

SUMMER 2018

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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

“Steps to Health” in action

Rutherford County Extension Master Gardener Volunteer Ramona Howell began a garden club at the Lake Lure Classical Academy at the start of the 2017 – 2018 school year. The club consists of third-grade through fifth-grade students who meet weekly.

Students learn about horticultural topics and have worked together to build and maintain gardens at their school. For the spring semester, the “Steps to Health” curriculum has been implemented with the help of two Rutherford County Extension agents: Tracy Davis, Family and Consumer Sciences agent, and Hannah Bundy, Horticulture agent.

By mid-May 2018, students had completed nine of the 12 weeks of the program. During those weeks, participants have tasted new vegetables and experienced an integrated curriculum of nutritional and horticultural education.

Proof of the program’s success is seen in the number of students who are now eating vegetables from the garden that the students were previously unfamiliar with and disinterested in. Students who refuse to eat store-bought vegetable samples have no hesitation at all pulling snacks straight from the garden. The program has been a huge hit and is a great way to get students’ hands in the dirt—growing and eating nutritious foods.

—Hannah Bundy

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extensiongardener.ncsu.edu

Smart Gardening: Make some compost!

Summer is on its way, and one of the best ways for you to keep your garden happy and healthy this season is with compost. Composting is a natural process that turns organic material into a dark, rich, wonderful soil conditioner. Composting can help you save money, reduce landfill inputs, and ultimately lead to a healthier garden. According to the U.S. EPA, food scraps and yard waste currently make up 20% to 30% of what we are throwing away. So, let’s start using the waste for good! Composting can help to:

- Enrich your soil, retain moisture, and suppress plant diseases and pests.
- Reduce the need for chemical fertilizers.
- Encourage the production of beneficial bacteria and fungi that break down organic matter to create humus, a rich nutrient-filled material.
- Reduce methane emissions from landfills and lower your carbon footprint.

On top of all these benefits, composting is a low-maintenance, economical, and easy way to put good nutrients back into your soil, while minimizing negative impacts on the environment. You can start your compost pile indoors or outdoors. Indoors, you can purchase or build special bins that will help minimize odors. Compost can be ready in two to six weeks depending on the bin size you are working with. Be mindful of food, plant, or liquid waste you are adding to it, as some materials may be more prone to causing unwanted odors than others. Most commonly, people will have a small food collection bin inside and empty its contents into a larger bin constructed outdoors, adding grass and garden debris. These outdoor bins will need to be covered to prevent unwanted pests from getting in and to allow heat to generate and keep your compost pile active.

—Maddie Ciszewski



Use food scraps and yard waste to create a soil conditioner. Creative Commons CC0-1.0



Edamame are easy and versatile.
©twistedstrngknits, CC-by-2.0, Flickr

Food Production: Ease into edamame

Edamame (*Glycine max*) are soybeans eaten fresh, before the beans are dry and mature. They are an easy-to-grow source of protein. Because many varieties are ready to harvest 65 to 80 days after planting, multiple successions can be planted in one season, or edamame can fill in a gap between other crops. In 2017, Unity Park and Community Garden in Lenoir, NC, grew a crop of edamame between garlic that was harvested in early July and fall salad greens. Edamame varieties have larger seeds and are sweeter than the more common grain soybeans. Like other beans, they fix nitrogen through an association with *Rhizobium* spp. bacteria. They prefer full sun and well-drained soils with adequate nutrients. Plant soybeans after the danger of frost, when soil temperatures are 65°F. Plant ½-inch to 1-inch deep in rows 7 to 20 inches apart, and plant seeds 2 to 4 inches apart within the row. Planting in narrow rows will hasten canopy closure, improving competition with weeds. Look for varieties with good germination rates, and sow varieties with germination rates under 85% more heavily. Inoculate seeds with *Rhizobium* before planting into areas with no history of legumes. Brown marmorated stink bugs will damage pods, and bean leaf beetles will feed on foliage. Earlier plantings may experience fewer insect pests. Harvest when 85% to 90% of the beans are expanded, before pods turn yellow. Harvest by pulling individual pods or by cutting the plants at the base and removing pods while sitting comfortably in the shade. Refrigerate edamame quickly after harvest to maximize shelf life. Properly frozen edamame can be enjoyed year-round. Edamame are typically steamed before eating, and they can be enjoyed as a snack or in a variety of dishes. For more information, visit www.aces.edu/pubs/docs/A/ANR-2231/ANR-2231-low.pdf.

—Elina Snyder

Pest Alert: Granulate ambrosia beetles cause tree death

Granulate ambrosia beetle (GAB), an invasive pest from Asia, is now being found in the NC mountains. The female GAB emerges in spring. She prefers a small stressed plant or limbs 1 to 2 inches thick. She bores in and pushes sawdust out of the limb. The sawdust particles stick out of the bark for 1 inch or more like a toothpick. The female lines her tunnel with a fungus, and when her eggs hatch, the larvae feed on the fungus. The fungus clogs the vascular system of the plant, causing it to wilt and eventually die. So, the beetle doesn't hurt the tree, but the fungus does.



Granulated ambrosia beetles live inside a plant, making these pests hard to control.
©Steve Pettis

GAB spends most of its life cycle inside a plant, making it hard to control with insecticides. It emerges on the first warm day and either attacks the same tree or another stressed one. GABs have been seen attacking fruit trees, crape myrtle, redbud, hickory, Japanese maple, and many others. GAB will attack almost any stressed tree or shrub. Traps can be used to monitor the insect's emergence beginning in February. Four to six generations of beetles can hatch per season, making early season control extremely important.

The best way to control GAB damage is by prevention. Avoid pruning after January. GAB senses wounded plants. Trunk sprays using pyrethroid insecticides with spreader or stickers applied in late February or when the first beetle is trapped offer protection. Reapply as stated on the label. Affected

plants or plant parts should be removed and burned, and trunks of remaining plants should be treated with an insecticide labeled for this pest or site. There are no systemic insecticides that will kill GAB in trees. Infested trees will most likely die eventually.

— Steve Pettis

Lawns: What do you do with a summer lawn?

Do you want the long answer or the short answer? The short answer is "nothing," and it isn't altogether a bad answer. Those of us who grow cool-season lawns, which is most of us in the western part of the state, spend most of the hot months just trying to keep our lawns alive. The best solution is to mostly leave it alone. During hot and dry summer months, most of our lawns go at least partially dormant and grow very little during these times. Once temperatures reach 90°F, turfgrass quits growing, which is its way to tolerate hot, dry weather. It grows very little. And although the grass loses some of its nice bright green color, this lack of growth is the plants' natural way of staying alive. Water and nutrient requirements are low, and turfgrass can withstand long periods of time without water and still green back up when fall comes around and temperatures moderate.

The worst thing a homeowner can do is to panic and apply fertilizer and water. Once you start to water, you have to continue because watering kicks the lawn out of dormancy and water requirements sky-rocket. Nothing will fry a lawn faster than a big application of high-nitrogen fertilizer in July or August.

The best approach in caring for a midsummer cool-season lawn is to make sure it gets what it needs early in the spring. Apply slow-release fertilizer in February or early March, mow frequently, keeping mower blades high and sharp, and refrain from unnecessary irrigation. Turfgrass can go without water for six weeks before damage is noticed. Check out the NC State Extension publication on *Carolina Lawns* (AG-69) for detailed information on maintaining a cool-season lawn:

content.ces.ncsu.edu/carolina-lawns.

—Donna Teasley

Tips & Tasks

Lawns

- Promote growth and help turf endure the heat by removing no more than a third of the blade when cutting your grass.
- Do not overwater. Lawns need only an inch of water a week.
- Keep your mower blades sharp.
- Control your weeds before they go to seed.
- Do not bag your grass clippings. They are natural fertilizers for your lawn.

Ornamentals

- Help boost drought tolerance by adding a few inches of mulch
- Do not prune after July 1, and be sure to follow the pruning guidelines for each plant.
- Be on the lookout for pests and diseases, and control accordingly.
- Remove spent blooms to stimulate more flowers.
- Cut flowers for bouquets in the early morning, and cut stems at a 45-degree angle.

Edibles

- Remove flower buds from all newly planted fruit bearers. This practice allows for a bigger crop next summer.
- Apply compost or mulch to the soil around your vegetables and fruits to help keep the soil moist.
- Keep the weeds under control by hand-picking. Be sure to remove weeds before they go to seed.
- Include flowers in your plan to attract pollinators.
- Decide how you want to preserve your fruit and vegetables, and plan accordingly.
- Contact your county Extension center to learn about the classes they offer about canning, freezing, drying, or salting of fruits and vegetables.

—Rebecca Bradley

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