Trumpet Vine

Knowledge for the Community from Loudoun County Master Gardeners

Winter 2013

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The Gardener's Winter

Non-gardeners think that gardeners don't have anything to do in the winter! It's true that the pressure is off, no weeding or watering, but we manage to keep quite busy.

Those bare root tree seedlings obtained in March? Still in pots and on the deck where they were watered regularly and thrived throughout the hot, dry summer. They just need to get planted before the ground freezes. The same holds true for those daffodil bulbs that are still in bags. And the two little pagoda dogwoods purchased two years ago at a native plant sale – are they ready to go out on their own or will they just become deer food? I think I'll repot them and keep them close for another year. And dare I mention some structural pruning of my trees this winter?

The potted perennials are heeled in for the winter under a blanket of leaf mulch. Once I start shredding leaves, I don't know when to stop. Leaf mulch is pure gold. I shred all the leaves in my yard and start eying my neighbors' leaves. They never complain when I take them! A good layer of leaf mulch on all the beds and in the garden creates great topsoil in a short period of time.

Once the chores are done in January we can settle down with our gardening books, seed catalogues and thoughts and plans for the next season. The best winter is just a nice long hibernation for the gardens and the gardeners. But too often there are ice storms, high winds, and heavy snows that can damage trees and shrubs. So gardeners are often the first out the door after a storm to free up shrubs weighed down by snow and to assess and repair any damage.

Then by mid-February we start to set up the lights in the basement to start our vegetable seeds and herbs. It is a true dedication and love of nurturing that compels us. And that is a gardener's winter!

Every gardener knows that under the cloak of winter lies a miracle … a seed waiting to sprout, a bulb opening to the light, a bud straining to unfurl. And the anticipation nurtures our dream.

- **Barbara Winkle**

LOUDOUN COUNTY MASTER GARDENER LECTURE SERIES

FREE AND OPEN TO THE PUBLIC, 7PM
RUST LIBRARY,
380 OLD WATERFORD RD, NW,
LEESBURG

Jan. 3 2013. *Trash into Treasure or Composting 101,* Debra Maes

Feb. 7, 2013. *Monarch Butterflies, - Featherweight Fliers,* Marie Majarov

Mar. 7, 2013. *Alien Weeds: Art from the Invasive Plant Harvest,* Patterson Clark

For more information, please visit our web site at loudouncountymastergardeners.org

SAVE THE DATE

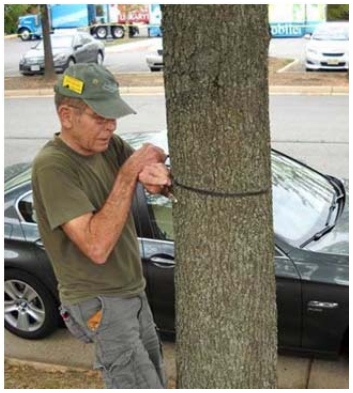
2013 GARDENING SYMPOSIUM. April 6 and 7, 2013 at the Ida Lee Park Recreation Center, Leesburg, VA.

Two glorious days of great speakers, vendors and non-stop garden talk.

Visit us on Facebook: Master Gardeners of Loudoun County, Virginia.

LCMG Tree Stewards Assist Loudoun County Parks & Recreation

The Loudoun Tree Stewards took on a project this year to provide tree inventories for many of Loudoun County's public properties. The landscape maintenance of these properties is under the leadership of Chris Kenney, Parks and Recreation, Horticulturalist and Arborist. She is responsible for determining how to allocate maintenance dollars across Loudoun's government-owned properties. These include libraries, government office building, parking lots, and community centers. Many of these locations have more than 100 trees.



Dave Hellums measuring a tree

Using plats for each property provided by Ms. Kenney, the Tree Stewards marked the tree locations and provided labels as to the type of tree. Some plats required a total revamping of the tree locations and tree identifications as trees had been removed, replaced or infrastructure changes had occurred. We did not have access to sophisticated software or equipment to mark the tree locations and record our findings. We simply used an excel spreadsheet to collect the tree's diameter at breast height (DBH - 4.5 feet from the ground), assessed the tree condition, determined whether the trees were too close to utilities, sidewalks or buildings, assigned an overall condition score and made recommendations on maintenance. Some teams used tools such as a "caliper" to measure the diameter of the tree while other teams used tape measures and calculated the diameter by dividing the circumference by pi (3.14). We collected the information on paper copies of spreadsheets while in the field and then transferred the information to the electronic database. Several different tree field guides books were used in the tree identification process.

How will these tree inventories be used? Ms. Kenney stated, "Tree inventories are valuable on several levels. First, the information is used to document trees as a site asset - to establish the total value of that asset and also to provide a baseline for measuring the health and viability of the asset over the years. The inventories act as institutional memory, perhaps providing clues in the future to solve mysteries. Recording damage or harmful events can provide needed information in evaluating tree condition after the evidence is long gone."

Barb Bailey entering data

The tree inventory database also provides information for budgeting, for contracting work, and for providing predictions of future work needs. There are accepted methodologies that can convert the database information into an asset value providing Ms. Kenney and others with value of our trees on public properties.

Loudoun County Master Gardener Tree Stewards are volunteers who actively promote appreciation of the social, economic, environmental, and mental health benefits provided by trees within the community. Drawing on the horticultural research and experience of Virginia Tech and Virginia State University, Tree Stewards offer advice on the selection of appropriate species, planting and caring for trees. We can also help in the safe use of pesticides and fertilizers to protect the county's water quality and the ecosystem.

Alta Jones, LCMG Tree Steward

Beginning in 2010 the Master Gardeners have been hosting an annual gardening symposium for the community. We select a variety of topics and outstanding speakers that will appeal to the whole spectrum of gardeners. The symposium speakers educate, inspire and entertain. We also have a small selection of local vendors selling plants, garden art and garden-related products to round out the weekend symposium experience.

Circle your calendars for April 6 & 7, 2013 for the 4th Annual Loudoun County Master Gardener Gardening Symposium, held at Ida Lee Recreation Center in Leesburg.

Here's an introduction to three of our Saturday speakers.

Joseph Murray has a M.S. in Plant Pathology (Virginia Tech), Masters in Teaching (University of Richmond), and a B.A. in Biology (Radford University). Joe is a certified arborist, certified utility arborist and a certified tree worker/climber specialist. Joe belongs to numerous regional, national, and international arboricultural professional societies. Although his "day job" is teaching biology at Blue Ridge Community College, he prefers his other job as a consulting arborist. He serves as a regional coordinator for the Virginia and National Big Tree Registries and is involved in a number of research projects. Joe is a popular speaker in the tree community.

Catherine Zimmerman is an award winning filmmaker and sustainable landscape designer based in the Washington, DC area. She is accredited in organic land care through the Northeast Organic Farmers Association, N.O.F.A. She has recently authored *Urban & Suburban Meadows, Bringing Meadowscaping to Big and Small Spaces*. Catherine is a regular contributor to the blog 'Native Plants and Wildlife Gardens'. Since May 2011, Catherine's Meadow Project has been consulting and helping Wolf Trap's ecologist, Phil Goetkin, establish a one acre meadow in front of the Filene Center.

Jim McCormac has long been interested in birds and botany, and those interests have branched to include most aspects of natural history. He has made a career of nature, and in his "real" job he works for the Ohio Department of Natural Resources, formerly as a botanist and now specializing in nongame wildlife diversity issues, especially birds. He was inaugural president of the Ohio Ornithological Society, and served for seven years as secretary of the Ohio Bird Records Committee. He is author of *Wild Ohio: The Best of Our Natural Heritage* (Kent State University Press 2009) which won the 2010 Ohioana Book award. Jim writes a column, *Nature*, for the Columbus Dispatch, and has authored or co-authored over 100 scientific and popular articles in a variety of publications.

More information on the program will be available on our website, beginning in January tickets will go on sale in mid-February. Registration will be $45 for one day and $70 for both days, a boxed lunch is included. Selections will include a vegetarian option. Registration will be online and by mail, please check our website, http://www.loudouncountymastergardeners.org/.

Becky Phillips, Master Gardener

A Garden Bonus … Overwintering Vegetables

It is human instinct that once we realize we want something we start thinking or planning how to get it. We welcome the challenge of making it happen, but sometimes our commitment does not quite live up or waivers. Would you admit that you have craved freshly picked vegetables even in the cold of winter, especially if you have been spoiled by the bounty of summer and fall vegetable gardening?

On a nicer winter day, it's good to be able to walk about outside or sit by the patio or deck. And it would be even nicer if there were vegetables and herbs that could still be gathered and brought in with promises of a healthy, hearty winter meal.

Kale

But we did not get around to building hoops or cold frames to make sure cool-season vegetable seeds we had sown in late summer and fall would reliably grow and thrive through the winter. And the best we could do to put the vegetable garden to bed was cover it with straw.

Parsley

And perhaps we got to plant the garlic cloves, but we knew they would be fine underground and did nothing more.

If you prepared well, there will be root vegetables and brassicas plumping up for a winter harvest. But that is another level of reward; you planned for it after all.

Unplanned overwintering vegetables are more of a surprise, a bonus. You may have them out there now from seeds you had sown in late summer or early fall. You did not do anything special, but they could be there flourishing now ... kale, chard, parsley, Asian greens or spinach. If no such luck this year, keep it in mind next growing season. These vegetables could thrive with little protection through the winter and provide a harvest for the winter pot. Plant them in the fall and do not pull them out just because it is turning to winter.

Chard

For now, if you need to harvest all the kale greens or take the cabbage head, leave the stumps in the ground. You will be rewarded with new bonus sprouts in very early spring before any planting.

Thick mulch like straw would be all the protection needed for these bonus overwintering vegetables, only to have a little something from the garden in winter. But remember, if you want a reliable harvest through the winter, plan for cool-season selections and good protection, and carry out that plan beginning as early as late summer. Even make that a New Year's resolution and write it down in your 2013 calendar!

Maria Daniels, Master Gardener Intern

House Plants: So You Think You Have A Black Thumb?

Just as with outdoor plants, for indoor plants it's location, location, location. Indoor plants have their own challenges with "weather." When it's warm inside, there is less light available through a window and conversely, when it's cold inside there's more seasonal light. All this is contrary to nature. Dealing with this problem is easy. You should water less frequently in the summer (often as long as two weeks) and more in the winter when the heat sucks the humidity out of the air.

Most people kill their plants with "over love" or over watering. If you are fortunate to have a soil probe — not a meter— using the probe will help you determine if the plant needs water. You're safe in letting it dry down by two-thirds. The best time to water is at the point of wilt. A Peace lily *(Spathiphyllum)* will tell you loudly!

The easiest plants to grow are in the *Dracaena* family (*Massangeana* Cane, or Corn Plant, Janet Craig, *Marginata* and others) not only because they have fewer pest problems, they also hold water in their stems and trunks and prefer to be ignored. And really, the rubber fig plant (*Ficus)* is not that difficult. It's typical for them to shed leaves as they acclimate to a different light level. If they have summered outdoors when you bring them in, just place them in the brightest light you have and cut down on the water. It is important to spray down any plant that has been outside in the summer with water before you bring it inside as you will dislodge potential pests.

Chinese Evergreen

Lower light plants like *Dracaena,* Pothos/Devil's ivy and Chinese evergreen *(Aglaonema*) shown at the right, if in the proper light, can often go without water for two to three weeks, sometimes a month, depending on the season and the size of the grower's pot. Use your probe or finger. Any plant in the cactus family can go a month or more without water. Duplicate nature with high light and no rain. A Sago palm or Ponytail palm (*Beaucarnea recurvata*) can be treated the same way. Any plant with a bulbous base retains a lot of water in its base.

Generally a 6-inch grower's pot will need one and a half cups of water depending on light. More light equals slightly more water. A 10-inch grower's pot needs two and a half cups if it's in the *Dracaena* family and a quart if it's in the *Ficus* or *Schefflera* family. A 14-inch container will drink three cups if it's a *Dracaena* and two quarts in the higher light requirements of the *Ficus* or *Schefflera* family. All these amounts may vary some. Again, it's location, location, location!

Now let's debunk some common myths:

1. Misting is necessary. In the winter for truly tropical plants, filling the saucer with pebbles is adequate and even that is overrated. Move them away from the heating vent.
2. Repotting is necessary. Unless you see a lot of roots on TOP of the soil - leave it alone. You'll never be able to duplicate the soil the plant came in. It's too disruptive for the roots to repot. If you see a root coming out of the bottom of the pot, just prune it off. Many plants need to be pot-bound to bloom.
3. Regarding the common greenhouse bloomers, don't expect them to give you a show for an extended period of time. And give those poinsettias a heave-ho before Valentine's Day! It's nearly impossible to get them to re-bloom.

Don't be defeated if you have trouble with a dish garden. They, too, are designed for an immediate show. They are mostly planted with high light and low light plants in the same container, and heavy drinkers with plants that prefer to be dry. The growers set you up for failure, so you'll buy more, of course. It's business!

Finally, make sure those indoor plants you purchase in the winter go out of the store with some kind of protection from the cold. After all, you wear a winter coat, don't you?

Tia Mayer, Master Gardener Intern

Winter Blahs? Try Forcing Bulbs for Color!

It's all in the planning, so they say. You can force tulips, crocuses, daffodils, scillas and grape hyacinths to bloom from December to March indoors with the proper planning. The planning is necessary because these bulbs are subject to a 'cooling off' period before they can be forced to bloom. That equates to 12 - 15 weeks in the fridge (or a 35-45 degree dark cellar). For the calendar's sake, starting the bulb cool down in mid-October will allow colorful blooms in mid-February. Here's how:

1. Purchase top quality, good sized bulbs and handle with care at all times.
2. Use clean/sterile plastic pots with drainage holes and a good soil mixture of potting soil, sphagnum peat moss and perlite. (You can use clay pots but they draw moisture away from the soil mixture so soak pot in water before continuing).
3. Decide what bulbs to plant in what pot. Consider colors. For example, a 6-inch pot will hold 6 tulips, 3 hyacinths, 6 daffodils, or 15 crocuses.
4. Place soil mixture loosely in pots. Place bulbs in next, being careful to not push bulbs down. Then cover bulbs with soil mixture.

- Plant tulips with flat side of bulb against the container.
- Tulips and daffodils can have tips showing out of dirt.
- Smaller bulbs should be covered completely with soil mixture.

5. Water thoroughly and mark date on pot (so you remember when to take them out). Plant in intervals for staggered blooming.
6. Place pots in fridge or dark cellar for 12 to 15 weeks.
7. Remove from cold storage and place in 60-65 degree area until shoots turn green. Indirect sunlight is best. Keep soil moist.
8. Move to a warmer location with more light to stimulate bud growth – should be 3 to 4 weeks before it blooms. Again, remember to water.

If you missed the window of opportunity for the "fridge treatment", then you are still in luck as paper white narcissus bulbs can be forced without cooling. Total time is 4 to 6 weeks. Here's how:

1. Use clean decorative bowl, vase or non-holed container of your choice. Glass is fun so you can watch the roots grow!
2. Fill to within 1 inch of the top with pebbles, pea gravel or coarse sand. Add water to just below the medium surface.
3. Place narcissus bulb on top and cover with more medium – about ¼ of bulb covered.
4. Keep in cool 50-55 degree room under low light until roots form and shoots appear – about 2 to 3 weeks. Maintain water level below bulb.
5. Slowly expose container to light/warmer temperatures in a southern exposure until blooms appear – another 2 to 3 weeks. Move to indirect light to maximize bloom time.
6. Plant bulbs in 2 week intervals using several different containers so you can enjoy them for months! Discard after blooming.

For more details on varieties of bulbs to force and method visit:
http://extension.missouri.edu/publications/DisplayPub.aspx?P=G6550

Barb Bailey, Master Gardener

Landscape Design in Winter

Winter is a great time to evaluate your existing landscape, when it is most bare and your gardening pleasures—and chores—have lessened. It is the time of year when the "bones" of your garden areas are easiest to see and you can begin to assess what you have and what you may like to change or add:

- *Hardscapes* – provide structure and form to the space. Evaluate existing walls, paths, steps, and patios when they can be seen more clearly, without greenery and flowers softening the edges
- *Garden structures* – decks, arbors, gazebos, fences and gates have a functional role to play in the garden (winter is a great time to add needed repairs and 'sprucing up' activities to your springtime to-do list)
- *Water features* – ponds, pools, fountains, pond-less waterfalls and bird baths supply interesting sights and sounds and attract wildlife to your yard
- *Woody and herbaceous plants* – trees, shrubs, vines and perennials (plants that return every year) provide the living framework to your yard
- *Garden art* - a special personal touch here and there can make your garden sing

When appraising your own landscape, the **first thing to consider is how the space is to be used**. What is its primary function: a retreat for private pleasure? A place to entertain family and friends? A display and cutting garden or a place to grow vegetables and/or fruits? A play space for children and dogs? Perhaps all of the above.

How is it currently meeting those needs? Do you have the square footage to provide 'rooms' in your yard for different functions, or do you only have space for a 'multi-purpose' room? What changes need to be made to improve the ebb and flow between those distinct uses? Do you need some screening for work areas or privacy from neighbors or a busy street? Would a raised bed or a low seat wall help to divide the space, giving the area structure and definition, as well as add some interest by changing the grade?

Next, **consider the way you would like it to look and feel**. Do you prefer informal or formal gardens? Free-form and wild or symmetrical and uniform? Note: *does the design style that you are attracted to fit with the function your landscape needs to serve? And does it also complement the architecture of your home or townhouse?* A very formal garden style might not function well in a play area for children and might look out of place with country farmhouse architecture.

Is year-round interest in your plantings important to you? Do you want to attract birds, butterflies and bees? Do you want your yard to flow into the natural lands at its edges (if you are fortunate enough to have untouched areas bounding your property)?

Finally, **observation, photos and note-taking are key to capturing your assessments**. Start a notebook or journal with your findings. Look at your landscape and photograph it from lots of different angles. Take a walk with a camera around your neighborhood, snapping scenes that appeal to you. Or visit a botanic garden in the off season to gather ideas and photos of vignettes that have that something extra, even in winter. (Often black and white photos can show you more about structure than color photos, if you have that option.)

If tackling the entire landscape seems too big an undertaking, try starting with smaller bits. One of the assessments that professional designers consider when starting the design process is the key viewsheds. A **viewshed** is *an area of land, water or other environmental element that is visible from a fixed vantage point*. In residential design, one of the best places to evaluate the viewshed is simply out your most enjoyed windows. Windows are like frames to the landscape outside. Pour yourself a cup of hot tea and spend some time gazing out your favorite windows, especially when there isn't any snow. (Snow can hide a multitude of sins; even a pile of rocks can look magical under a lovely blanket of new-fallen powder.)

What do you see? What do you like? What would you alter to make it more pleasing, just for that one vista? Looking out through the windows helps to give you starting points in your own landscape, a manageable view at a time.

So take photos, make notes, and record ideas that may have to wait to be addressed at a future time when the ground and the weather are more cooperative. Now is a good time to dream and envision your landscape the way you *would like it to look* and start getting a plan to move forward!

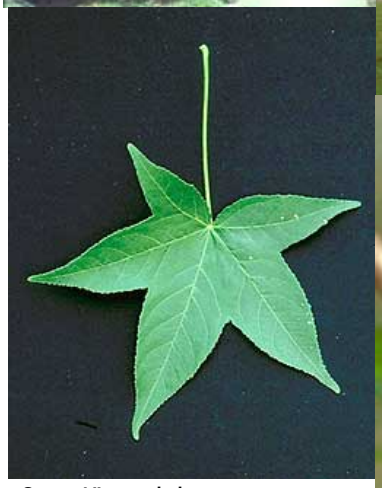
Edye Clark, Master Gardener

ABCs of Trees

Botanical Name: *Liquidambar styraciflua*

Common Name: **American Sweetgum**

NATIVE



Zones: 5 – 9, native to eastern and southern United States and Mexico

Family: *Hamamelidaceae*

Habit: deciduous

Form: medium to large tree, with pyramidal shape for most of its life due to apical control

Height: 60 to 75 feet

Spread: 2/3 to equal the height

Growth rate: moderate to fast, 2'to 3'/yr

Texture: medium in leaf; medium in winter

Leaf: alternate, simple, palmately veined; 4-6" across with 5 to 7 lobes; look like stars, deep green with finely serrated edges; excellent fall color—purple, pink to orange, red depending on cultivar

Flower: not showy, late April-May, monoecious, female on a slender stalk with a globose head, male on a terminal upright 3 to 4" panicle

Fruit: spiky balls, 1 to 1 ½' in diameter, fruits fall in November to April, creating a maintenance problem

Flower with male parts on upright panicle and female part on stalk below.

Bark: smooth, ashy-gray when young; later becoming rough, with long vertical splits and furrows

Site Requirements: grows on a great variety of sites, best in rich clay or loam soils; not good in small areas where roots are limited, avoid polluted areas; can withstand flooding and is resistant to storm damage; best transplanted in spring

Diseases and Insects: generally a low pest tree; known pests include bleeding necrosis, leaf spots, sweetgum webworm, caterpillars, cottony-cushion scale, walnut scale; iron chlorosis in high pH soils

Landscape Uses: lawn (seedless cultivar only), park or street tree; needs large area for root development

Corky "wings"

Noteworthy: *Liquidambar* (commonly called sweetgum) is noted for reliable fall color which may last for as long as 6 weeks, and many cultivars are bred for fall foliage. It is also attractive in winter with its conical silhouette and interesting bark. Corky ridges form on its younger branches and twigs. Cardinals, finches, juncos, mourning doves and wrens eat its seeds and the leaves are larval food for the luna moth. While no plant is deer proof, the sweet gum is not preferred by deer.

In keeping with the theme "when given lemons, make lemonade," the gumballs can be put to good use:

- Put them through a chipper and use them for mulch
- Martha Stewart has directions for making gumball wreaths (search on *sweetgum wreaths*)
- String them together in a swag
- Make Christmas tree ornaments, embellishing them with toothpicks and gold or silver spray paint (pictured here to the right)

Recommended Cultivars:

- *Liquidambar styraciflua* **'Burgundy' –** purple fall foliage, holding late.
- *Liquidambar styraciflua* **'Festival'** - narrow, upright, with pink and orange fall color
- *Liquidambar styraciflua* **'Moraine'** – red color foliage
- *Liquidambar styraciflua* **'Palo Alto' –** orange red fall foliage
- *Liquidambar styraciflua* **'Rotundiloba' –** this tree made the list of "Trees for the 21st Century" from the *The New York/Mid-Atlantic Gardeners' Book of Lists* by Bonnie Lee Appleton and Lois Trigg Chaplin. 'Rotundiloba' is a fruitless (no gumballs!) cultivar of the sweetgum. The leaves have rounded, not pointed, lobes. It is a proven tough city tree in southern Virginia. On occasion, this cultivar may revert back to the species, so prune out branches with pointed leaves.

Fruitless, lobed leaf cultivar

Sue Russell, Master Gardener, Tree Steward

ABCs of Trees

Botanical Name: *Malus sargentii*
Common Name: **Sargent crabapple**

Zones: 4 – 7

Family: *Rosaceae*

Habit: deciduous

Form: small tree, mounded, dense branching

Height: 6 to 8 feet

Spread: 9 to 15 feet

Growth rate: slow to moderate

Leaf: alternate, ovate to oval, 2-3 inches long and 1-2 inches wide, sharply-toothed leaf margins, deep green color in summer and yellow in fall

Flower: pink to red bud opening to white, fragrant, 5-petaled blossoms, 1" wide, flowers in clusters and very showy

Fruit: crabapples, $^{1}/_{3}$" – ½" in diameter, held in clusters, shiny, deep red color, very showy in the autumn, very attractive to birds

Bark: scaly, gray-brown color, not of particular ornamental importance

Site Requirements: prefers full sun, very tolerant of a range of soils but prefers moist, organic, slightly acid soil

Diseases and Insects: Sergeant Crabapple is relatively resistant to most crabapple disease and insect problems. Because all crabapples are cross fertile and hybridize freely, there are 400 to 600 different varieties and many of them are susceptible to scab, fireblight, cedar apple rust, scale, borers and aphids. Native crab apples are more likely to suffer from these diseases. Sargent Crabapple is native to Japan. Research each variety and its disease resistance before making a decision.

Landscape Uses: The Sargent crabapple is a small tree and nearly twice as wide as it is high. It makes an excellent patio tree; it can also be planted in small groupings or used as a specimen tree.

All crabapples produce showy blooms. A selection of crabapple varieties can produce a two-month blooming period. Larger varieties of crabapple can be used to replace Bradford pears.

Crabapple trees fell out of favor due to their susceptibility to a number of diseases. But new disease resistant varieties, their high wildlife value, their beautiful spring blooms and showy fruit make them worthy of a second look as an ornamental in the landscape.

Carol Ivory, Master Gardener Tree Steward

Avoid Winter Damage to Trees and Shrubs

It is a perfect time of year to walk your property and assess your trees and shrubs. Most of the leaves have fallen and you can get a good look at the structure of your plantings as well as see if there are any damaged limbs that need to be pruned out before a heavy snow fall or ice storm.

You can look for trees that have **structural damage** from previous storms like Hurricane Sandy or trees that have weak, narrow-angled, V-shaped crotches. Early winter is a great time to proactively prune these defective branches and it might save you the heartache of a broken branch that may splinter and tear down into the trunk. Publications on proper pruning: http://pubs.ext.vt.edu/category/trees-shrubs-groundcovers.html .

Should you have to deal with **broken branches** after an unruly winter storm, prune the branches off below the damage, to the next set of healthy branches at the collar (see pruning guide link above). If the branches are large and high up on the tree, call an experienced professional arborist (our Help Desk can recommend arborists) and do not attempt this feat yourself.

Snow that has piled on tree limbs or shrubs can be brushed off lightly with a broom. Brush in an upward motion but be very careful as you can break a limb and cause damage. If there is ice, or the snow has hardened and the branches are not broken, it is best to let the snow and ice melt off gradually.

Winter damage can also take the form of **desiccation** (dehydration) and show up looking like the leaves are burned. Evergreens are particularly susceptible to this type of damage as their leaves continually lose water – even when dormant. In order to prevent this if you have had a dry fall, like we have, you need to continue to water until it freezes outside and you can't use your hose. It is even a good idea to water in the middle of winter if you get a warm day or two and can thaw out the hose. Always make sure there is 3 inches of mulch surrounding the plantings (3 inches away from the base/trunk) to thwart water evaporation at the root level.

Something else to watch out for is **salt burn** due to chemicals used to melt snow from the roadway and sidewalks. The chemicals can burn the tips of any planting and actual change the structure of the soil. In order to prevent this, don't use a salt based snow melt! Try using sand or sawdust to get a better traction on the snow/ice. If you must use a salt based chemical, don't pile the snow with it against your landscaping. Then in the spring flush the soil with 2 inches of water over a couple of hours (slow stream) and repeat after 3 days.

Photo credit: Stephanie Fagan, Jennifer Benner and Danielle Sherry from Fine Gardening

Barb Bailey, Master Gardener

THE GARDEN WONK: PHENOLOGY

What do a robin building a nest, a butterfly emerging from a cocoon and a cherry tree in bloom all have in common? They are all examples of phenology, or the study of seasonal life cycle events in plants and animals. Throughout history people have used phenology to make decisions about when to plant crops and when and where to hunt for particular animals. More recently, phenological observations have proven to be very valuable in documenting species' and ecosystems' responses to changing climate conditions.

So what is phenology? The word is derived from the Greek word *phaino* which means to show or appear. Phenology refers to recurring plant and animal life cycle stages, such as leafing and flowering, maturation of agricultural plants, the emergence of insects, or the migration of birds. Phenology is the study of these recurring plant and animal life cycles, especially their timing and relationships with weather and climate. Phenology is "nature's calendar"—when cherry trees bloom, when the robin builds its nest, when the leaves turn color in the fall. There have been observations of phenological events since ancient agricultural times. Many cultures, including our own, have traditional phenological proverbs and sayings which indicate a time for actions. You've probably heard old sayings such as "when you hear the peeper frogs, it's time to plant the peas" or "when the redbuds blossom, tent caterpillars nest" or "plant tomatoes and peppers when the daylilies start to bloom. Early farmers without thermometers had no choice but to rely on these indicators for planting. In Japan and China, the times of the blossoming of the cherry and peach trees are associated with ancient festivals.

There have been many famous historical observers of phenological events. Thomas Jefferson made phenological observations at Monticello 300 years ago. Henry David Thoreau spent six years recording flowering dates of 500 plants in Concord, Massachusetts with the aim of producing a calendar based on a plant's first flowering. Two subsequent observers in Concord also recorded flowering times. All three sets of records have begun to give scientists a clear picture of how global warming has affected our flora and fauna. When researchers at Harvard University went back to Concord between 2003 and 2006, they found that temperatures had risen nearly 4 degrees in the past 150 years since Thoreau made his observations. And more than 60% of the plants Thoreau tracked have either gone extinct locally or are on the brink of disappearance.

Why is phenology important? For humans, the timing of phenological events is important for a number of reasons. They can affect our health—early tree leafing results in more allergens earlier in the season, making allergy sufferers miserable earlier in the year. Phenological events can affect our recreation—when will the tulips bloom on the National Mall? When will the leaves turn color on Skyline Drive? Folks sometimes plan their vacations around these events so it's important to know when they're going to occur. Researchers at UNC/Chapel Hill recently found that the peak attendance in U.S. National Parks is happening earlier compared to 30 years ago. Nine parks that have experience significant increases in mean spring temperatures since 1979 also saw shifts in timing of peak attendance. Timing of phenological events is especially important for agriculture. Farmers follow strict schedules for planting seed in the spring and harvesting in the fall and it's important to make sure the soil has warmed up and all danger of frost has passed in the spring and equally important to get the crop harvested before the winter rains begin.

The term "climate change" is often used interchangeably with global warming, or "season creep". Many scientists believe that climate change will disrupt ancient natural relationships like the one between flowering plants and their pollinators. Climate change and phenology affect nearly all aspects of the environment and phenology is a key indicator of climate change. We've been hearing for several years that global warming is causing a northward shift in USDA cold hardiness zones. A report published in April, 2010 and based on a century's worth of data, shows a substantial lengthening of the growing season. A longer growing season can disrupt the structure and function of a region's ecosystem, for example, altering the range and types of animals in area. But it can allow farmers and gardeners to diversify or have multiple harvests. Leaf growth and flower blooms are examples of natural events whose timing can be influenced by climate change. Observations of lilacs and honeysuckle in the lower 48 states suggest that leaf growth is now occurring a few days earlier than in the past. The average length of the growing season has increased more rapidly in the west than in the east. In the west, the growing season has increased an average of 20 days per century while in the east it has increased an average of only 6 days per century. Since 1985, the last spring frost has arrived an average of 4 days earlier and the first fall frost about 3 days later. Some birds shift their range or alter their migration habits to adapt to changes in temperature or other environmental conditions. Long-term studies have found that bird species in North America have shifted their wintering grounds northward by an average of 35 miles since 1966 with a few species shifting by several hundred miles. On average, bird species have also moved their wintering grounds farther from the coast, consistent with rising inland temperatures. A survey published on February 22, 2012 noted that the average arrival time for all species of birds was shifted earlier by almost a full day for every degree Centigrade warming of the spring temperature. Some species have shifted their arrival time by as much as 3-6 days per degree.

Scientists still need information to answer many questions ranging from simple questions like "What regulates the pace at which a particular species grows and develops?" to more complex questions such as "How does phenology affect which organisms live in a particular place?" or "How does phenology affect the cycling of water, energy, and chemical elements in the environment and "How are changing climates likely to affect the relationships?" With sufficient phenological observations, we can document patterns of phenology for critical plant and animal species across the U.S. and then use this information to build models to help humans understand and adapt to changing landscapes and climates. The USA National Phenology Network was established to monitor the influence of climate on the phenology of plants, animals, and landscapes by encouraging people to observe phenological events like leaf-out, flowering, migrations, egg laying, etc. They provide a place for people to enter, store and share their observations. The network works with researchers to develop tools and techniques to use the observations to support a wide range of decisions made routinely by citizens, managers, scientists and others including decisions related to allergies, wildfires, water and conservation. The network is composed of federal, state and local agencies; colleges, universities and schools; non-governmental organizations; citizen volunteers.

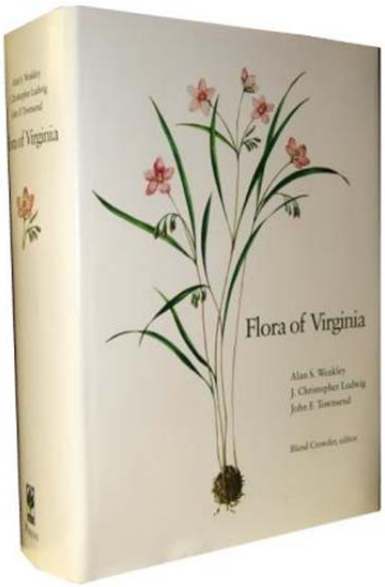
USGS ecologist Jake Weltzin wants to tap into the vast reservoir of knowledge that exists in America's backyards. He is executive director of the USA National Phenology Network. Weltzin and his colleagues have started a 30 year project to gauge how climate change is affecting the world around us. Citizen scientists, gardeners observing in their backyards, high school students, farmers, professional scientists, are all vital to the success of the program to get the density of observations needed. You can study phenology in your own

backyard by recording when trees and flowers bloom or by observing birds at a feeder. Gardeners notice these seasonal progressions all year and most of us keep gardening journals. The USA Phenology Network's online citizen science program, Nature's Notebook, is a national plant and animal phenology observation program. You can join thousands of other people across the U.S. who provide valuable observations that scientists, educators, policy makers and resource managers can use to understand how plants and animals are responding to climate change and other environmental changes.

How can you become involved? Go to www.usanpn.org and follow these 4 steps to get started observing: **Step 1:** Learn about the plants and animals you can observe. Find out which species in your area are on the lists and learn more about them and the phenophases. **Step 2:** Learn how to observe. Learn how to select a site, select your plants and animals, and record your observations. If you don't have a garden, no problem! Select a trail or a public park and start observing! **Step 3:** Sign up to be an observer. Become an official participant and set your user name and password. All you need is an e-mail address and internet access. **Step 4:** Log in to Nature's Notebook. Now you're ready to register your site and the plants and animals you will observe and start reporting. As you collect data during the season, log in to your account and enter your observations. Once you've submitted your observations, you can explore your data on the dynamic visualization tool on the USA National Phenological Network website and check your standing on the leader boards. Start observing today! It's fun, it's easy and it will provide important information about how climate change is affecting your neighborhood.

Jayne Collins, Master Gardener Intern

Publication of the New Flora of Virginia



The *Flora of Virginia* is a 21st-century flora that presents critical information about the plant life of Virginia and surrounding states.

The *Flora* is the most modern single-volume flora for our region and reflects the latest advances in genetics and thought in plant biosystematics. It is the first statewide plant manual for Virginia since *Flora Virginica* which was published in 1762. This 1572 page volume describes more than 3,500 species native to or naturalized in Virginia, of which 1,400 are illustrated with pen-and-ink drawings.

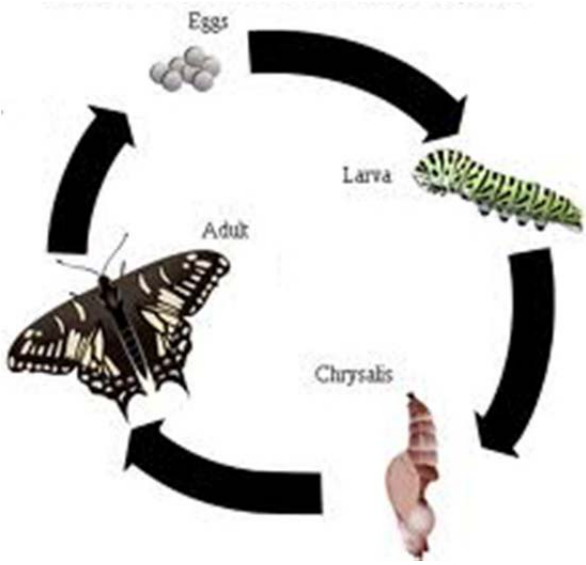
The *Flora of Virginia* can be ordered from Brit Press, http://www.brit.org/brit-press/books/virginia

Virginia has a rich tradition of botanical exploration. In 1715 John Clayton came to colonial Virginia from England and settled on a 450-acre plantation in present-day Matthews County. He developed a botanical garden and began sending specimens back to England where they reached John Frederick Gronovius in the Netherlands. Gronovius sent many of these specimens on to Carolus Linneaus. Gronovius published his *Flora Virginica* in 1739, mentioning Clayton's name on the title page. Clayton's name lives on in the *Claytonia virginica*, Virginia spring beauty and other plant names.

Overwintering Butterflies

Most of us are familiar with the epic migration of Monarch butterflies who migrate 2500 miles to the Oyamel fir trees of Mexico where they hibernate. But what about all those other butterflies who inhabit our yards every summer? Where do they go in the winter?

Many species of butterflies overwinter here in Virginia. Each butterfly species uses one particular stage (two in a few species) to enter diapause (hibernation) and survive the winter. Amazingly, in preparation for diapause, the egg, caterpillar (larva), chrysalis (pupa), or adult butterfly actually starts producing a form of internal antifreeze to prevent damage from freezing weather during the winter. The majority of butterflies overwinter in the caterpillar or chrysalis stage. Hibernation is triggered by shortening days in late summer and fall. Each species has its own time to begin hibernation.



Most of the various Swallowtails, Sulphurs and Spring Azures overwinter as a chrysalis. A caterpillar will form its chrysalis in a sheltered area on a structure or on some branches/stems in a planted area.

Fritillaries, Checkerspots, Viceroys, Common Wood Nymphs and others overwinter as caterpillars. Most caterpillars take shelter in rolled leaves and leaf litter, herbaceous perennials, shrubs and trees. Some enter the seed pods of host plants and some build a silken nest at the base of host plants.

Hairstreaks overwintering as eggs use herbaceous perennials, shrubs, and trees. Few butterflies overwinter as eggs; moths are more likely to do so.

Amazingly at least four species overwinter as adult butterflies and emerge in the spring when the weather is sufficiently warm. The Question Mark, Eastern Comma, Mourning Cloak and American Snout may use the peeling bark on trees, perennial plants, and old logs or fences, brush piles and compost piles. Old sheds, barns, or houses also provide overwintering sites.

Eastern Comma

'Untidiness' is very important to butterflies. Without places to shelter they cannot survive the winter. Leave leaf litter and the dead plant parts of perennials in the garden until spring to provide cover for them from predators such as birds. Make sure your compost pile has a heavy layer of leaves.

Mourning Cloak

Overwintering butterflies do best when provided a waterproof spot. A wooden box, turned on its side and stuffed with leaves provides an ideal hibernation spot for adult butterflies.

In the depth of winter your garden may look dead, but remember if it's healthy, it's teeming with life.

Carol Ivory, Master Gardener

Edible Plants: Elderberry

Elderberry: Sambucus nigra, also known as the European Elder

Winter is approaching. Holidays are near. Colds and flu can sneak in to our households bringing runny noses and coughs. A small tree or shrub, the elderberry has been relieving these complaints for centuries. Sambucol, Sambucus, two popular names for commercial products fly off the shelves of health or natural supplement departments at this time of year. I have heard many stories of folks getting through a winter with no or few respiratory ailments hitting their households when combining elderberry with good winter health practices. If a cold should hit, elderberry syrup supplements are often the herb of choice. Research studies are being conducted by notable University's Complementary and Alternative Medical Departments including the NIH. The German Commission E recommends elderberry and elder flower preparations for colds and flu - even bronchitis.

Elder has a rich history. One of its name origins is Aeld, which meant fire. The pith in young branches is soft and easily pushes out. A hollow tube remains which was used to stoke the kitchen fires, hence the common name of pipe tree. In ancient times pipes were made of elder wood and fashioned into instruments and of course pea shooters.

Where Found: common to Europe and Northern Africa; now found all over the United States.; In fact it was thought this was the tree Judas chose to hang from. A fungus occurs on the elder, Hirroneola auricular Judaea, so named from the above historical story or myth.

Elder is considered a small tree about 10-12' high or a shrub. It is commonly found along wood edges, along wood stands in fields, along banks and fences. This plant is also nitrogen loving and in the Honeysuckle family. It flowers from May- June. Fruit ripens in August. Virginia Tech has a great ID page and plant facts: http://dendro.cnre.vt.edu/dendrology/syllabus/factsheet.cfm?ID=85

Parts Used: wood, leaves, flowers, berries; very popular insect and songbird attractor

Wood: wood from older trees cuts and polishes easily. Traditionally this wood, though hard, was used for smaller wooden implements like pegs, skewers for butchersor needles for weaving. The elder is common in parts of Europe as a hedgerow and for fencing. In Scotland the bark of older elders creates and was used as a black dye.

Leaves: leaves are typically collected in June and July, in the morning after the dew has evaporated. Leaves can be cut and infused with oil, such as olive oil, to make salvesor ointments for bruises and sprains. When the leaves are crushed, the odor is not pleasant and is thought to deter insects. When made into a tea, the cooled liquid was used to keep aphids off other plants and even to ward off blight. If sprinkled on a hat this tea could prevent flies from swarming around the face. When leaves are mixed with alum, a blue purple dye is created. These are external uses. I could not find consistent use of tea from leaves for everyday use. Therefore, I would not recommend this practice.

Berries and Flowers: both are the medicinal parts and used extensively in jams, pies, wine, cordials, juice and in medicinal supplements. **Elder Flowers** are collected just before the peak bloom time. They are small, white, and plentiful forming large flattened corymbs with a strong pleasant scent. Euell Gibbons, *Stalking the Wild Asparagus,* gathered the flowers both for drink and for food. Remember, where you pick the flowers you

will not find berries later in the season. So it is best to randomly pick the flowers over many limbs in order to reap the reward of berry picking later on. Elder flowers were also an ingredient in an ointment used to dress wounds, burns, scalds, chapped hands. In the early wars elder flower ointment treated wounded horses. Elder flower water was a household remedy to keep skin fair and free of blemishes.

Elderberries: One of the most common uses of elderberries and probably most known is elderberry wine and cordials. These concoctions and the juice of elderberry is one of the best known preventions against the flu and chills.

Nutrition Facts: "*According to the USDA National Nutrient Database, a cup of elderberries yields .96 g of protein, .72 g of fat, 26.68 g of carbohydrates and 10.2 g of total dietary fiber, all at a modest 106 calories. Elderberries are cholesterol-free, virtually fat-free and low in sodium.*"

Vinegar

Vinegars are easy to make, have a good shelf life and are an easy way to preserve nutrients from many herbs, culinary included. Organic apple cider vinegar is always my first choice though the chefs among probably have a favorite wine or rice vinegar that will work too.

Recipe: Elder Berry Vinegar

Pick 2 lb of elderberries and dry them

Place in a quart jar and pour vinegar over berries.

Let sit, shake every few days. Strain after 2 weeks. This condiment can be added to salad dressings, to flavor sauces, as a marinade etc.

Poisonous lookalike

A lookalike, Pokeweed, Phytolacca americana, is very common to our area. Though the flowers are different, the purple berry and red stems can be easily confused with elderberry. The berries of pokeweed are NOT edible and can cause a very bad stomach ache and should not be eaten. Foraged greens like pokeweed need to be boiled two or three times to make the green palatable. Pokeweed is typically shorter than elderberry and easily bent.

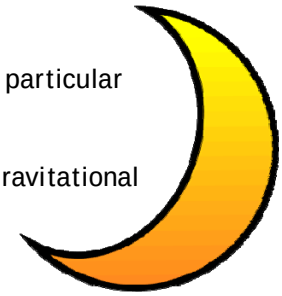
I always recommend that people check 3-5 field guides when identifying a plant and to check with someone who can verify the plant before consuming.

Elderberry has had an esteemed place in our kitchens and our medicine cabinets. Elderberry jam is easy to obtain in our area. I usually purchase some from farm markets to have on hand throughout the winter months. Elderberry syrup can be purchased at pharmacies and health food stores. Elderberry lozenges help soothe a sore throat. I am sure some of you have a favorite recipe using elderberries.

Judith Dreyer, MS, BSN, RN, Fauquier County Master Gardener

Planting by Lunar Phases – Garden Madness?

The ancient Romans believed that all minds are influenced by the moon: so dogs (and some people) howl, and folks get a little crazy when the moon is full. That first-century environmentalist, Pliny the Elder, observed that the "Moon replenishes the earth; when she approaches it, she fills all bodies, while, when she recedes, she empties them."



Ever since that time, gardeners have been using the moon to determine when to plant particular crops; but are they lunatics, or do they know something we've been missing?

Lunar gardening is based on both the amount of moonlight available, and the moon's gravitational pull. The general rule is:

< **Waxing moon** — between New (totally dark) moon and full moon — is the time to plant aboveground crops, such as tomatoes, peppers, flowers and squash.

> **Waning moon** — from the day after full moon to the day before the New (dark) moon — is the time to plan belowground crops, such as carrots, potatoes and onions. Planting these during the waxing moon grows good tops old-timers say, but the root parts that we eat won't be as good.

The theory is that the waxing phase, called the 'light of the moon' is fertile and wet, as the moon's gravity pulls moisture to the surface. In addition to aboveground crops, this is considered a good time to put down sod, transplant, and graft trees while the sap is being pulled upwards. The dark or waning phase is best for killing weeds, thinning, pruning, mowing, and cutting timber — in addition to planting below-ground crops. Setting fence posts during the dark of the moon will help resist rotting, according to this folklore. Oh — and if you are weaning a baby, don't start during a waning moon (although this seems contradictory to me); but do have animals spayed during the waning phase to reduce bleeding. So whatever needs moisture pulled up into it, do during the waxing moon.

The Old Farmer's Almanac gives a complete guide to moon planting — as well as noting that studies have shown there's not much scientific evidence to support it. If you want to do your own experiment, the next full moon is December 28. Let us know what you discover!

And more sophisticated lunar planters say the reason that lunar planting alone doesn't work is because it has to be coupled with close attention to astrological signs, and knowledge about which ones are wet and fertile, and which are dry and barren. But that will have to await another article.

Jane Pratt Shilling, Master Gardener

Did you know? …… Christmas lights (200 minis) in a plastic sweater storage box makes a good warming box for seed germination. Place the warming box under your flat of seeds for faster, better germination.

Notes from the Help Desk:

Q: I have very pesky chipmunks that live under my driveway, what can I do?

A: Many of us have resident chipmunks digging holes and tunnels in our cherished gardens, lawns and under cement hardscape. They burrow deep down and are quick to elude that overhead hawk when soaring above. Did you know chipmunks belong to the family Sciuridae or squirrel family? In order to address issues of nuisance wildlife, the following two laws/code (**http://www.dgif.virginia.gov/wildlife/nuisance/**) allow landowners to protect themselves, family, property, etc. from nuisance wildlife:

> **29.1-100 Definitions**
> Nuisance species mean "…and those species found committing or about to commit depredation upon ornamental or shade trees, agricultural crops, wildlife, livestock or other property or when concentrated in numbers and manners as to constitute a health hazard or other nuisance."
>
> **Under Code 29.1-530:**
> Open and closed season for trapping, bag limits, etc., section A states "There shall be a continuous open season for trapping nuisance species… a landowner or his agent may trap and dispose of, except by sale, squirrels creating a nuisance on his property at any time in any area where the use of firearms for such purpose is prohibited by law or local ordinance."

It is NOT legal to trap live wildlife and move it to another location. You are merely moving the problem, possibly transmitting diseases elsewhere and the critter may not be able to adapt to the new location, thus a low survival rate or slow death. If you trap, you must euthanize.

So maybe your best bet here is to try and thwart the inhabitants in the first place. First determine if the chipmunk is truly a nuisance before you go to any extremes. A great way to discourage chipmunks is to place or relocate your landscaping features so that they do not provide continuous cover. If trees, shrubs and groundcovers are planted close together, and especially if they go all the way to a wooded area, they are inviting to chipmunks because they can hide and move around readily under the cover of plantings. Wood piles, debris, tall weeds, etc. also contribute the problem. Bird feeders will also attract chipmunks so try placing them as far from your hardscapes as possible so they don't want to burrow down and make a den.

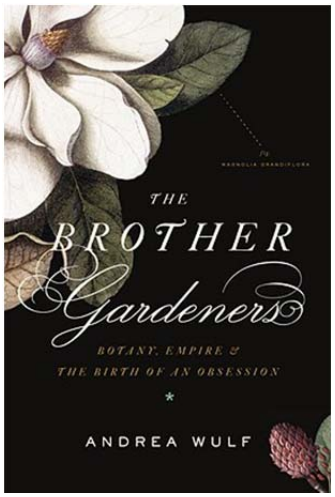
You can hire a service to eradicate the nuisance. They may use a trap and euthanize or use some type of poison. Always do your homework and hire a reputable company you are comfortable with. If you decide to use a pellet poison *yourself*, make sure you read the label and do not use anything that will harm any other wildlife, family pets or humans.

We have an expert on wildlife control coming to speak at our Annual Symposium (April 6/7). Kim Miller from Virginia Animal Control will address wildlife and humans. It is a fascinating and informative talk you will not want to miss. For more information on our Symposium, see page 3 of this publication and check our website.

Barb Bailey, Master Gardener

***The Brother Gardeners - Botany, Empire and the Birth of an Obsession* by Andrea Wulf**

One of the first things that came to my mind while reading this most delightful and informative book, was, that gardeners in the eighteenth century cared even less about planting natives than we do now — the rarer, the more expensive, the showier, the better. Human nature does not seem to have changed that much.



Andrea Wulf combines all the elements that brought on this gardening revolution which changed the English landscape for the next two hundred years. Colonial expansion, easier shipping (although reading about how difficult it still was, is eye-opening) more leisure time for the middle class raising interest in gardening, and the colorful characters who helped it along makes for fun reading.

Peter Collinson, an English cloth merchant, and John Bartram, a colonial Pennsylvania farmer, are two of the major protagonists in the book. Another one is Philip Miller, a nurseryman, who rose to prominence partially through his "Gardeners Dictionary", and Joseph Banks - the one who went on Captain Cook's first voyage.

There are many more, including Carl Linnaeus, the famous Swedish botanist, who introduced a new way of plant classification based on sexual identification (which was not well received in England since it seemed lewd to many). Another is his pupil Philip Solander, who went on the voyage with Sir Joseph Banks. Many more, all of whom are men, make this book fascinating.

Collinson's and Bartram's friendship over more than thirty years is most interesting and recounted through letters between Pennsylvania and England. Their business dealings as their friendship, changed through the years but they both were instrumental in bringing as much as humanly possible from the New World to the Old. The exchange was not entirely one sided as we do have a number of English plants here.

What makes all these men so interesting to the reader are their human foibles, jealousy, envy, arrogance, insecurity and their complete dedication to making things grow. The reasons for being so involved were varied but the love of gardening they had in common.

We are not shortchanged as far as history is concerned, Ms. Wulf weaves it easily in and out and as we hear about wars and the Stamp Act as well as the Indian-French problem. We are able to get a relatively cohesive picture of the situation during that time. The Illustrations are wonderful, and if I have any problem with the book, it is that the print is a little small.

The Brother Gardeners is the winner of the American Horticultural Society 2010 Book Award and winner of the Council on Botanical and Horticultural Libraries 2010 Annual Literature Award. Andrea Wulf, who also wrote the *Founding Gardeners*, reviewed in the LCMG Fall Trumpet Vine, was born in India and moved to Germany as a child. She lives in Britain where she trained as a design historian at the Royal College of Art.

This would be a wonderful book to read in the drab month of January, and Master Gardener or not, everyone on your Christmas book list is sure to enjoy it.

Ursula Ney, Master Gardener