

# DURHAM MASTER GARDENER NEWSLETTER May 2011

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## Annual Membership Meetings:

- **May 23, 2011** at 5:30 PM (Meeting prior to Membership Recognition Dinner)
- **July 27, 2011** at 10:00 AM: **Note change of date.**
- **October 19, 2011** at 12:00 Noon

*Editor: This article was written as a result of reading a New York Times article stating that due to warming climatic conditions, coffee yields were down while prices were escalating.*

## Coffee

**W**e are a coffee consuming nation—in fact the United States leads the world in coffee consumption.

However few people know where this magical potion comes from. Yes, we know about coffee beans but did you know that these beans are actually seeds of the fruit born by the plant *Coffea*? Coffee, it turns out, is a very complex product of a plant that cannot grow in the US—but it is truly wondrous how it arrives in our coffee cups.



After oil, coffee is the most valuable legal commodity in the world. It provides some type of livelihood for 20 million people but while it's labor intensive, most of the coffee workers live at a substandard standard of living. Coffee is a delicate commodity, dependent on soil conditions, weather, harvesting, processing, and roasting methods. Good coffee beans are hard to produce as they are notorious for absorbing odors, moisture increases their likelihood of acquiring mold, and roasted beans quickly become stale—in fact it is a miracle they even reach us at all.

Coffee experts—called cuppers—have four criteria for judging coffee: aroma, body, acidity, and flavor. Body refers to the feel of the coffee in the mouth while acidity refers to the brightness or tang “that adds zest to the cup,” not the pH factor. Flavor “is the evanescent, subtle taste that explodes in the mouth, then lingers as a gustatory memory.”<sup>1</sup>

*Coffea*, a shrub belonging to the *Rubiaceae* family, still grows wild in its place of origin, Ethiopia. Of the 73 species in the *Coffea* genus, only three—Arabica, Robusta, and Liberica—play a role in producing our coffee. Arabica originated in Ethiopia; of the three species under discussion, it contains the least amount of caffeine but is considered superior to the other two. Two varieties of Arabica, *Bourbon* and *Typica*, have spawned many cultivars. Of all the coffees, *Bourbon* Arabica is considered the best but it's tough to grow as it requires a lot of space, is prone to disease, and has a short life cycle. *Bourbon* grows at high elevations between 3500-6500 feet. *Typica* bears fewer beans than *Bourbon*.

Robusta has double the amount of caffeine than Arabica, is a shorter plant, making it easier to pick the beans, and is resistant to disease. What it lacks is Arabica's flavor so most Robustas end up in espresso blends or in cans. Liberica, a product of Liberia, lacks both Arabica's flavor and Robusta's high yields and has little of the European or American market. *Coffea robusta* grows at lower elevations and typically is what is used in the vacuumed packed cans of coffee found at our local supermarkets.

The coffee fruit is called a “cherry.” Normal cherries have two seeds—what we call the bean—but sometimes one of the seeds fails to develop properly so that the other seed takes over, becoming more rounded in shape. Typically separated from the normally developed seeds, the peaberries in many cases are highly desirable beans. Most coffee beans grown today—approximately 75%—are Arabica beans. Of those beans, only 10% are deemed to be of “specialty” quality. Of this 10%, only 1-2% will bear the *grand crus* appellation.<sup>2</sup> When cuppers talk of “varietals,” they are talking about a “single-origin” coffee as opposed to a blend.

As with tomatoes, coffee growers can choose to grow heirloom varieties, such as *Bourbon* and *Typica*, or modern hybrids. While *Bourbon* and *Typica* are still grown in East Africa, Yemen, and parts of Central America, many growers have embraced modern hybrids because they produce more beans and are more disease resistant. However, purists in the coffee industry believe that hybridizers have achieved these characteristics at a sacrifice of quality.

It is not easy to grow *Coffea*. With a short lifespan of approximately fifteen years, it typically takes the plant five years before it will produce fruit—and it will take the cherries approximately 7-9 months to ripen. With a mature coffee plant producing one pound per annum, it's estimated that a modest farm has to cultivate over one million seedlings a year. Compounding the problem is that the cherries on the same tree will ripen at different times. *Coffea* requires a frost-free environment with moderate amounts

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<sup>1</sup> Pendergrast, Mark. *Uncommon Grounds: The History of Coffee and How It Transformed Our World* (Basic Books, NY, 1999), p. xvii.

<sup>2</sup> Knox, Kevin and Huffaker, Julie Sheldon. *Coffee Basics: A Quick and Easy Guide* (John Wiley & Sons, New York, 1997), 88-93. Please note that these are not page numbers but locations on the Kindle. Future references will be in brackets [ ].

of rain and lots of sunshine. While it will grow from sea level to over 6000 feet, the very best coffees come from mountainous terrains situated between the Tropic of Cancer and the Tropic of Capricorn in elevations between 4000-6000 feet. Distinct rainy and dry seasons are necessary along with good, fertile soil—often volcanic in nature. Daytime temperatures should hover between 60°-70° with cooler nighttime temperatures. Grown in an ideal environment, the beans will develop the desired hardness and density while beans of the same *Coffea* cultivar grown closer to sea level will lack the preferred complexity [115-125].

Because the cherries ripen at different times, harvesting takes a long time since workers must pick the cherries at their height of ripeness. Then the workers have to separate the seeds from the fruit, which involves the removal of four separate layers: the outer skin, the sticky pulp, the parchment casing and the thin silverskin clinging to each bean. A view of the cross section can be seen at:

<http://www.flickr.com/photos/sweetmarias/3991122910/> with a more detailed explanation at:

<http://www.youtube.com/watch?v=8HWUYo-heTY>. The part of the silverskin that is tucked within the bean will come off during the roasting process when it is then called “chaff.”

To release their seeds, cherries must endure either a wet or dry processing, which is determined by the amount of fresh water available. The wet process mechanically removes seeds, sending them through a sluice into a fermentation tank. Here any pulp still clinging to the seeds will be separated from the beans. This whole process takes between 12-36 hours and has pitfalls: “If this stage is not arrested at the exact moment of fermentation is complete, an entire batch of coffee can be ruined” [134-45]. The “ferment” taste in the beans is an offensive one. After fermentation, workers will wash the beans and then will dry them on large patios, raking them often to ensure complete dryness. The wet process is the preferred method in Central and South America while the dry process is used in Africa, Arabia, and Asia.

The simpler process is the dry process, consisting of spreading the cherries out in the sunlight. After several weeks, the cherry pulp and husks have dried up, leaving the beans and parchment exposed. Generally speaking, “Washed coffees are brighter and offer cleaner, more consistent flavors,” while “dry-processed coffees are generally heavier bodied and more variable in flavor” [145-49]. During the roasting dry processed beans create more chaff than those that have undergone the wet processing.

Workers will then mill the beans to remove the parchment, after which they will sort the beans by density and size. Sorting out the defective beans, they will also remove twigs, under-ripe and broken beans. At the best coffee plantations, the beans will then undergo *reposo* for one to two months, giving the beans a chance to settle down and greatly expanding the life of the green beans. These green beans will then have a stable shelf life for one year [154]. The whole process from ripe cherry to roaster will take two to three months. As a general rule, early coffee bean shipments are not as flavorful as the later shipments: for example, the picking time in Central America extends from January through March. Those beans arriving by sea to the roasters in February will not be of the same quality as those beans arriving in April and May.

Roasting the beans in commercial roasters generally takes between 10-15 minutes, during which time the beans will lose 12-25% of their weight. The roasting consists of several stages:

- The beans start out being green;
- After several minutes the beans will turn a pale yellow. At this point they are losing moisture;
- Sugars begin to caramelize, turning the beans a dark tan color, building up carbon dioxide inside the cells of the beans. The carbon dioxide causes the beans to swell, releasing the final bit of silverskin, which now mixes with the beans. Eventually this piece of silverskin will end up in the chaff collector;
- The sugars continue to caramelize while the beans turn a darker brown. More carbon dioxide is produced;

- The carbon dioxide builds up until the bean cracks to release some of the gas. This is called the “first crack” and the beans have now produced their first drinkable stage. They are cinnamon colored and the roast is now at the “City Roast” stage. At this point those coffee beans designated for vacuumed canned coffee stop roasting;
- The caramelization of the sugars continues, the beans get darker and more carbon dioxide builds up in the beans. The beans are now at the medium roast, called “Full City Roast”;
- The “second crack” occurs and the beans are now in the dark roast area;
- The first stage of the dark roasts is “Vienna Roast.” The oils now appear on the surface of the beans. The beans go from “Vienna” to “Italian Roast” and the sugars are no longer caramelizing but are carbonizing, creating lots of smoke. “French Roast” has now arrived and the beans are 20% carbon. Most cuppers consider the beans burnt at this stage: “As these substances are burnt the complexities and flavors they produce are lost and replaced with burn, smoky or ashy notes that characterize dark roast coffee. Because of the decomposition of these substances, dark roast coffees generally taste similar to one another and characteristics of the coffee’s origins are lost.”<sup>3</sup>

The experts are in agreement about the dark roasts: “In any case darker doesn’t necessarily mean better....[T]he choicest beans are never consigned to the darkest roasts, even among those most fanatical about quality. Sound but basic coffees are typically used for dark roasts and flavorings” [680-90]. Most cuppers appear to appreciate the Full City Roast the most.

Another discouraging fact is that 90% of the coffee offered to us in stores is already stale. Roasted beans have a short shelf life of one—at the most two—week(s). “Freshly roasted coffee produces at least three times its volume in carbon dioxide gas,” explaining why it can never appear in cans: it would simply explode [765-66]. In fact, the coffee placed in cans has to be “de-gassed” before it can be canned—in other words, the coffee is already stale before it can go into the can.

The one-way valve allows for the carbon to escape without letting oxygen in, thereby increasing the shelf life of good coffee. Good coffee roasters will place their roasted beans in these bags, displacing the oxygen with nitrogen gas; they then will heat the bags to seal them and will always date the bags. Thus sealed the coffee will remain fresh for three months. When purchasing roasted coffee beans from a bin, always ask when they were roasted. Frozen coffee beans in an airtight container will last two months.

The easiest way to tell if your purchased roasted coffee beans are fresh is to see if the coffee grounds puff up when water hits them. Fresh coffee beans will release the carbon dioxide, which will puff up the grounds when coming into contact with water whereas stale coffee beans have no carbon dioxide to release and remain flat.

Confession: I have purchased one pound of coffee in the past ten years—and I drink coffee every morning. Ten years ago I began roasting my own beans. To learn more about coffee roasting at home go to [www.sweetmarias.com](http://www.sweetmarias.com). This website also supplies many small roasters with their coffee beans and it is where I get all my beans.

I started this article because of one I read in *The New York Times*, stating that coffee yields had plunged dramatically in Latin America as the weather has gotten wetter and warmer. The result is that the buds either stop growing or the cherries ripen too quickly with a loss of flavor. The heat brings on coffee rust, a fungus that doesn’t survive in cool mountain weather. The necessary dry spells that spur the plant to flower are getting shorter. “The Coffee Growers Federation has advised farmers to switch to a

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<sup>3</sup> <http://www.baristaespresso.net/coffee-bean-color-during-roasting/>

newer, hardier strain of Arabica that has been developed by plant breeder...over the last two decades.”<sup>4</sup> Farmers are resisting the change because to switch to the new strain would mean they would have to wait five years to get any return on their investment.

The price of Arabica beans is steadily rising while canned coffee prices have risen by 25%. Big commercial companies are stockpiling their Arabica supplies: Starbucks has enough coffee to last until 2012. The next time you take a sip of coffee, ponder how much effort it took to get those beans to your home.

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## **Local Movement Takes Root in N.C. Garden Centers**

RALEIGH, N.C. – The North Carolina Commercial Flower Growers Association announces the launch of NC Select, a marketing program designed to identify proven varieties, grown locally, for gardening success. Whether new to gardening or a Master Gardener, NC Select plants will provide consistent, reliable performance.

The program, supported by a North Carolina Specialty Crops Grant, rolls out this spring in multiple garden centers in the Raleigh area. Association president, Jeff Mast say, “Spring is the peak sales season as consumers look to freshen their landscapes with color, texture and fragrance. Great North Carolina gardens start with great North Carolina Plants. NC Select plants are tried-and-true varieties evaluated, selected and grown by North Carolina greenhouses. These varieties have been awarded the NC Select seal of approval, based on their proven performance in gardens and landscapes, from across our great state.”

Consumers can visit the website, [www.ncselectplants.com](http://www.ncselectplants.com) for information about each of the NC Select plants including the attributes that led to their selection. The site also offers videos of basic gardening information and a map of Association members for ease in locating a local greenhouse or garden center.

The **N.C. Commercial Flower Growers Association** promotes the North Carolina floriculture industry and assists growers and retailers through education and communication. The organization, based in Raleigh, N.C. includes growers, educators and applied trade members.

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## **CM: Ramblings**

**O**ver the past decade or so people have become more aware of how much trash we throw away every day, and have gotten more into the habit of recycling things previously destined for the landfill. In Durham we’re fortunate to have curbside pickup of recyclables on a regular basis, just throw all your recyclable plastics (look for the symbol—a triangle with a number in the center) to make sure they are acceptable; then pile in the old newspapers, metal cans, cardboard, glass bottles and jars, shredded papers, etc., into the big blue bin. We don’t even have to sort things out, which is an enormous convenience. Every two weeks the truck comes by and, whisk!, the bin’s emptied and ready for you to start all over. At our household, we’ve found that about 90% of what used to go in the garbage, then to the landfill, goes into either the recyclable bin or the compost bucket.

Which brings up the topic of composting. I hope that I’m preaching to the converted here when I say that you should be composting ALL of your kitchen scraps with the exception of meat scraps (though

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<sup>4</sup> Rosenthal, Elizabeth. “Heat Damages Colombia Coffee, Raising Prices,” *The New York Times* (March 9, 2011).

some people compost those, too). Potato peels, out of date bananas, onion skins, those strawberries that went all mushy before they got eaten, you name it, can all go to the compost. Remember to include coffee grounds and paper filters; worms love coffee grounds. A convenient way to collect this mish-mash is to keep a small bucket next to the space where you do most of your food prep. To avoid having to clean the bucket frequently, you can get biodegradable bags made of cornstarch to use as bucket liners from many online gardening sites.

When composting, there are some common rules to follow. First, keep a mixture of fresh organic matter (grass clippings, shredded leaves, etc.) and vegetable matter from the kitchen in the bed. If you're starting a new pile, make sure to add some material from the old pile, if you have any, to provide the microorganisms needed to break down the raw matter. If you don't have any old material, add some high-nitrogen fertilizer to help get the breakdown process started. The microbes that are working in the pile need moisture and air. Keep the pile moist, but not soggy, and aerate the pile by regularly turning it over with a shovel or garden fork. A rough rule is to turn the pile at least every 10-12 days.

Ready-made compost bins and barrels are available at garden shops, online, and lots of other places. Most of them promise beautiful, rich, brown compost in only a few weeks. I've not had any luck with the barrel I have, but I know some people who say they work well. Close attention to the process is the key to successful composting.

### SOMETHING OLD, SOMETHING NEW

New to me is a soil amendment called biochar. I first came across this at the Briggs Avenue garden when I was talking with one of the gardeners about how good his beds looked. He told me he was using biochar in some areas, and regular compost in others to try to make a rough comparison of the effects of each on plant growth and soil tilth. I was unfamiliar with biochar, so he gave me a short primer on the topic.

Biochar is actually charcoal. It's made by heating wood in the absence of air so that it doesn't actually flame. Instead, volatile substances are driven off (gasified), but the solids, which are almost pure carbon, remain. The solids can then be broken up coarsely, or ground into powder, and added to soil as an amendment. It sounds really simple, but wasn't actually noticed until the Spanish were exploring the Amazon River basin in the 16<sup>th</sup> century. They discovered two things no one had known: (1) the land had, at one time, been much more densely populated than anyone knew and; (2) in the areas near and around many ancient village or town sites there were large deposits of what they termed "terra preta" (dark soil). This soil contrasted dramatically with the light-colored, heavily leached soils typical of the tropics, and had apparently been used to improve the native soils for planting.

Fast-forward a few hundred years. Soil scientists searching for ways to make marginal soils more productive without the use of large amounts of synthetic fertilizers, were studying methods of soil amendment that were inexpensive, easy to do locally and within the technical capabilities of populations living on the margins of subsistence. Biochar fits the bill very nicely.

Because it is essentially pure carbon, it provides a ready source of carbon for plants, which is one of the two most necessary nutrients. Its physical nature, a solid, which can easily be crumbled, makes it a good substance for improving heavy, clayey soils. And, as a bonus, it sequesters carbon by absorbing CO<sub>2</sub> from the atmosphere, lowering the greenhouse gas level.

Biochar is made from plant material, but doesn't require cutting down every tree in sight. Waste crop material, for example the plant leftovers after sugarcane is harvested, can be used to produce biochar. And, if the gases driven off in the heating process are captured and reused, biochar can actually be made with a net energy gain instead of loss. Adding biochar to already fertile soils would have little effect other than to help sequester carbon, but adding it to the marginal soils cultivated by large numbers of

humans around the world could significantly boost crop yields and improve nutrition in an organic, inexpensive and reliable way.

Google 'biochar' for more information. Wikipedia actually has a good basic article that is extensively referenced with scientific papers if you're interested in exploring in depth. Interested gardeners can find biochar suppliers online.

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*Editor: It's with great pleasure that I include the next two articles. The new EMGV trainees had an assignment: they could either write an article for the Newsletter or give a presentation. Over the course of the next year we will feature those articles written for the Newsletter by our new class.*

## **Linda Cook: Tips for Selecting, Planting and Maintaining Spring Flowering Bulbs**

**T**he colorful blooms of tulip, daffodil, and hyacinth scream spring is in the air! However, for most gardeners in the Piedmont area, our erratic temperature swings and clay soil can make our bulb plantings hit or miss. The good news is with a little effort and good planting techniques, you can have vibrant color in your spring garden year after year.

Timing is everything. Spring and early summer flowering bulbs must be planted in the fall when the soil temperature is consistently below 60 degrees in order to develop a root system and satisfy the cold requirement of the bulbs. In zone 7, this means November to early December.

Plan ahead. Photograph your spring garden and note areas where bulbs need to be planted. Most bulbs need full sun. Choose an area that will provide a minimum of 5-6 hours of direct sunlight a day. Consider microclimate conditions such as tall trees and shrubs that could provide too much shade. Check with the NC Cooperative Extension (<http://www.ces.ncsu.edu>) to learn which cultivars grow best in your area. Do a soil test in the spring!

Select bulbs that are plump and firm—bigger is better. Small nicks and loose skin do not affect quality. If bulbs are purchased before planting time, keep them cool (50-65 degrees) to prevent them from drying out. Store in open trays and NOT in paper or plastic bags. If stored in a refrigerator, keep bulbs away from ripening fruit since they produce ethylene.

Got clay? Adequate drainage is very important as most bulbs will not tolerate inadequate drainage. If soil is mostly clay, mix in an organic amendment such as compost up to 50% in volume, or plant in raised beds. Soil pH must be in the 6-7 range.

Small bulbs (1-2 inches height) and large sized bulbs (over 2 inches in height) should be planted 5" and 8" deep, respectively, to protect against frost, animals and physical damage. Since a surface mulch of 2-3" is advised, this amount should be calculated in the planting depth. Spacing between small bulbs should be 1-2" and 4-6" for large bulbs. Cover the bulbs with amended soil, water and mulch with organic materials such as straw, pine bark or hay.

Fertilization encourages bulbs to flower for many years. A single fall application of one rounded tablespoon per square foot of a sulfur-coated, slow-release complete fertilizer should be incorporated into the rooting area at planting.

Deadhead faded flowers to prevent seed formation. Seeds take stored food from the bulbs. Let the foliage die naturally! Green leaves produce food for plant growth next year. Do not cut foliage until after the leaves turn yellow and start to wither.

Sources:

The North Carolina Master Gardener Training Manual  
 NC Cooperative Extension Service Website (<http://www.ces.ncsu.edu>)  
 Virginia Cooperative Extension Website (<http://pubs.ext.vt.edu>)

## **TS: Growing Vegetables in Hay Bales**

**G**rowing a vegetable garden in hay bales appealed to me when I realized that I was not rotating vegetable plants in my home garden as recommended. Part of the reason for this was ignorance combined with limited garden space and sunlight. The result was that tomatoes (my main crop) were planted in the same place in the garden every year, now going on 20 years.

Since there wasn't space to move the garden, using hay bales solved my problem. I could give my garden soil a much needed rest for a few years and still take advantage of the small patch of sun available by growing vegetables in hay bales sitting on my garden. Plus, as the bales deteriorate over a couple of years, they add organic material to the soil.

Fortunately, hay bale gardening does not appear to be rocket science. One does need to make a choice between hay or straw bales. Hay bales are less expensive to buy but they may have more weeds and they seem to last just one summer. Straw bales are more expensive but have fewer weeds and can be used for two summers. Either way, the preparation is the same as briefly summarized below:

1. Buy your bales two weeks (or more) before planting your garden.
2. Water the bales thoroughly twice a day for three days.
3. Add 1/2 cup of ammonium nitrate (32-0-0) to each bale each day for three days and water in thoroughly.
4. Add only 1/4 cup of the ammonium nitrate to each bale for three more days and continue to water in well.
5. On the 10<sup>th</sup> day add 1 cup of 10-10-10 fertilizer to each bale and stop adding the ammonium nitrate; water in well.
6. Ready to go! The literature suggests that transplanting plants into the bales works better than starting from seeds. If transplanting, use a trowel, spatula, or knife to make an opening in the bale for each plant. Close the opening back together after planting. For seeds, one should add 2-4 inches of a 50-50 mix of topsoil and compost to the top of each bale; plant the seeds in that mix as one would in regular soil.
7. Cages or stakes will be needed for tomatoes, but all that is really required after the planting is to water diligently—don't let the bales dry out.



For more information on Hay Bale Gardening go to  
<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-7191/PSS-2264web.pdf>

Harvest and enjoy!

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## J.C. Raulston: Five Great Plants

**J.C.** Raulston gave many presentations all over the country but one of the most difficult ones he ever gave was fulfilling a request to discuss “hardy landscape plants of the HIGHEST GARDEN MERIT,” strengthened by “the additional requirement of a limit of only five plants.”<sup>5</sup> It is interesting to look over his list fourteen years after his untimely death, as his choices still resonate.

1. **The Herbaceous Perennial:** Raulston’s choice was *Amsonia hubrichtii* for several reasons. It has a long period of ornamental interest—6-7 months—and is available but not so widespread that it induces yawns. The Midwest native has lovely blue spring flowers, graceful foliage, and a brilliant color in the fall. Easy to propagate, this plant has no pest problems. Raulston’s runners-up were: *Asclepias tuberosa*, *Baptisia pendula*, *Calylophus drummondii*, *Iris siberica* ‘Caesar’s Brother’, and *Muhlenbergia dumosa*.  
*Editor: the 2011 Perennial of the Year is Amsonia hubrichtii.*
2. **The Broad-leaved Evergreen:** The winner here was *Mahonia* x ‘Arthur Menzies’. Of course the *Mahonia* we typically see in the Piedmont is *M. bealei* but ‘Arthur Menzies’ sounds incredible, with its one-foot long leaves and its one foot long yellow flowers, which appear in December or January. “Sadly, it has remained a relatively unavailable plant except for local propagation and use in the Pacific Northwest, where it originated” [214]. It is hardy in Zones 6-8 and can be seen at: <http://digitalflowerpictures.blogspot.com/2009/04/arthur-menzies-mahonia.html>. Runners-up in this category were *Abelia* x *grandiflora* ‘Confetti’, *Magnolia grandiflora* ‘Little Gem’, *Nandina domestica* ‘Moonbay’, *Osmanthus fragrans* var. *aurantiacus*, and *Viburnum tinus*.
3. **The Deciduous Shrub:** Raulston chose *Hydrangea quercifolia* ‘Snow Queen’ for this category. This is a plant that is tough, can be grown in both sun and shade, has no pest or disease problems, is long-lived, and not only bears summer flowers but has wonderful color in the fall. What more could a gardener ask for? The runners-up were: *Enkianthus* subsp. *Petiolaris trifoliata*, *Hamamelis* x *intermedia* ‘Sunburst’, *Hydrangea anomala trifoliata* ‘Flying Dragon’, and *Viburnum plicatum* var. *tomentosum* ‘Summer Snowflakes’. The *Hydrangea* can be seen at: <http://www.mobot.org/gardeninghelp/plantfinder/Plant.asp?code=D390>
4. **The Tree:** Here his choice was a tree he had promoted for many years—*Cercis canadensis* subsp. *texensis* ‘Oklahoma’. This Texas redbud has lovely magenta flowers, the darkest magenta of all the redbuds with lovely glossy foliage. The only thing this redbud has going against it is that it’s very hard to propagate: “So suppliers can never meet demand” [215]. The runners-up were: *Acer palmatum* ‘Beni Kawa’, *Lagerstroemia fauriei* ‘Fantasy’, *Prunus mume*, *Salix babylonica*, and *Styrax japonicus* ‘Emerald Pagoda’. To see the redbud, go to: [http://www.willisorchards.com/product/Cercis+canadensis+'Oklahoma'+Redbud'](http://www.willisorchards.com/product/Cercis+canadensis+'Oklahoma'+Redbud)
5. **The Conifer:** The winner was *Cephalotaxus harringtonia* ‘Prostrata’. This slow growing evergreen has a feathery texture, will grow in bright sun to deep shade, does not require well-drained soil, and is deer proof. Runners-up were: *Cedrus atlantica* ‘Glauca Pendula’, *Chamaecyparis*

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<sup>5</sup> Raulston, J.C. “Musings on Great Garden Plants.” Ward, Bobby J. *Chlorophyll in His Veins: J.C. Raulston Horticultural Ambassador* (BJW Books, Raleigh, NC, 2009), p. 211. Future references will be placed in brackets [ ].

*nootkatensis* 'Pendula', *Cryptomeria japonica* 'Elegans', *Juniperus deppeana* 'McFetters', and *Taxodium ascendens*. This lovely conifer is pictured here:

[http://www.westonnurseries.com/index.cfm?fuseaction=plants.plantDetail&plant\\_id=876](http://www.westonnurseries.com/index.cfm?fuseaction=plants.plantDetail&plant_id=876)

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LMD sent this to me: "I was thinking maybe you'd like to have folks nominate their favorite garden shows to visit (or gardens?) for the May issue. As we enter the summer traveling season, folks might like some ideas."

**Leanna Murphy Dono: The Missouri Botanical Garden** in St. Louis is world-class. I spent three full days exploring the gardens over Memorial Day weekend a few years ago and it was just splendid. I particularly enjoyed the glorious Gladney Rose Garden (which featured my great-grandmother's favorite climbing rose, 'Dr. W. Van Fleet' *Rosa wichuraiana* that was originally bred in 1910 and is a beautiful, fleeting bloomer with a wicked thorn) and the Center for American Gardening with hundreds of raised bed plots brimming with vegetables, herbs, cutting flowers and ideas for the home gardener.

**The Philadelphia International Flower Show** is an outstanding indoor flower show (the largest in North America) next scheduled for March 4-11, 2012. I have been twice and never fail to be inspired to take on new gardening ventures after seeing the combination of professional displays and amateur entries in the 50+ competitions. Think of it as the Chelsea Flower Show plunked inside the Philadelphia Convention Center. My favorite perk: they run nearly 15 free programs a day with top-notch and well-known speakers so when you tire of walking through the exhibits you and rest & learn from the experts—all for a \$20.00 admission fee. And you can get some great eats in Philadelphia after a long day at the show!

**Amy Etheridge: Hemlock Bluffs** in Cary, NC is a nice woodland retreat only a short drive away—hiking trails, overlooks, interesting flora and fauna. **Daniel Stowe Botanical Garden** in Belmont, NC is a nice, planned botanical garden, a relatively short drive or train ride away.

**Charles Murphy:** I think I've mentioned this to other people, but the Daniel B. Stowe Gardens near Belmont, NC (close to Charlotte) is a fairly new, but very well done public garden. Only ten years old, the gardens look much more mature. There is a fairly small, but very nice orchid house, a picnic area, gift shop and a really nice water feature down the lawn from the main building. Inexpensive, close enough for a day trip and well worth the money and effort.

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Theo Roddy sent an interesting article in *The New York Times* about the flora of New York City. Of the 1357 documented native plants only 778 remain. To see some lovely hand drawings of native plants that no longer exist, go to: <http://www.nytimes.com/interactive/2011/03/25/opinion/20110326-opart.html?hp#12>

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