

FALL 2016

PIEDMONT NEWS

Expand your garden with containers

Growing garlic

Boxwood blight

Turfgrasses for the home lawn

STATE NEWS

Spooktacular plants

Chalkbark maple

Butterhead and leaf lettuces

Soil testing for sustainable nutrient management

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

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Spooktacular Plants

Fall is known for nights full of fright, but don't worry. These plants won't bite! Try incorporating these ghoulish plants into your landscape and provide frightful fun for kids of all ages.

Spider flower, *Cleome hasslerana*, is a low-maintenance annual that performs best in sun to partial shade and moist soil. Purple and white blooms are produced summer to frost with 1-inch long petals and extended stamens that curve to give the plant its spiderlike resemblance. Plants reach a height of 3 to 4 feet with a 2-foot width, making them suited for the back of the garden. They also make great cut flowers.

Eyeball plant, *Spilanthes oleracea*, is sure to be a conversation starter in the garden. The globular, golden-yellow flowers are centered with a red "eye." A low, spreading growth habit occurs when eyeball is planted in full sun to light shade. Blooms are produced in the spring along the ends of extended stems that are surrounded by olive-colored leaves. This annual is thought to have been used in folk medicine as a toothache remedy, but it is best used today as a groundcover or in containers.

Ghost fern, *Athyrium* sp. 'Ghost,' derives its name from the silvery fronds of foliage that are produced through the entire growing season. The clumping fronds will reach an average height and width of 2 to 3 feet with little maintenance and care. As a woodland plant, however, ghost fern prefers moist soil and part to full shade.

Bloodtwig dogwood, *Cornus sanguinea*, drips with color throughout the year. Creamy-white flowers are produced in late spring, followed by purple fruit and red fall foliage. The color contin-



Eyeball plant provokes conversation in the garden. ©Thomas Knox, creativecommons.org, CC-BY-NC-SA-2.0.



Bloodtwig dogwood displays creamy flowers in late spring and blood-red stems in winter. Top: @Je Wyer, CC-BY-NC-ND-4.0. Bottom: @Bathyporeiai, CC-BY-NC-ND-4.0.

ues through winter as stems fade from yellow to red. Use in mass plantings for impact. This medium to large shrub prefers sun to part shade and well-drained soil.

Devil's walking stick, *Aralia spinosa*, will provide year-round fright with its stiff, thorny branches that reach an average height of 15 to 20 feet in the landscape. This deciduous tree species will tolerate a wide range of soil conditions and sun exposure, and its leaves will produce yellow to red-orange fall color. In summer the tree is highlighted by clustered, creamy-white flowers that are followed by purple to black fruits. Besides attracting onlookers, the plant also attracts bees, butterflies, and birds.

Skullcap, *Scutellaria incana*, is a native perennial that prefers moist soil and sun to light shade. Stalked, purple to blue blooms are produced summer to fall against small leaves covered with silvery hair. The plant will reach an average height of 2 to 4 feet in the garden. You can enjoy teasing garden visitors with its frightful name while they enjoy its delicate blooms. —Katy Shook

Extension Showcase

Extension Master Gardener Volunteers Pass the Trowel

Fifteen years ago, the Davie County Extension Master Gardener Volunteers had an idea: to teach youth about gardening. Little did those volunteers know that this idea would become part of their mission. The group chose an annual summer Junior Master Gardener day camp as their educational tool. Excellence was their standard, and in 2012, the program won the NC Extension Search for Excellence award.

Rising first through sixth graders in Davie County are invited to attend the Junior Master Gardener day camp, planned and taught by Davie's well-trained, certified Extension Master Gardener Volunteers. Youth learn about the importance of plants in their daily lives through fun hands-on activities and field trips. They learn that all animal life on earth depends on plants and without plants there would not be any hamburgers to eat. That fact gets their attention. They learn about recycling and environmental stewardship, and take trips to farmers' markets, quarries, and ponds. Participants observe insects under microscopes and learn the importance of pollinators. When they count one, two, three bites of food and learn that they would not have the third bite without pollinators, the real value of bees and other pollinators becomes clear.

This intergenerational interaction pushes gardening to the forefront. Youth have the opportunity to learn about environmental stewardship, attend field trips, play in the dirt and have tons of fun.

—Pam Jones

Smart Gardening: Expand your winter garden with containers



Pansies and collards make this container garden attractive and nutritious. @Hennepin County (Minnesota) Master Gardeners, CC-BY-NC-2.0

Summer is full of warm, sunny days—the time for gardens and flowers. Traditionally we associate fall and winter with the rejuvenating cold days that remind us of how nice it is to be indoors. But fall and winter can also be the perfect time to expand your growing space into new areas. With a few clever ideas, you can use the cold days of winter to grow fresh flowers and herbs right outside of your door.

The easiest way to expand fall and winter gardens is to add a few containers to your porch or doorsteps. Many different styles of baskets and pots can add beauty to your home as well as add room for plants such as rosemary, pansies, and even ornamental cabbages. Keeping these containers close to a building will provide them with additional warmth in the chilly evenings. Coves around doors and areas around dryer vents create small microclimates, allowing plants to thrive as long as they are provided with enough light and water.

Winter annuals such as pansies and violas are perfect to accent containers with a bit of color to offset the drab winter landscape. These plants should be planted in late September to give them enough time to become established before the end of October when the frost sets in. Tulip bulbs can be used to add a surprise for the early spring. With a little bit of creativity, you can add both beauty and function to your landscape by incorporating containers with winter annuals around your home.

—Ben Grandon

Food Production: Growing garlic

For more than 7,000 years, garlic (*Allium sativum*) has been used in medicine and cuisines worldwide. Fortunately, this important herb is easily grown in the piedmont. There are two main types of garlic—hard-neck and softneck. Softneck is the type best suited for growing in the NC piedmont. Supermarket garlic may or may not be a variety that grows well here. So rather than experiment, try to find locally grown bulbs.

Fall planting is recommended for the NC piedmont. We plant our garlic the first week of November at Arbor Gate Teaching Garden. Select a well-formed bulb. Just before planting, gently break it into individual cloves, leaving the "paper" shell on each clove. Larger cloves yield larger bulbs. Plant in well-worked soil that has been liberally supplemented with compost. Fertilize according to soil test results. Garlic prefers a pH around 6.5. Plant each clove 2 inches deep (to the bottom of the clove) with the pointy side up. Space cloves 4 to 6 inches apart, and add a layer of mulch to reduce weeds. Adequate moisture is important during the growing season, but it's best to allow the soil to dry toward harvest time.

Harvest when the tops begin to dry and fall over. We harvest our garlic the first week in June. If you are not sure it is ready, pull a plant and check that the cloves are fully segmented but the bulbs are still tightly encased by their outer skin. Braid or tie the bulbs in loose bunches by their leaves, and hang in a dry, shaded, well-ventilated area to cure for several weeks. After curing, trim the roots and clean the bulbs to remove the loose outer portions of the sheath. Store in a cool, dry, well-ventilated area, and expect the bulbs to keep for five to eight months.



Harvest garlic when the tops begin to fall over. @Christine Stecker, Extension Master Gardener Volunteer program director, Alamance County Extension Center

Pest Alert: Boxwood blight

Over the past five years, boxwood growers and homeowners have been introduced to a new pest, *Cylindrocladium buxicola*, commonly called boxwood blight. English and American boxwoods are susceptible, along with species of *Pachysandra* (spurge) and *Sarcococca* (sweetbox). The fungus does not actually kill the plant but merely disfigures it to the point that a homeowner would not want it in their landscape. Initially, dark-brown to purple spots appear on the leaves of the bottom third of the plant. In time, the infected plant drops leaves but does not die. Death may come—but only from repeated leaf loss or a secondary disease infection.



Shrubs infected with boxwood blight. ©Joanna E. Radford, Surry County Extension Center

The fungus thrives in warm (64° to 80°F), humid, and shady conditions. Sadly, the fungus will never be eliminated from the plant. Fungicides are available but are expensive and time consuming as they must be repeatedly applied to suppress the disease or prevent it from spreading. The extremely sticky spores are spread by wind, water, animals, birds, tools, and clothing. How long disease spores live on infected leaves is unknown. Homeowners can protect existing boxwoods by examining plants before bringing them home, buying from a reputable nursery, and using only clean tools to prune. Sanitizing tools is important. Guard who prunes for you and the practices they use. If you have questions regarding unhealthy boxwoods, contact your county Extension Center for correct diagnoses and management options. There are other diseases that may share the same symptoms, and many of them are treatable.

— Joanna E. Radford

Lawns: Turfgrasses for the home lawn

When searching for the right turfgrass to grow into the perfect lawn, determine if you would prefer a cool-season grass or a warm-season grass. Warm-season grasses go dormant in the winter but tend to maintain that lush-green color in the midst of our hot, dry summers. Cool-season grasses, on the other hand, provide green in the dead of winter but can appear stressed during hot summer months.

If you choose the warm-season route, the best options are bermudagrass or zoysiagrass. Both are tolerant to heat and drought and are considered durable turfgrasses, but bermudagrass will not tolerate the shade. Bermudagrass can be established by seed, sprigs, plugs, or sod—the method depends on the variety you choose, of which there are several. Seeding, sprigging, or plugging should be done April through July, and sodding can be done any time of the year. Once established, maintain bermudagrass at a mowing height of 1 inch and fertilize at 4.5 pounds of nitrogen per 1,000 square feet per year. For zoysiagrass, typical establishment methods are by plugging or sodding done March to May. Once established, which occurs slower than for bermudagrass, maintain zoysia at a mowing height of 1 inch and fertilize at 1.5 pounds of nitrogen per 1,000 square feet per year.

If you choose a cool-season grass, a good option would be a mix of tall fescue, Kentucky bluegrass, and fine fescue to provide optimum adaptation and appearance. Look for a seed ratio of 90% tall fescue (by weight) to 10% Kentucky bluegrass and fine fescue. This will ensure an equal number of seeds per pound because tall fescue has a larger seed. Seeding dates are August through September, and the grasses will establish quickly. Maintain a mowing height of 3 inches, and fertilize at 2.5 pounds of nitrogen per 1,000 square feet per year.

— Kira Chaloupka

Tips & Tasks

Fall Perennial Maintenance

Many gardeners love perennial plants for their lasting presence in the landscape. During the fall, perennial favorites such as Japanese anemone (*Anemone ×hybrida*) and toad lily (*Tricyrtis* species) continue to produce colorful blooms. Perennial grasses offer fall color, from the pink inflorescences of muhly grass (*Muhlenbergia capillaris*) to the colored foliage of other species. Try little bluestem (*Schizachyrium scoparium*) or switchgrass (*Panicum virgatum*) cultivars 'Shenandoah' or 'Heavy Metal' for adding color to the landscape.

Perennials that return year after year can easily be forgotten during regular garden maintenance. As the weather cools off this fall, it's an excellent time to tend the perennial garden. In general, fall is a great time to divide perennials, such as peonies, that bloom during the spring and early summer. Wait until spring to divide autumn-flowering perennials, as these plants will be able to dedicate more energy to establishing roots when they are not flowering. You may want to take photos of your garden this fall to remind yourself of which perennials will need dividing when springtime arrives.

As always, do not forget to take a few moments to enjoy the cool weather and the beauty of your perennial garden!

—Leslie Peck



Toad lily. ©Leslie Peck, Forsyth County Extension Center

Helping You Grow

NC State has a new tool to provide gardening information to the public. With a few keystrokes, most of your gardening questions can be answered at **gardening.ces.ncsu.edu**. There you will also find the latest issue of *Extension Gardener* newsletter.

Additionally, NC State's plant database can be searched by common name, scientific name, plant category, or photo. Data include growing requirements and plant characteristics. Timely gardening news fills the center of the page. The left sidebar of the website's home page lists many topics, which expand into more topics when you make a selection. If you have a burning question that you want answered immediately, follow these instructions:

Scroll down the left sidebar and select the **PUBLICATIONS** link, which will take you to another full page of possibilities. If that is too time-consuming, go back to the home page. In the search box at the top right of your screen, type in a keyword or question. Happy growing!

—Pam Jones



Taking a soil sample. ©Megan Gregory

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Plant Watch: Chalkbark maple (*Acer leucoderme*)



Chalkbark maple ©Tom Glasgow

Chalkbark maple (*Acer leucoderme*) is a smaller, slower growing version of the southern sugar maple (*A. saccharum* var. *floridum*)—a heat-tolerant, southern relative of the well-known sugar maple (*Acer saccharum*). Although the southern sugar maple, also known as Florida maple, is quite common in eastern North Carolina and occurs in coastal counties, the chalkbark maple is distributed more heavily toward the NC piedmont. Occurring naturally as an understory tree in dry forests, it has good drought tolerance and attractive bark

in winter. Fall color can be outstanding, ranging from yellow to orange to red. Chalkbark maple is adapted to climatic conditions from USDA Zones 5 through 9, so neither heat nor cold should be a problem anywhere in North Carolina. In the landscape, avoid wet or mucky soils, and select sites with partial or afternoon shade. For a list of NC nurseries that sell native trees, visit www.ncforests.gov/Urban/pdf/NurseriesSellingNativeTrees.pdf.

—Tom Glasgow

Incredible Edibles: Butterhead and leaf lettuces

If you aren't growing lettuce in your garden, you're missing out on a crisp treat in the spring and fall! Although lettuce will grow fast in full sun, it is one of the few vegetables that will tolerate shade, making it great to grow between taller veggies like tomatoes and corn. Lettuce grows best in fertile, well-drained soil with a pH between 6.0 to 7.0 and should be transplanted in the spring and direct-seeded in the fall.

Harvest leaf lettuce starting with the older outer leaves as soon as they are 4 to 6 inches long. Butterhead can be harvested like leaf lettuce, or the entire head can be harvested when it is moderately firm. Lettuce generally needs five to seven weeks to reach maturity. Slugs can sometimes be a pest. It is important to keep the lettuce patch free of weeds.

—Jarette Hurry

Sustainability: Soil testing for sustainable nutrient management

Fall is an ideal time to test your garden soil. Making sound decisions about soil management starts by learning your soil's pH, nutrients, and organic matter levels. Most gardeners know that to grow productive crops, the soil must contain nutrients such as nitrogen (N) and phosphorous (P). But gardeners may not be aware of the dangers of overfertilizing. Many garden soils contain excess nutrients (especially P) that can stimulate weed growth and pollute waterways through runoff or leaching. Testing the soil helps you select soil amendments and fertilizers and to apply *needed* nutrients—not more than is needed. This will support good vegetable yields and keep waterways clean. Gardeners can take advantage of the NC Department of Agriculture and Consumer Services free soil testing service by submitting soil samples from April through mid November. In general, gardeners can take these steps to improve soil quality and achieve balanced nutrient additions:

- Use legume cover crops as the main N source.
- Use plant-based composts made from leaves and yard waste to improve soil tilth, rather than large amounts of manure-based compost.
- Maintain P and potassium (K) levels in the optimum range with modest additions of manure-based compost and other organic amendments, as indicated by soil test results.

For more information, visit go.ncsu.edu/FCGHealthySoil and check out the first two resources: "Soil Test Interpretation and Soil Management" and "Soil Test Interpretation Worksheet." Gardeners can use the worksheet to interpret their soil test reports and choose appropriate organic amendments based on the results.

—Megan Gregory