



The Four Seasons

Letter From the Director

Despite the withering drought this summer and fall, the future is bright for the plant collections of the arboretum as we continue to build our network of plant resources in the region. One such effort is the newly formed Plant Collections Committee. The Arboretum's Collections Committee met for the first time in mid-August, and is scheduled to meet again on Saturday, October 23rd to tour and begin an assessment of the collections. From this meeting we hope to evaluate available space, and examine the balance in our collections.



We are also pleased to announce the offer of a unique opportunity

for the arboretum to receive a substantial donation of sweetbay magnolia (*Magnolia virginiana*) from an extensive collection of research germplasm housed at The Ohio State University. Superior individuals from this collection of regional

provenances will help build a unique collection of sweetbay magnolia at our facility. This donation of material would likely be included into the existing magnolia collection, and planted in a nearby open area that is not currently planted with trees.

Donations of services and monetary funds towards protecting and building the arboretum continues. Central Lawncare of Walton, KY has once again offered to protect our collections of ash trees from the emerald ash borer.

Recently, the local dental office of Dr. Candyse Jeffries generously donated funds from their 2010 "Go Green Contest" to Friends of Boone County Arboretum. These funds will go towards the purchase of a tribute tree to help replace trees lost from the collections of the arboretum. And last but not least, Friends of Boone County Arboretum raised several hundred

dollars from the fall plant sale despite being in the midst of a severe drought. All material for the plant sale is donated from members, volunteers, and the general public throughout the local area. Cincinnati Zoo & Botanical Gardens, Spring Grove Cemetery, and Scott Beuerlein donated substantial amounts of more rare and unusual plant material, some of which was kept to be planted at the arboretum.

On behalf of the staff of the arboretum, I hope everyone has a wonderful fall season with or without rain for our gardens!

Sincerely,

Kristopher A. Stone

Director, Boone County Arboretum

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As you make your Christmas lists in the upcoming weeks, consider a gift membership to the Friends of Boone County Arboretum for that gardener in your life!

What Is The Environmental Impact of Gardeners? Norbert O'Hare, Guest Columnist

Recent events have had me considering our environmental impact as gardeners and the idea of sustainable landscape practices.

When I was in the golf industry in the late nineties and the early years of the new century, golf had a terrible reputation in some circles because of its historically heavy dependence on pesticides. Since it is highly unnatural to cut turf grass at two-tenths of an inch, the game of golf can put stress on golf course turf by its nature, and with stress comes pest problems. The Audubon Co-operative Sanctuary Program was an initiative to help golf course superintendents take care of the environment, and it addressed some of the problems in golf's reputation.

At its very beginning, ACSP said this: "You've got a hundred acres of green space here! Beats a parking lot, eh?" Exactly the point. Golf can have a positive impact because of its nature, too. For home gardeners, even those not thinking much about their environmental impact, well, we're already doing good for the environment. When people think about the carbon imbalance and global warming, they think about large trees in rainforests, or possibly our own Arboretum. But since our back yards can't really be another arboretum, the small trees, shrubs, and bedding plants do contribute. They do give off small amounts of oxygen, and lawns and flower beds don't radiate heat back into the environment the way man-made structures do,

plus they allow moisture to penetrate the soil instead of run off. Stopping erosion and conserving moisture is where home gardens have an even larger impact. When we mulch our beds, our biggest goal is probably to avoid hours of weeding. But mulch also conserves moisture in the soil, and stops erosion. Likewise, home lawns do the same, although we may think of them simply as a framework for the larger landscape. For those who wish to do more, they are mulches made of recycled materials, compost to use as an amendment and fertilizer, and plant oils for use as pesticides. However, your garden is environmentally friendly just the way it is.

Collection News

by Josh Selm, Curator

As the longer and cooler nights of fall signal the end of the growing season for deciduous plants, the plants start shedding their leaves, usually creating a vibrant display of color in the process. Leaf colors are caused primarily by three pigment types. Chlorophyll is the pigment responsible for the green color, and is what allows the leaf to turn water and carbon dioxide into sugars for the rest of the plant. Carotenoids give the leaves yellow, orange, and brown colors. Anthocyanins, not usually present until the fall, produce the darker shades of red, blue, and purple. Chlorophyll is the dominant pigment, but it is relatively short lived. The leaves stay green through the growing season because the plant is constantly producing more of it.

Shorter days and lower sunlight intensity triggers a layer of cells to form at the base of the leaf, gradually closing off the veins that carry fluids and sugars into and out of the leaf. During the day, leaf activity (sugar production)

continues until this new separation layer is complete and no more water is available to the leaf. Chlorophyll can no longer be produced, so its concentration lowers and colors of the carotenoids and anthocyanins are able to be seen, enhanced by the sugars that are trapped in the leaf. Certain colors are characteristic of particular species. Oaks turn red, brown, or russet; hickories, golden bronze; aspen and tuliptree, golden yellow; dogwood, purplish red; sourwood and blackgum, crimson. Red maple turns brilliant scarlet while sugar maple turns yellow or orange-red. The best colors come when high soil moisture provides plenty of water and warm sunny days combine with nights that are cold but not freezing. But even with perfect conditions, leaves of some species simply shrivel up without any significant coloration. Eventually, all the leaves fall to the forest floor, where they provide food and shelter for a different segment of the ecosystem.

Unfortunately for many plants, this year's drought didn't allow the leaf-drop procedure and associated color change to happen as normal. Drought-sensitive plants, because they are not getting enough water, and are pulling as much moisture and sugar out of the leaf as possible, storing it for next year's growth. Leaves dry up, wither and fall off either brown or sometimes without any substantial color change at all. Another potential effect of the drought will show up in the spring. Plants that will be producing flowers in early spring next year have already set their flower buds in late summer of this year. Without enough moisture available, some of these buds may not have completely formed, or the branches they are set on may not be strong enough to overwinter properly. Just keep your fingers crossed for a mild winter and favorable growing conditions next year.

Josh Selm
Curator, Boone County Arboretum

Membership Update

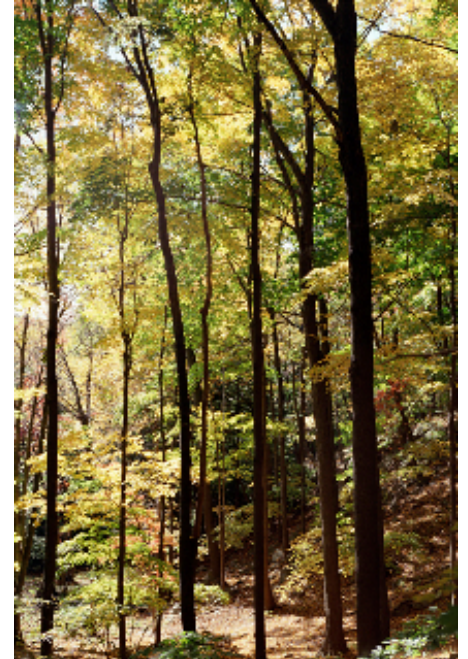
Please take a look and see if your membership is expiring soon. Visit www.bcarboretum.org to renew your membership online or print off a membership form to mail in. Be sure to check out our list of new and improved membership benefits! Call Laura Kline at 859-586-6101 or email at laura.kline@uky.edu for details.

Catherine Baker	11/30
Freda Carlin	11/30
Connie Householder	11/30
Terri Iacobucci	11/30
Andrew Johnson	11/30
Kathy Larcom	11/30
Kris Stone	11/30
Ginny Yahl	11/30

Thanks to our new members and to those who have renewed their memberships of the Friends of Boone County Arboretum since September of this year!

Pat and James Adams
 Wayne and Carol Beckwith *Supporter*
 Bernie Bolte
 Ginny Claar
 Alexa Manning
 Gerald Montgomery
 Joyce Nessler
 Andy Ray
 Sy Sypolt

The Friends of Boone County Arboretum is filled with incredibly generous people. Not only do you provide support monetarily, but you are so generous with your time. On behalf of all arboretum staff, we deeply thank you for all your support.



Events

Friends of BCA Meetings

Monday, October 25
 Monday, November 22
 Monday, December 13 (Holiday Party)
 6:30 p.m.

Lunch and Literature

Wednesday, November 10
 11:30 a.m. to 1:30 p.m.
 We are reading the book *Food Not Lawns*, by H.C. Flores. Bring a lunch,

drinks and dessert provided.
 Call 859-586-6101 to register.

Holiday Decorating with Natural Material

Monday, November 22
 1:00 p.m.
 Learn four different holiday projects to decorate your home for the holidays. Space is limited and you must register for this class. 859-586-6101.



The Arboretum

Staff

Kris Stone, Arboretum Director
 Josh Selm, Arboretum Curator
 Mike Klahr, Extension Agent
 Laura Kline, Volunteer Coordinator

Friends of Boone County Arboretum

Officers

Marea West, President
 Denny Mathis, Vice President
 Martin West, Treasurer
 Janet Samples, Secretary

Friends of Boone County Arboretum

Board of Directors

Catherine Baker, Ed Bowmann,
 Cathy Flaig, Mary Alice Gruden,
 Alvera Kincart, Mike Klahr, Laura Kline,
 Denny Mathis, Linda Padgett, Kris Stone,
 Jan Taylor, Vicky Tewes,
 David Whitehouse

The mission of Friends of Boone County Arboretum is to create community awareness and participation at the arboretum by involving individuals, families, schools, sporting groups, community organizations, garden clubs, and other interested parties through memberships, donations and active volunteerism.



COOPERATIVE
EXTENSION
SERVICE



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College of Agriculture

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Burlington, KY 41005

**FRIENDS OF BOONE COUNTY
ARBORETUM**

Phone: 859-586-6101
Fax: 859-586-6107
Email: arboretum@boonecountyky.org

We're On The Web!
www.bcarboretum.org

Horticulture Concerns

Dr. Mike Klahr, Extension Agent for Horticulture

Question: *I am interested in having a variety of flowering bulbs that will bloom at different times next spring. Can you suggest which ones to plant, and how to plant them?*

Answer: When people hear the word “bulb,” they immediately think about spring blooming bulbs like narcissus and tulips. However, a wide variety of bulbs can produce a showy display in the garden from very early spring until late fall. Bulbs generally bloom in a predictable sequence. For example, crocus bloom earlier than narcissus. The sequence may remain the same from season to season, but the exact date of bloom will be affected by weather conditions in a particular location. A cool spring may delay bloom for two or more weeks; likewise, an unusually warm spring may induce early flowering. Bulbs usually bloom earlier if planted on the south or west side of a house, especially if they are planted rather shallow. The earliest blooming bulbs for color next February and March include Crocus, Greek Anemone, Glory-of-the-Snow, Winter Aconite, Snowdrops, Daffodils, and Siberian Squill. Sev-

eral of these continue blooming into April. Others that bloom in April include Trout Lily, Crown Imperial, Hyacinth, Grape Hyacinth, Puschkinia, and tulips. Some of these continue blooming into May. Additional hardy bulbs, tubers and corms that can be planted now for May bloom include Allium, Camassia, Spanish Squill, and Bluebells. Many Alliums keep blooming into June and July, and are joined by other summer bloomers such as Brodiaea, Asiatic Lilies, and Aurelian Lilies. Oriental Lilies bloom in July and August, when they are joined by various types of Lycoris. And Autumn Crocus finally blooms in September. All the above mentioned bulbs, tubers and corms may be safely planted this fall for seasonal bloom in 2011 and subsequent years.

Most bulbs will tolerate a wide range of soil conditions. They generally do best in soils with a pH range of 5.5 to 6.5, although some, such as hyacinths, do better in a slightly more acidic soil. In general, soil type is not as important as soil drainage. Avoid planting in low, wet areas, or in soils with poor drainage because bulbs will not

reach maximum growth potential and will often rot under such conditions.

When choosing a planting location, consider that most bulbs prefer full sun conditions. Spring blooming bulbs can be planted under the canopy of deciduous trees. These bulbs generally bloom and complete most of their growth cycle before trees fully leaf out.

Bulbs and corms are generally planted at a depth equal to two to three times the diameter of the bulb. Some exceptions include stem rooting lilies, which need to be planted a little deeper, and the Madonna Lily, which is planted just below the soil surface. Soil type also affects planting depths. Bulbs should be planted deeper in sandy soils than in clay soils. Most bulbs do not require a fertilizer application at planting. Although it is not essential, applying bone meal may be beneficial in some soils. You should water all bulbs thoroughly at planting time. This not only helps to establish good contact between soil and bulb, but also helps to initiate root growth as soon as possible.