritionist and Arboretum docent Julianna Pax;
- more than 50 wines, including rare American vintages from Oregon, Washington, and California, offered in the second annual wine auction.

## Tickets Now Available

Join fellow members and friends for a wonderful evening in support of the Arboretum. Individual tickets are \$125 per person (\$75 per ticket is tax deductible), with tables of ten available for reservation. Guests can choose to sit with friends or simply join a table of

like-minded Arboretum supporters for a fun evening under the twinkle-lit tent.

To purchase tickets, visit [www.magicinthemeadow.org](http://www.magicinthemeadow.org), e-mail [magic@adkinsarboretum.org](mailto:magic@adkinsarboretum.org), or call Lynda Tison at 410-634-2847, ext. 21.

### The Arboretum welcomes and gratefully acknowledges its new members.

Ms. Linda Sue Allen  
Mr. James Alpi  
Mrs. Betsy Arborgast  
Ms. Kelly Armstrong  
Ms. Sheila Askew  
Ms. Brenda Baibak  
Ms. Toni Bailey  
Mr. Matthew Baldwin

Ms. Ana Basso-Stella  
Ms. Diane Baudrau  
Ms. Brenda Bedea  
Mr. and Mrs. Ernest Behrens  
Ms. Catie I. Berezney  
Mr. Paul Berning  
Mr. Richard Biggs  
Ms. Amy Bishton  
Ms. Judith A. Bittorf  
Mr. and Mrs. Edmond Blake  
Mr. and Mrs. Thomas H. Bliss  
Mr. and Mrs. Rick Bond

Ms. Teri L. Bordenave and  
Mr. Eric Van Lenven  
Ms. Renee Brantner and  
Ms. Sandra Kinnamon  
Mr. and Mrs. Daniel Breazeale  
Ms. Trish Bright  
Major Roger F. Bulley (Ret.)  
Ms. Sandra Burch  
Ms. Dawn Burk  
Mr. and Mrs. Peter Byrnes  
Ms. Sally Campbell  
Ms. Sharon E. Campbell

Ms. Nancy Ciandella  
Ms. Jill Nadine Clements  
Ms. Lin Clineburg  
Ms. Erin Coates  
Ms. Margery Connally  
Mr. and Mrs. Will Cook  
Ms. Mary F. Cotton  
Mr. Ernest D. Coyman  
Mr. and Mrs. Gregory Cramer  
Ms. Donna Culver  
Ms. Barbara Davidson  
Mr. and Mrs. Robert Doughty



Recognizing the Arboretum's important mission and work, Chester River Health System and Shore Health System are the lead sponsors for the fourth annual *Magic in the Meadow* gala fundraiser, to be held Saturday, September 24. Pictured from left are Jim Ross, president and CEO, Chester River Health System; Arboretum Executive Director Ellie Altman; *Magic in the Meadow* committee member Bruce Valliant; *Magic in the Meadow* committee chair Pat Bowell; and Jerry Walsh, interim president and CEO, Shore Health System.

## 2011 CORPORATE SPONSORS

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Mr. and Mrs. Wolf Hehn  
Ms. Margaret H. Iles  
Ms. Martha Johnson  
Ms. Linda Kelly  
Ms. Ann S. Kemp

## Fabulous Trips, Sumptuous Dining Experiences Round Out the Magic in the Meadow Live Auction

### The Wines, Wonder, and Fashion of France

Travel deep into the excitement and romance of classical Europe. Enjoy an incredible seven days, six nights to savor the best sights, sounds, tastes, and pleasures France has to offer, including Paris and the spectacular Loire Valley Wine Country. Includes round-trip air and delightful accommodations for two.

### Splendid China

This 14-day trip of a lifetime will explore the vast wonders of China, including Shanghai, the exquisite Yuyuan Formal Garden, Beijing and the Great Wall, Xian, and the ancient artists' city of Yichang, where you'll board a cruise ship for a three-day voyage down the fabled Yangtze River. This splendid China tour includes all flights, deluxe accommodations, Yangtze River cruise, and 23 scrumptious gourmet meals.

### The Sound of Music

This seven-day/six-night escape to the picture-perfect fairytale land of Salzburg, majestic Swiss mountaintop vistas, crystal-clear lakes, and spectacular Vienna includes round-trip air for two and deluxe accommodations.

### Escape to America's Four-Season Paradise

Get up close to Jackson Hole's wildlife (Hollywood stars and the four-legged kind, that is) with this seven-day/six-night trip for two, including round-trip air and deluxe accommodations. Take your pick of travel dates and enjoy skiing in winter, whitewater rafting in spring, hot air ballooning in summer, or leaf-crunching buggy rides in fall.

### Classic Tuscany

Enjoy the romance of Italy with great food, fine wine, and exquisite art. The two of you will begin your travels in Tuscany, where you will spend four nights in a restored Italian villa, enjoy delicious wine tastings, and attend a cooking class taught by fine Italian chefs. Next you will spend three days in magnificent Florence. From its incomparable museums and churches, to its cobblestone streets and quaint restaurants serving delectable Italian cuisine, Florence will enchant you with its glorious beauty, culture, and Renaissance art.

### 12 Nights on the Town

Enjoy dining at twelve of the Mid-Shore's top restaurants. You and your guests will enjoy an evening at 202 Dover, Bartlett Pear Inn, Hemingway's, Kentmorr, Martini's, Mason's, The Narrows, Out of the Fire, Rustico, Scossa, Hunter's Tavern at the Tidewater Inn, and Two Trees. The winning bidder will also take home a dozen luscious Smith Island crab cakes and an authentic Smith Island cake.

### Cruise the Chesapeake Aboard the Skipjack Stanley Norman

Enjoy a delightful evening cruise for up to 20 guests, while enjoying regional beers, wines, and hors d'oeuvres aboard the *Stanley Norman*, an authentic Chesapeake Bay skipjack built in Salisbury in 1902. Hosted by crew and staff from Chesapeake Bay Foundation, your skipjack cruise will depart from and return to Annapolis.

### Sustainability Survey—Bring a Team of Experts to Your Property

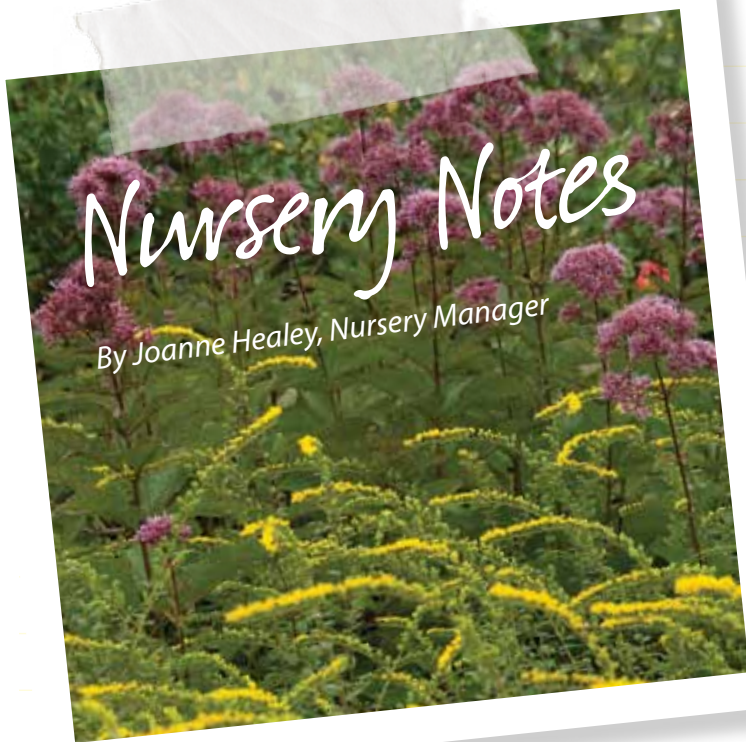
Develop a plan to create an exceptionally beautiful and environmentally sustainable landscape with three of the Mid-Shore's leading consultants.

### Eastern Shore Crab Feast

What could be better than a private crab feast for twelve at the Arboretum? You and your friends will also enjoy a private guided walk of the Arboretum. Celebrate the best of the bay with steamed crabs, heirloom tomatoes, local corn, and all the fixings.

Ms. Maria Koszalka  
Mr. Albert Kramer  
Mr. Gary Kromer  
Mr. George Lambert  
Peter Lebengood  
Ms. Kathleen Leeks  
Ms. Catherine Lehmann  
Ms. Cynthia Lilley  
Mr. and Mrs. James H. Maddox  
Mr. and Ms. Michael Martino/  
Cassandra McCarney  
Ms. Victoria McAndrews

Ms. Nancy McCloy  
Ms. Katie Mcie  
Mr. and Mrs. John McMartrie  
Mrs. Susan McRae  
Ms. Marina Merrick  
Ms. Kimberly Miller  
Mr. and Mrs. Greg Minahan  
Ms. Lucy Mitchell  
George T. Moran  
Mr. Lee Nelson  
Mrs. Jessica Newton  
*(continued on page 6)*



**Fall—a time of reflection.** Where did the time go? Projects planned for summer are untouched. As I write this, the Arboretum is in the throes of summer and the gardens are vibrant with phlox and black-eyed Susan, and yet I look to fall with anticipation. The nights are cool and the light is clear and vivid and brings out a magical quality in the changing colors. The garden is winding down, and thoughts are already busy with plans of next year's changes, of bare spots and new flowers coveted from other gardens. There's always more to do in a garden—it is a never-ending project.


The Arboretum's Fall Plant Sale is the ideal time to fill in your garden, to plant the trees you've wanted for so long, to create that new area of interest. This year's Members-Only Sale Day is set for Friday, September 16 from 10 a.m. to 6 p.m. General public shopping days are Saturday and Sunday, September 17 and 18, from 10 a.m. to 4 p.m.

Members may place presale orders through August 28 at [www.adkinsplants.com](http://www.adkinsplants.com). Placing a presale order guarantees that

you receive the best selection of native ornamental plants. Your order will be ready for pick-up anytime during the Plant Sale weekend. All members receive a 10% discount on plant, gift shop, and book purchases, and members at the Contributor level (\$100) and above receive a 20% discount on plants and a 10% discount on book and gift shop purchases. If you are a native plant lover, the Contributor level of membership is the one for you! For more information about membership, visit [www.adkinsarboretum.org](http://www.adkinsarboretum.org). All proceeds from plant sales help fund the Arboretum's education programs for children and adults.

Many plants for sale, like asters and goldenrods, extend the garden into fall. One goldenrod worthy of attention is the cultivar 'Fireworks'. It forms a dense colony, growing 3-4' tall with curved flowering tips that are reminiscent of Fourth of July fireworks. Pollinators love it, and the seeds feed finches and sparrows. It is deer resistant and makes beautiful cut and dried flowers.

The Plant Sale will also feature native trees such as sweetbay magnolia, river birch, and an old favorite, black gum. The black gum or tupelo (*Nyssa sylvatica*) is a tree that doesn't garner much attention any other time of year but fall. In summer its leaves are a clean, glossy green and not very distinctive. Come autumn, however, its red and orange colors are deep and rich. Its medium size makes it an ideal tree for a smaller property. With enough of its lower branches limbed up, it is also a great street tree. Found in low-lying areas, it can tolerate brief periods of wetness and prefers a slightly acidic to neutral pH.

Following the sale, the Native Plant Nursery will be open 10 a.m. to 4 p.m. Monday through Friday, and weekends by appointment, until November 1. 

*"When the goldenrod is yellow, and the leaves are turning brown—reluctantly the summer goes in a cloud of thistle-down. When squirrels are harvesting and birds in flight appear—by these autumn signs we know September days are here."*

—Beverly Ashour, "September"

Ms. Mary Kay Noren  
Ms. Johnna Parker  
Mrs. Patricia Patten  
Ms. Helen Patton  
PDK Horticultural  
Ms. Charlotte Pennington  
Mr. George Peterson  
Mr. and Mrs. Victor B. Pfeiffer  
Mrs. Rebecca Pineo  
Mr. and Mrs. Walter Plosila  
Mr. and Mrs. John R. Porch  
Ms. Annette Potts

Dr. Melvin Rapelyea  
Ms. Rondalyn Reeser  
Mr. Eugene Rehkemper  
Mrs. Bobbie Reichwein  
Mr. Wallace B. Reynolds and  
Ms. Mary Anne Shea  
Richard Robinson  
Ms. Barbara Roecker  
Mr. Bradley Rymph  
Mr. Jose Verzosa Baquiran III  
Ms. Lisa Schober  
Ms. Susan Schober

Ms. Cristina Schwartz  
Dr. John Seidel and Dr. Elizabeth Seidel  
Ms. Kathy Sexton  
Ms. Emma Shivers  
Mr. Miles Simmons  
Ms. Kristine Smith  
Mr. and Mrs. Rodney Spring  
Mr. and Mrs. Carroll W. Stein  
Mr. Robert Stine and  
Ms. Barbara Saladin  
Ms. Jennifer Stuart and Mr. John Craig  
Mr. Richard Swanson  
Mr. and Mrs. Peter Thatcher

Mr. and Mrs. Kevin Thomas  
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# Teach interpret plant, enjoy!

## VOLUNTEER OPPORTUNITIES

### Visitor's Center Receptionist

Help staff the Visitor's Center and greet and orient visitors.

### Children's Programs and Summer Camps

Help teach children about native plants and the environment.

### Special Events

Volunteer for the Fall Plant Sale or 'Tis the Season holiday event.

### Community Outreach

Promote the Arboretum's mission at community events.

### Nursery Work Crew

Join the nursery work crew on Tuesdays and learn about plant propagation and care in preparation for the Arboretum's annual plant sales.

### Grounds Work Crew

Help maintain the woodland and meadow paths and assist with other maintenance projects.

### Individual Volunteer Projects

Propose your own volunteer project. Ongoing projects include maintaining bluebird habitat and teaching the public about native plants and sustainable horticultural and gardening practices.

For more information, including volunteer schedules, contact **Ginna Tiernan, Adult Program Coordinator**, at 410-634-2847, ext. 27 or at [gtiernan@adkinsarboretum.org](mailto:gtiernan@adkinsarboretum.org).

Application forms can also be obtained at the front desk or downloaded at [www.adkinsarboretum.org](http://www.adkinsarboretum.org).

### Maryland Master Naturalist Program Coming Again in 2012

The Maryland Master Naturalist Program for the Coastal Plain—a pilot program for the Eastern Shore and the new Arboretum docent training program—ran for nine weeks in February and March. Twenty-three attendees and potential volunteers completed the program with enthusiasm and rave reviews. To become a Master Naturalist, the trainees must complete 40 hours of volunteer hours for the host. Many of the trainees have already chosen areas of service, including researching the Arboretum's cultural history and environment, Arboretum phenology, natural playscapes, and a birding backpack.

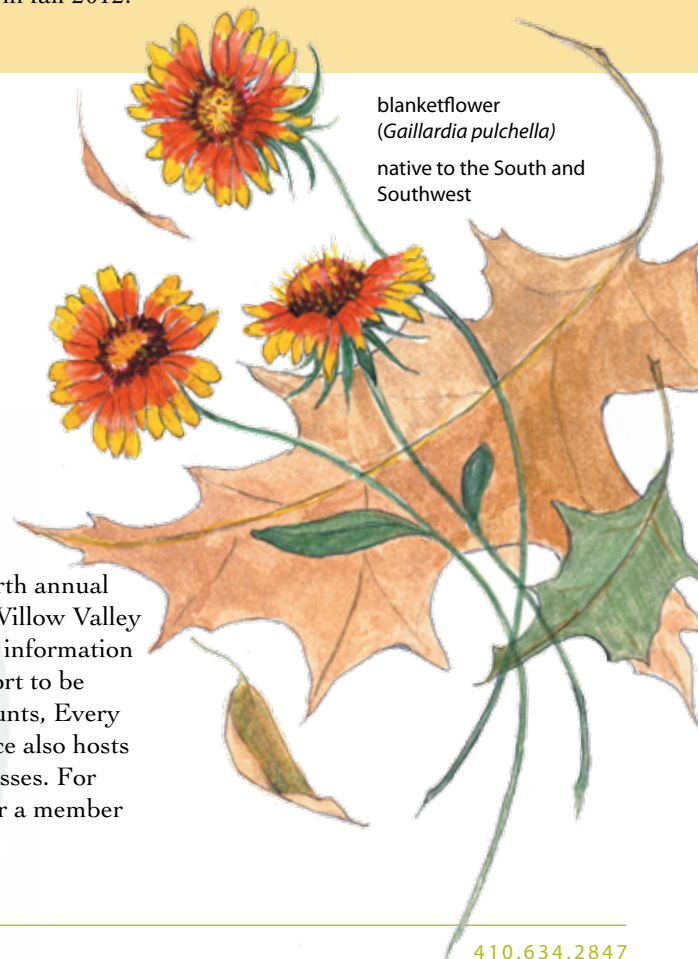
The Maryland Master Naturalist Program engages citizens as stewards of Maryland's natural ecosystems and resources through science-based education and volunteer service in their communities. The Arboretum will host the next Coastal Plain program in fall 2012.



**Chesapeake  
Conservation  
Landscaping  
Council**

## Countdown Begins to the Chesapeake Conservation Landscaping Conference

The Chesapeake Conservation Landscaping Council (CCLC) will hold its fourth annual "Turning a New Leaf" Conference on Friday, December 2 at the Doubletree Willow Valley Resort in Lancaster, PA. The conference provides professionals with the latest information on sustainable landscaping and development best practices. Because every effort to be sustainable counts, this year the conference tracks are titled Every Design Counts, Every Drop Counts, Every Plant Counts, and Every Message Counts. The conference also hosts an EcoMarketplace featuring a variety of local organizations and green businesses. For more information, visit [www.ChesapeakeLandscape.org](http://www.ChesapeakeLandscape.org). Join CCLC today for a member discount on the conference and other programs.



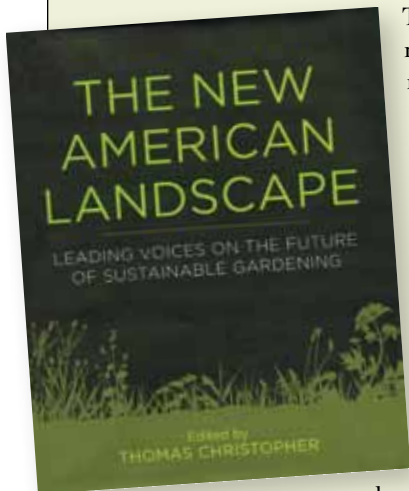
blanketflower  
(*Gaillardia pulchella*)  
native to the South and  
Southwest



## From the Bookshelves

By Carol Jelich, Arboretum Librarian and Maryland Master Gardener

*The New American Landscape: Leading Voices on the Future of Sustainable Gardening.* Edited by Thomas Christopher. Timber Press, 2011. 255 pages



The conservation landscaping movement has been gaining momentum. Adkins Arboretum promotes this approach to landscaping—conserving resources and mimicking or restoring ecosystems to produce healthy landscapes that protect local waterways and provide wildlife habitat. This collection of 11 essays provides a good introduction to conservation landscaping for the residential gardener. Noted experts from diverse backgrounds, the

authors share both the theoretical basis and the practical application of conservation landscaping techniques, also known as sustainable gardening.

The editor, Thomas Christopher, introduces the concept of sustainable gardening, defined as a way “to meet present needs without compromising the ability of future generations to meet theirs.” He offers compelling reasons to be sustainable (polluting emissions of gas-powered equipment! chronic water shortfalls predicted!) and notes that the authors were selected based on their factual knowledge of truly sustainable practices that go beyond the feel-good “greenwashing” that is sometimes promoted in the marketplace without basis in science. Christopher also contributes an essay, titled “Waterwise Gardens,” that covers how to assess and work with topography and soils to best use water available on the site. Detailed advice is included for harvesting rainwater and designing and constructing rain gardens.

In the essay “Sustainable Solutions,” David Deardorff and Kathryn Wadsworth provide practical advice on sustainable gardening, including a nine-point program for preventing and solving plant problems. Their recommendations are based on the principle that the more the gardener emulates natural ecosystem functions and processes, the more the garden becomes “more self-regulating and less management-intensive.”


In “The New American Meadow Garden,” John Greenlee makes the case for replacing turf grass lawn with meadow or natural lawn—a lawn of native species of grasses and sedges intermixed with flowering plants. This could be more environmentally sound, since it reduces the need to mow, fertilize, and water. It also can “honor regionality” by using native plants. Practical advice is provided on how to establish and maintain a meadow or natural lawn.

Noted photographer and author Rick Darke examines “Balancing Natives and Exotics in the Garden.” If, as is often the case, a site no longer resembles a natural area, it actually would be counter to the principles of sustainability to try to restore it using chemicals, fertilizers, imported soil conditioner, etc. Rather, Darke recommends using locally native plants that could survive there and then adding regionally native plants and even exotics that will be self-sustaining but not invasive.

“Green Roofs in the Sustainable Residential Landscape,” authored by Maryland’s own Ed Snodgrass and Linda McIntyre, provides considerations for the reader to decide whether to install a green roof on a building at home, as well as installation instructions. While a single green roof on a private property will not have a large impact on stormwater runoff, heat island reduction, or wildlife habitat, it will certainly provide an aesthetic value to the homeowner.

Douglas W. Tallamy, author of *Bringing Nature Home*, makes the case for establishing native plant communities in the home landscape in “Flipping the Paradigm: Landscapes That Welcome Wildlife.” Tallamy recommends that the traditional practice of removing all vegetation from a site, planting lawn, and then carving out flower beds should be flipped in a sustainable garden. Instead, conserve native plant vegetation and carve out small lawn areas where needed (paths, kids, seating areas). The new paradigm is to garden not just for aesthetics but also for one of the most important ecological functions performed by plants: supporting food webs.

Essays on soil biology, sustainable gardening for food, sustainable gardening in the face of climate change, and managing the home garden as a sustainable site round out this enlightening and important collection. In the final chapter, “Landscapes in the Image of Nature: Whole Systems Garden Design,” Toby Hemenway provides strategies for incorporating the good advice offered in earlier chapters. Hemenway suggests that ‘payback’ happens between years 3 and 5 after beginning the process of soil building and functional planting. “...[the garden] becomes a real ecosystem, nature takes over, and our main role seems to be eating the tasty produce and admiring the vibrant bloom of life from a comfy hammock strung between two now vigorous trees.... hose, fertilizer and weeding tools lie dormant in the tool shed...supplanted by pruners and harvest baskets to haul in the abundant yields.” One can hope!

Each chapter includes color photographs and a list of resources and references; some include case studies. 

# TULIP POPLAR: QUEEN OF THE FOREST

By Carol Jelich, Arboretum Librarian and Maryland Master Gardener

As you walk along the Blockston Branch in the Arboretum forest, look up the hill away from the water to see what some have called the Arboretum's "green cathedral." With their tall, straight trunks and canopy soaring far above, tulip poplars (*Liriodendron tulipifera*) dominate this part of the landscape, creating a space for reflection and serenity.

Selected in 2011 as the Arboretum's first native Tree of the Year, the tulip poplar has a long and distinguished history. Native to the eastern U.S., it is the state tree of Indiana, Kentucky, and Tennessee. Thomas Jefferson described the tulip poplar as "the Juno of our Groves." Like many North American native plants, it is treasured in European parks and gardens, and has been since at least 1687. Historians have documented that a large tulip poplar growing at Mt. Vernon was planted in 1785 by George Washington. The Queens Giant, a tulip poplar in the New York metropolitan area, is estimated to be 350–450 years old and measures 134 feet tall.

## Taxonomy and names

First described by Linnaeus, *Liriodendron tulipifera* is in the Magnolia family. It is commonly called "tulip poplar" or "yellow poplar," although it is not related to the poplars, which are in the family Salicaceae. It may bear the name because of the way its leaves flutter, as poplar leaves do, or because of its height. Early pioneers called it "canoe-wood" and used it, as Native Americans did, for their dugout canoes. The name "tulip tree" reflects the unique tulip-shaped flowers. As Arboretum docents are guiding children through the forest, the term "cat-face tree" may be heard, as the shape of the leaf so resembles the face of a cat.

## About the tree

The tulip poplar is the tallest hardwood species of the eastern North American forest. It can reach a height of 190 feet, often with no limbs until it reaches 80–100 feet, a feature that makes it a valuable timber tree. It prefers deep, rich, moist soil. Growth is fairly rapid, up to 3 feet per year, but without the usual problems of weak wood strength and short lifespan common in fast-growing species. Twigs have a sweet, spicy odor when broken, although some find the aroma bitter.

Winter buds are dark red. The four-lobed, bright green leaves grow 6 inches wide and turn bright yellow to brown in fall. At the Arboretum, the tree blooms in May—so high above that people may only see the flowers that rain, wind, or squirrels have caused to fall to the earth below. The large flowers are pale green or yellow with an orange band. They truly resemble tulips, as they are erect, not drooping. The flowers produce cone-shaped spirals of seeds in fall.



## Range

The tree is distributed in the U.S. from New England, westward to Illinois, and south to northern Florida. It is rare west of the Mississippi River. The finest stands are in the Southern Appalachian mountains, where trees may exceed 170 feet in height.

## Wildlife value

The tree begins to bloom, producing pollen, nectar, and seeds, around the age of 15 years. Since nectar is produced on the orange areas located on the inside base of the flowers, those with less orange usually produce less nectar. Although the amount can vary from season to season, during a good year, on a breezy day, it can seem to "rain" nectar.

Tulip poplar produces a large amount of seed, dispersed by wind. The seeds are an insignificant food source for wildlife, but they are eaten by some. Yellow-bellied sapsuckers will feed on the sap of the tree. Ruby-throated hummingbirds consume nectar from the flowers, and insects collect pollen. Squirrels will eat the flowers. The tree also attracts northern bobwhite quail, seed-eating songbirds such as purple finch, and other small mammals like rabbits, beavers, and mice.

## Human uses

Some tulip poplar folk remedies have been documented. Native Americans are thought to have used poplar as a tincture for inflammation and infection. There are reports from the 1800s of American settlers using it in treating a variety of maladies such as fever, bruises, and swelling.

The soft, fine-grained wood is a valuable timber product, both here and abroad, where it is sometimes sold as "American tulipwood." The wood has qualities similar to white pine. Early settlers harvested it for ships, paper mills, and construction. In modern times, it is used in organs, due to its ability to take a smooth, precisely cut finish. It also is used for siding clapboards, coffins, furniture, toys, cabinets, plywood, and pulpwood. It is known for being resistant to termites, and in the Upland South, house and barn sills were often made of tulip poplar beams.

Late-succession eastern forests are usually characterized by "oak-hickory" associations since these two trees are the dominant vegetation here. Although the mighty oak may best bear the title "king of the forest," the stately tulip poplar is certainly a queen, as Juno was. And at Adkins Arboretum, where the forest is estimated to be 90–100 years along, the tulip poplar rules. 🌿

## References

<http://grizzlyloghomes.blogspot.com/p/what-is-tulip-poplar.html>  
[http://en.wikipedia.org/wiki/Liriodendron\\_tulipifera](http://en.wikipedia.org/wiki/Liriodendron_tulipifera)  
<http://www.flmnh.ufl.edu/flowerpower/poplar.html>

# Native Plant Lore

## Edible Landscaping in Your Backyard

The philosophy of edible landscaping creates a dual-purpose garden: functional, edible plants within an aesthetically pleasing design. Growing fruits and vegetables does not necessarily require a large bed or an area separated from ornamental plants. Rather, edibles can be incorporated into existing gardens.

An edible landscape has multiple functions and produces tangible benefits. Growing some of your own food allows you to enjoy the diversity of tastes and colors of species and varieties not produced commercially. Access to produce right outside of your home also improves the taste and nutrition of meals. Produce consumed directly after harvest retains more nutrients and flavor than those transported long distances. Planting your own edibles also provides you with the security of knowing where your food originated and inputs involved in the process.

Starting your own edible landscape can be as easy as making a few substitutions for ornamentals. From groundcovers to shrubs and trees, edible shrubs or hedges consider planting highbush blueberry, highbush cranberry (actually a species of viburnum), elderberries, beach plum, or hazelnuts as a single shrub or hedge. Most of these shrubs also have beautiful spring flowers and pretty fall foliage.

Establishing a source of fruits and nuts in your yard does not necessitate planting an entire orchard but can be as simple as a few trees such as native persimmon, pawpaw, or serviceberry. Native nut trees such as pecan and black walnut add interest as well.

Adorn bare fences with color by training muscadine grapes, passion fruit (maypops), or blackberries. Muscadine grapes come in either a golden color or deep purple. Passion fruit vines die back in the winter but produce abundant lacy purple flowers in summer and rounded yellow-green fruit that contain seeds coated in a delicious sweet-sour pulp. Thornless varieties of blackberries produce long canes that can be tied to a trellis,

but the fruiting canes die back in summer and are replaced by new canes that will set fruit the following summer.

Vegetables can also be incorporated into flower beds. Brightly colored Swiss chard stems can be mixed in with marigolds. Lettuce or radishes can be planted in bare corners of flower beds. Cherry tomatoes exhibit their vibrant colors as decorative vines, in window boxes, or in hanging baskets. Low growing edibles create unusual garden borders and groundcovers. Consider framing garden beds with chives or strawberries or using oregano or creeping thyme for groundcover. Herbs can be combined to plant an aromatic herb garden or may be grown in pots suitable for smaller yards or patios.

Most edible fruits and vegetables require six hours a day of sun and well-drained soil. Specific maintenance requirements of edibles depend on the species, but all need some amount of watering, pruning, and pest management. However, the additional care is vastly offset by the delicious results and the satisfaction derived from direct participation in the production of food that will adorn your table.

**For further information on edible plants, enjoy one of the Arboretum's Soup 'n Walks, scheduled on Saturday, September 10, October 15, and November 12, from 11 a.m. to 1:30 p.m. See the program insert for themes and menus.**



persimmon (*Diospyros virginiana*)



(continued from page 5)

sweetgum (*Liquidambar styraciflua*)

along the paths. These youths' leaves will only finally be pushed out when the new leaves come in the spring. This may help to protect the branch tips at the lower level from browsing deer through the winter and earliest months of spring.

Some leaves have both the red and yellow pigment, producing a variety of multicolor variation like that found in sweet gum, sassafras, and sugar maples.

After the red and yellow disappear, the brown or tannin is left, due to the final breakdown of the chemicals in the leaves. Like young beeches, some of the white oaks hold on to their brown leaves through much of the winter. The fallen leaves eventually break down and become part of the forest floor, holding moisture for the roots and improving soil structure. As rainwater travels through the decomposing leaves, some of the tannins are dissolved. Since tannin is a chelate, meaning that it clings to minerals such as iron, magnesium, and calcium, it helps redistribute these valuable minerals, enhancing the rich floodplain that nourishes many of our ephemerals, ferns, and mosses. This golden tea color from the tannin is visible in the waters of Blockston Branch all winter long as it travels leisurely downstream, a strangely quiet reminder of the riotous color display from whence it came. 🍂

For more information, see *Fall Color and Woodland Harvests* by D.R. Bell and A.H. Lindsey, 1990, Laurel Hill Press.

**These species, all found at the Arboretum, turn a brilliant red color in autumn due to a chemical called anthocyanin.**

- Red swamp maple, *Acer rubrum*
- Devil's walking stick, *Aralia spinosa*
- Blueberry, *Vaccinium corymbosum*
- Flowering dogwood, *Cornus florida*
- Hearts-a-bursting, *Euonymus americana*
- Virginia sweetspire, *Itea virginica*
- Sweet gum, *Liquidambar styraciflua*
- Tupelo, *Nyssa sylvatica*
- Sumac spp., *Rhus spp.*
- Sassafras, *Sassafras albidum*
- Possumhaw viburnum, *Viburnum nudum*

**Xanthophyll is the name of the natural compound responsible for the strong yellows in autumn leaves, and can be seen at the Arboretum in these species.**

- Pawpaw, *Asimina triloba*
- River birch, *Betula nigra*
- Ironwood, *Carpinus caroliniana*
- Hickories, *Carya spp.*
- Redbud, *Cercis canadensis*
- Summersweet, *Clethra alnifolia*
- American beech, *Fagus grandifolia*
- Green ash, *Fraxinus pensylvanica*
- Spice bush, *Lindera benzoin*
- Tulip tree, *Liriodendron tulipifera*



ADKINS ARBORETUM

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## Purple Prisms in the Trees


By Sylvan Kaufman, Ecologist



**It isn't abstract art, it's science.** The purple triangles hanging in trees around Maryland, and at the entrance to Adkins Arboretum, monitor for an invasive insect pest, the emerald ash borer (EAB). EAB probably hitchhiked to the U.S. from its native Asia on wood packing crates via air or sea cargo

shipments. First identified by a Michigan entomologist in 2002, it has killed at least 20 million trees in the Midwest. Emerald ash borer reached Maryland in 2006, arriving in a shipment of infested ash trees from a nursery in Michigan to a nursery in Prince George's County. It is now found in Allegany, Anne Arundel, Prince George's, Charles, and Howard counties.

The prism traps lure emerald ash borer with color and scent. Purple was determined to be EAB's favorite color. The traps are scented with oils from the New Zealand manuka (*Leptospermum scoparium*) and Brazilian walnut (*Phoebe porosa*) trees. The oil mimics chemical scents emitted by stressed ash trees. The sides of the trap are coated with nontoxic glue.

There is a federal quarantine on the movement of any ash trees or ash tree products including green wood and wood chips and all hardwood firewood from infested areas to try and stop the spread of EAB. All of the counties in Maryland west of the Chesapeake Bay are under quarantine. Currently there is no treatment for infected trees, and EAB may prove as destructive to ash trees as the chestnut blight was to the American chestnut. 

For more information, visit [www.mda.state.md.us/plants-pests/eab/](http://www.mda.state.md.us/plants-pests/eab/).