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Extension Gardener provides timely, research-based horticultural information. We publish four issues per year. Send comments about *Extension Gardener* to:

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Conifers and Japanese Maples

The Henderson County Extension Teaching Garden is filled with thrilling plants that thrive in our area. While some of them can be difficult to find for sale, they are worth the search. Our garden features many conifers, including certain pines, cypresses, and hemlocks, as well as deciduous trees such as Japanese maples.

There are a wide variety of conifers, including dwarf conifers, gold-needled and blue-needled conifers, and conifers with different forms, such as pyramidal, upright, and columnar. Some of my favorite conifers are 'Gold Conda' cypress, which is a terrific gold-leaf Leyland cypress; "Gold Thread" Sawara cypress; 'Gold Dawn' dawn redwood, a gold leaf deciduous conifer; 'Golden Carpet', a creeping juniper; 'Nana' dwarf balsam fir; 'Nidiformis' bird's nest spruce; 'Mugo' Japanese black pine; 'Galuca Pendula' weeping blue atlas cedar; and 'Pendula' weeping dwarf Norway spruce.

I really like conifers, but I have to say that my favorite type of tree is the group called "Japanese maples." These Asian relatives of our native maples exhibit traits that have been selected for by Japanese gardeners and horticulturists for thousands of years. These are the most refined and most delicate of all the maple family.

There are two types of Japanese maples: the palmatum group and the dissectum group. The palmatum group has leaves reminiscent of our native maples, whereas the dissectum or cutleaf



Japanese maples add a refined and delicate quality to the landscape. ©Steve Pettis

group has finely serrated, deeply lobed leaves. This delicate leaf structure is colored in shades of either green or red and is the most attractive feature of the cutleaf Japanese maples.

Japanese maples in general are rounded trees with smooth bark and undulating branches. The cutleaf varieties are all very small, ranging from 3 feet to 9 feet high. Their small size makes them excellent specimen trees near patios, homes, and driveways. The tree can be used as an accent and even as a potted plant.

Japanese maples have specific site requirements, as do conifers. These trees prefer dappled shade, although I have seen them in full sun. Japanese maples in full sun tend to be stressed and pick up summer leaf spot diseases readily. Cutleaf Japanese maples require evenly moist, well-drained soil conditions for best performance. These trees should be protected from winds and winter cold by planting them near structures, large trees, or among a planting of other small trees and shrubs.

Some of my favorite Japanese maples are the big red-leafed 'Bloodgood' cultivar; the dwarf weeping 'Garnet'; the green-leafed 'Sango Kaku' that fades to yellow in the fall; the aptly named 'Glowing Embers' with leaves that fade from green to purple, fluorescent orange, or yellow; and the coral-barked 'Japanese Sunrise'.

Come by the teaching garden to see how these plants perform in the landscape, and select the ones that are just right for your yard.

—Steve Pettis



Specialty conifers come in different shapes and colors that offer year-round interest. ©Steve Pettis

Extension Showcase

So you want to farm? A Beginner Farmer Workshop

Davidson County Cooperative Extension and Davidson County Community College's Small Business Center will be hosting a Beginner Farmer Workshop. This workshop will be geared for new and beginning farmers interested in starting a farm operation but who need guidance on how.

This one-day intensive workshop will cover topics that include what can be grown, where's the money, where and how to sell, who can help, a Q&A panel, and farm tours. The workshop will be held on June 23, 2018, at the Davidson County Ag Center in Lexington from 7:45 AM to 6:30 PM.

The purpose of this workshop is to help those interested in beginning a small farm that have little to no experience. The workshop will provide a general overview of how to get started and an introduction to the agriculture industry.

For those interested in attending, pre-registration is required. You can register online at go.ncsu.edu/davidsonbeginningfarmer or by calling (336) 242-2080.

Cost is \$20 per person or \$30 for two people from the same farm. Registration includes materials, lunch, snacks, and transportation to farms. Registration is not complete until payment is received. The registration deadline is June 19. Space is limited. For more information or questions, contact:

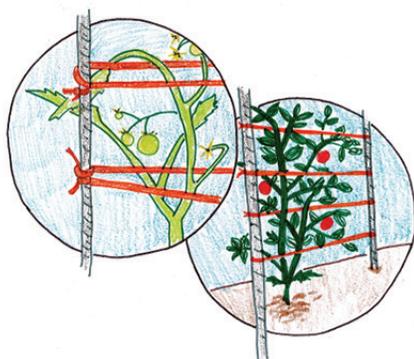
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—Kira Chaloupka

Smart Gardening: Simplify trellising with the Florida weave



The Florida weave simplifies trellising tomatoes.
©Kacie Hatley, Stanly County Extension Center

Growing tomatoes in the summer is a must for any gardener. Tomatoes benefit from the support of a trellis to keep the fruit and plant off the ground. If you are planting more than just a few, maybe enough to feed the whole neighborhood, you should consider simplifying your trellis to the Florida weave system.

The Florida weave system reduces the number of posts, the amount of labor, and the cost of wire baskets, single leader systems, and other trellises. For this system, wooden or metal stakes 5 to 6 feet tall and sturdy string are all that is needed. You begin by driving a stake between every second or third plant. At the start of each row, tie the string to the post, weave it on the outside of the plants, and then loop it around the next post. The first string usually starts at about 10 to 12 inches high, and additional strands are added every 4 to 6 inches as the plant grows. Most important, make sure the string is for outdoor use and kept tight.

As with all gardening methods, it's best to develop your own ways to make this system work best for you. I've found hay bale twine to work wonderfully. It can be purchased at most farm supply stores in large rolls of 20,000 feet or more. Take this roll and slip it in a backpack, running the end of the twine out and through a short piece of pipe (about 3 feet long). With this set-up, you can tie the twine end to the first post and use the pipe as a wand to weave the string. You may not have to bend over again until you are done with the row! Give the Florida weave a shot, and see if it doesn't make those tomato sandwiches even more rewarding.

—Dustin Adcock

Food Production: Cucurbit pollination

Cucurbit crops such as watermelon, cantaloupe, cucumber, squash, and pumpkin all require pollination for proper fruit development. Cucurbit crops have three different flowering types: male only, female only, and a combination type containing both male and female flowers. Watermelon, cantaloupe, and both winter and summer squash have combination flowers on the plant. Cucumbers, on the other hand, can have either all female or all male flowers. Cucumbers that produce all female flowers are called gynocious. The seeds for these types of cucumbers are mixed with those of a cucumber variety that produces all male flowers to ensure proper pollination occurs.

When it comes to flowering, the male flowers on these crops will emerge first and will continue to emerge throughout the growing season. The female flowers will emerge 10 to 14 days after the male flowers emerge. It is very easy to determine which flower is a male and which is a female on cucurbit crops. The female flower will always be attached to an immature fruit. If not properly pollinated, this fruit will either abort and fall off or become misshapen as it matures. The male flower will look like a standard flower with no fruit attached to it. The flowers on cucurbit crops stay open only for one day. Therefore, the proper movement of pollen is crucial for fruit development. Having a strong beehive close to the cucurbit crop location is necessary. For proper pollination to occur, honey bees are used predominately by most commercial farmers and home gardeners. Without pollination, cucurbit crops will not develop correctly, resulting in poor quality fruit as well as a reduction in yield, which is very important to growers who are trying to make a living growing cucurbit crops. For more information on cucurbit pollination, contact your county Cooperative Extension center.

—Brad Thompson



A female cucumber flower has a small fruit attached. Creative Commons, CC0-1.0

Pest Alert: Crape myrtle bark scale

Crape myrtle bark scale (CMBS) was first discovered in Mooresville, NC, in August 2016. As of 2018, this scale has primarily been in Iredell County but recently has been found in Cabarrus and Currituck counties. CMBS are felt scales, meaning they produce a felt-type substance around their bodies for protection. Because this is a new pest for North Carolina, there is still much to learn about how it reacts here. In Asia, the complete life cycle from egg to adult can take between 56 to 83 days. Adults can have two to four generations a year, depending on temperature. When eggs hatch, small pink nymphs, or “crawlers,” emerge. Researchers believe that CMBS can overwinter in any life stage but do so mostly as nymphs in the United States.

The scale can greatly reduce the appearance of the tree and aesthetics of the landscape. Honeydew produced by adults and nymphs coat portions of the trunk, branches, and leaves. Sooty mold grows on the honey dew, turning the branches of the crape myrtle black, restricting growth, decreasing flowering, and reducing photosynthesis. In our first year of study we found that CMBS were active year-round. Nymphs survived even our coldest winter temperatures. A treatment showing promise is the contact insecticide bifenthrin, which should be applied to the bark at peak crawler emergence and then in two-week intervals to kill later generations. To avoid harm to pollinators (including honey bees), administer bifenthrin and other pesticides when pollinators are not present, typically in the early morning or evening hours, and apply systemic products such as imidacloprid when the trees have finished flowering for the season. Also avoid chemical contact with the twice-stabbed lady beetle larvae and adults, which have been observed to be the main beneficial insect on scale.



CMBS nymphs on sticky tape and adults on the trunk of a crape myrtle. ©Stacey Jones

— Stacey Jones and Matt Lenhardt

Lawns: Fire ants in the lawn

First, accept that it is unlikely that you will ever completely get rid of fire ants. The best times to treat fire ant mounds are late spring (May to June) and early fall (September to October). There are two different methods—bait treatment and direct-mound treatment. However, the most successful management program of fire ants will be a two-step process using both methods.

Bait treatments use an ant’s foraging habits to entice them to pick up the bait (food) and take it back to the mound where it is fed to the colony. Therefore, baits are rarely applied directly on the mound. Mound treatments, on the other hand, use an insecticide applied directly on the mound. Just ensure the mound is not disturbed prior to the application or the queen will be moved and a new mound created. Management strategies will vary. If you only have a handful of mounds, ten or less, you might treat each mound individually with the direct-mound method. If you have several mounds and they seem to pop up overnight, you’ll want to combine the bait and direct-mound treatments.

It is best to bait first and follow up with mound treatments, but this process will require some patience as the baits do not work all in one day. If you need to get rid of some mounds quickly, applying the mound treatment first, then coming back with a bait, will work, too. Either way, do not apply both the bait and mound treatment at the same time; instead wait five to seven days between applications. Other factors that lead to success include treating the area or mound mid-morning or testing for foraging activity by dropping a potato chip near the mound—if ants begin to consume the chip, they are foraging. No matter which treatment (or combination of treatments) you decide on, be sure to read and follow all directions on the product’s label.

—Kira Chaloupka

Tips & Tasks

Summer planning for a fall garden

As the long summer days begin and we start to harvest our spring planted vegetables, now is the time to be thinking about what you will plant for your fall garden.

The great thing about the climate in the NC piedmont is that for many crops, gardeners can get two plantings within one calendar year.

We often think of our fall gardens as consisting of mainly cool-season crops, such as cabbage, turnips, kale, collards, or mustard greens.

However, many crops that are considered summer crops can be started in the summer months to be cared for and harvested through the fall. Some of these crops include zucchini and yellow squash, okra, cucumbers, southern cowpeas, eggplant, and even peppers.

The biggest problem with caring for these crops later in the summer and through the fall months is the disease pressure that will be present. One must be vigilant with monitoring their plants and being proactive with any fungicide applications.

Growing summer vegetables in the fall can be a lucrative endeavor as well, especially if you are selling at a farmer’s market. For more information on planning your fall garden, visit your county Cooperative Extension center.

—Brad Thompson

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Helping You Grow

Vegetable Varieties for Gardeners

A gardener's choice of vegetable varieties (cultivars) can make the difference between a thriving, productive crop and one that fails to yield a harvest. Gardeners want varieties that grow and produce well in their region, resist diseases, and have good eating quality. Extension publications, seed catalogs, and local variety trials all have good information on varieties. Gardeners also look to the experiences of other gardeners in their region for recommendations on well-adapted (and tasty) varieties! Vegetable Varieties for Gardeners (VVfG) is a web-based "citizen science" project that helps gardeners share information about how well different varieties perform in their gardens. Gardeners can enter information about their climate, soil, and sun exposure, and then rate and review vegetable varieties. There is also an 'Explore Varieties' feature, where gardeners can search for reviews of specific crops and varieties from other gardens in their state, or those with a similar climate. To learn more about VVfG, visit gardening.cals.cornell.edu/citizen-science. To create an account, review varieties, and read reviews, visit vegvariety.cce.cornell.edu. Then, spread the word to your fellow gardeners! As more gardeners become citizen scientists and report the health and productivity of different crop varieties, all gardeners will be able to make more informed decisions about successful varieties for their gardens.

—Megan Gregory

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Plant Watch: St. John's wort (*Hypericum calycinum*)



St. John's wort performs best in shade.
©Lauren Hill

St. John's wort is a beautiful pollinator-attracting plant for any garden in need of a showy display of yellow flowers from late spring through summer. St. John's wort is part of the Hypericaceae family and is a perennial that likes wet areas. It performs best in partially shaded locations but can tolerate full sun. This bush has an upright habit that can reach a height of 5 feet when planted in its ideal location of moist soil and partial sun. Pollinators are attracted to this plant because of its 25 to 100 large showy flowers per stem that contain many stamens. The showy flowers and nectar source attract leaf cutter bees, bumble bees, beetles, and flies. With its ability to be propagated by seed, divisions, or cuttings, St. John's wort is an excellent addition to a pollinator restoration habitat.

—Lauren Hill

Incredible Edibles: Squash blossoms

When talking about "squash blossoms," we are referring to the edible flowers of almost every member of the genus *Cucurbita*. Plants produce both male and female flowers, and it is easy to tell the difference. There is a baby squash attached to the female flowers. Squash blossoms are very short-lived. Open flowers should be picked in the early morning and ideally used the same day. They can be easily stored on a paper-towel-lined baking sheet covered with plastic wrap. The flowers have a delicate flavor reminiscent of a young zucchini. They can be eaten raw or cooked, sliced, or whole. Try them on top of homemade pizzas, or cut them up in salads. Use them in quesadillas or frittatas, baked, roasted, stuffed, fried, layered in lasagna, or grilled with baby squash attached. The flowers are a good source of fiber, vitamins A and C, and folate. Put squash blossoms on your menu!



Squash blossoms add subtle flavor to salads and other dishes. ©Travis Birdsell

—Travis Birdsell



Biodiversity creates places of refuge.
©Meghan Baker

Sustainability: The beauty of biodiversity

The floral displays, textures, fragrances, and flavors that the botanical world offers keep us inspired. We can also enjoy the diversity of other organisms that plants invite. Outside, I see robins hunting earthworms, bluebirds watching over their babies, and a variety of insects visiting blueberry blossoms. When we create new beds, renovate landscapes, or design large-scale projects, we have an opportunity to enhance biodiversity. Blending native and non-native plants, trees, shrubs, grasses, and herbaceous plant layers ensures a resilient, complex habitat that amplifies benefits beyond aesthetic appeal. In developing my backyard habitat, I've invited native bees to nest in my joey-weed stems, monarch caterpillars to feed on swamp milkweed, and ruby-throated hummingbirds to spread the pollen of cardinal flower. My raised garden beds rotate between cover crops and vegetables that nurture microbes and insects, some of which inevitably share in the harvest. More is happening than our eyes can see. Ecosystem services like pollination, erosion control, water infiltration, carbon sequestration, and pest control are cycling throughout the landscape. Plants are swapping genetic materials as they are pollinated, and both plants and insects feed the next generation of birds, amphibians, and reptiles that create a healthy ecosystem. As the growing season continues, make an effort to notice these layers of activity that our diverse landscapes support as they help connect fragmented natural areas and stitch together spaces of refuge.

—Meghan Baker