



# Extension Gardener

NC STATE UNIVERSITY

NORTH CAROLINA COOPERATIVE EXTENSION

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Empowering gardeners. Providing garden solutions.

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## Soil testing in preparation for planting

A key to growing healthy plants is having good soil. Soil preparation, however, is often overlooked when gardening. Taking time to prepare and amend the soil before planting will encourage healthier plants and reduce the potential for future problems.

One of the most important tools in determining how to improve your soil is the soil test. Between April and November, soil testing is provided by the North Carolina Department of Agriculture and Consumer Services (NCDA&CS) at no direct charge to North Carolina residents. During the department's peak season of December to March, soil testing costs \$4 per sample. A few weeks after you submit a soil sample, you will receive a report providing lime and fertilizer recommendations based on your soil's characteristics and the plants you plan to grow.

Soil samples may be taken at any time of the year, but there are steps to take when collecting samples to ensure you get the best results. First, consider how many separate samples should be collected. Collect samples for each different group of plants you are growing. For example, you should submit separate samples for your vegetable garden, lawn and flowerbeds.

It is also recommended to collect separate samples for areas in which the soil type or drainage are noticeably different. When collecting a sample for your lawn, you may want to take separate samples for the front and back lawn. You should also collect separate samples for acid-loving plants like centipede grass, blueberries and azaleas.

When you collect soil for your sample, remove mulch and leaves from the soil surface. For a lawn, samples should be collected to 4 inches deep. For vegetable gardens and flower beds, take samples 6 to 8 inches deep. And for

trees and shrubs, collect samples to a depth of 6 to 10 inches.

As you collect a sample, collect several "mini-samples" randomly within the area you wish to test. Mix the mini-samples in a bucket before filling the box in which the soil will be submitted for testing. This will provide a better representation of the entire area and lead to better results. It is best to use plastic or stainless steel tools and bucket when collecting samples. Avoid galvanized, brass or bronze tools because they may contaminate the sample and skew results.

Fertilizing and liming without knowing what is in your soil can lead to plant problems caused by adding too much or too little. A soil test is a reliable and accurate guide for preparing soil so your plants perform well. Contact your local Extension center for soil testing boxes, forms and information on how to collect a soil sample.

— Jessica Strickland



Boxes and forms for soil testing are available from your local Extension center. ©Jessica Strickland

## Extension Showcase

### Sixth-graders explore plants at the Extension Botanical Garden

Can you name the three parts of a bean seed or explain how plants improve water quality? Have you ever propagated a plant or eaten a flower? Many Brunswick County middle students can answer “yes” after participating in a hands-on learning experience with Brunswick Cooperative Extension.

This past spring, 300 sixth-graders from South Brunswick Middle School visited the Brunswick County Cooperative Extension Botanical Garden to participate in “Discovery in the Garden.” This event was the first of its kind, sponsored by Extension Master Gardener volunteers and staff with NC Cooperative Extension’s Brunswick center.

Participants spent time learning about the process of growing seeds, the water cycle and the importance of planting rain gardens to improve water quality. Youth learned about plant propagation and the benefits of eating well-balanced meals and plant-based diets. Students also had the opportunity to taste different fruits and vegetables, while describing foods from various parts of the plants. They even had the unique opportunity to taste pansy flowers!

Contact your local Extension center to find out about educational opportunities for youth in your county.

— Sam Marshall

## Smart Gardening — Composting for the home gardener

Compost is a beneficial material used in gardens and landscapes to improve soil structure and drainage in clay soil, and to retain moisture and nutrients in sandy soil. Compost can also be used as a mulching or topdressing material around plants or in gardens.

With all the possible uses of compost we often run into a problem of not having enough. So where do you find compost?

The first place to look for compost is in your backyard. A home compost bin can provide an adequate amount of compost for a small garden. Materials suitable for composting include leaves, plant debris, vegetable scraps, grass clippings, newspapers and some animal manures. The amount of compost you produce will depend on the availability of composting materials.

Where do you go when you can’t supply your own demand? One option is to purchase compost in bulk from a local supplier such as a garden center or nursery. Some local municipali-

ties also provide compost to residents. Municipal compost is usually created from yard waste collected at disposal facilities. To help locate a supplier, consider visiting the NC Compost Council website: <http://www.carolinacompost.com/>

Through this website you can search for local suppliers and even calculate how much compost you will need using the compost calculator, available under the “compost” link.

The compost calculator will ask you how much area you plan to cover and how many inches of compost you plan to add. It will then calculate how many cubic yards, 1-cubic foot bags or truckloads you will need. You can then use these estimates to purchase the proper amount.

Learn much more about composting from this NC Cooperative Extension website: <http://www.bae.ncsu.edu/topic/composting/>.

— Daniel Simpson

## Food Production — Home-grown blueberries

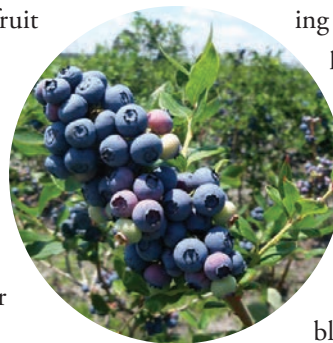
In addition to their delicious fruit, blueberries provide an aesthetic punch, making them an excellent addition to home landscapes. Beginning with pink-tinged white blooms in spring that turn to bright blue fruit in summer and finishing with intensely red fall foliage, blueberries can bring more color to your landscape than many traditional ornamental plants. They are also easy to grow and have few pest problems, making them an ideal choice for organic-minded gardeners.

Blueberries are acid-loving plants that like well-drained, sandy soils. A pH of about 4.8 is ideal, so test the soil well before planting and add sulfur if the soil pH is too high. Before planting, add compost to the soil to help retain water and nutrients. On heavier soils where poor drainage is an issue, use organic matter to build a raised mound or ridge at least 6 inches high to provide blueberries with adequate drainage.

While blueberries can grow in sun or shade, fruit production is highest if grown in full sun. Though they require some pruning, they need much less than other fruit producing plants such as grapes, apples or peaches.

Rabbiteye and highbush blueberry types are suitable for use on the NC coastal plain, though rabbiteyes are more heat-tolerant and are adapted to a wider range of soil types. Rabbiteye varieties ‘Climax’, ‘Premier’ and ‘Powderblue’ – as well as highbush varieties ‘O’Neal’, ‘Duke’ and ‘Legacy’ – all perform well in our region. Though not all blueberries require cross-pollination, many yield better when grown with other varieties. Consider planting several varieties to maximize yields, as well as to lengthen the harvest season. Highbush varieties should be spaced 4 feet apart and rabbiteyes 6 feet apart.

— Matthew Stevens



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## Pest Alert — Kudzu bugs on the move

A relatively new pest, the kudzu bug (*Megacopta cribraria*) draws plenty of attention when active near homes. Mature kudzu bugs are somewhat oval in shape and brownish- to olive-green in color, with brown speckles. They emit a foul odor when crushed or threatened.

Kudzu bugs emerge in early spring as temperatures start to warm and are active through the summer and fall. They feed on kudzu, wisteria, soybeans and other legumes, including green beans, lima beans and field peas. Damage to ornamental plants has not been reported, though kudzu bug feeding can reduce yields on beans in vegetable gardens. In vegetable gardens, kudzu bugs can be controlled with insecticides containing malathion, carbaryl or permethrin. Spraying early in the morning before kudzu bugs become very active will be more successful. Always read and follow label directions when applying any pesticide.

Kudzu bugs can also be a problem around and inside homes. Inside the home, kudzu bugs can be swept or vacuumed, placed in a pail of soapy water where they will drown and then



©Charlotte Glen

discarded. If vacuumed, the bag should be immediately discarded or sealed in a plastic bag and frozen for several days to kill the insects. Crushing the pests will stain fabric and smell unpleasant. For more information contact your local Extension center or visit this website: <http://www.ces.ncsu.edu/depts/ent/notes/Urban/kudzubug.htm>

— Mack Johnson

## Carolina Lawns — Large patch disease in centipedegrass

If yellow, tan or straw-brown circular patches developed in your centipedegrass this spring, your lawn could have large patch, a fungal disease of warm-season turfgrasses. Large patch initially appears as circular patches 2 or 3 feet in diameter, but they can rapidly expand. The outer edges of the patches may look red, bronze or orange, and a closer look will reveal reddish-brown or gray areas on the individual grass blade sheaths.

It is too late to treat this disease, which is best controlled in fall. Once average temperatures rise above 70°F, the lawn will start to grow vigorously and the fungal disease will abate until cooler weather. Make a rough sketch of the yard and mark the affected areas, or take pictures of the areas, including nearby structures or plantings to use as points of reference. When average temperatures dip below 70°F in fall, spot treat

affected areas with a fungicide containing azoxystrobin or propiconazole.

Large patch disease thrives in wet conditions, so irrigate the lawn only as needed to prevent severe drought stress (about 1 inch of water per week in summer). Rake the lawn gently in the spring to remove excessive thatch accumulation, and aerify any compacted soil. Maintain the lawn at a height of 1 inch by mowing to 1 inch before it gets above 1.5 inches tall. Overfertilizing makes large patch disease worse.

Fertilize centipedegrass based on soil test results or recommendations from the Centipede Lawn Maintenance Calendar, available from your local Extension center and online: <http://www.turffiles.ncsu.edu/>

— Jacob Searcy

# Tips & Tasks

## Summer garden tips

- Water lawns when they show signs of stress, which include bluish-gray color, footprints that stay after walking on it, and wilted, folded or curled up leaves.
- Don't fertilize cool-season grasses (tall fescue) in the summer, even if you see brown patches.
- Do fertilize warm-season grasses (Bermuda, centipede, St. Augustine, zoysia) during the summer based on recommendations for your specific turf type. Contact your local Extension center or visit <http://www.turffiles.ncsu.edu/> to get a turf maintenance calendar for your lawn.
- Pinch back chrysanthemum and other fall blooming perennials through mid-July to increase fullness and encourage more fall blooms.
- Be careful with weed-eaters! Don't damage bark on trees and shrubs while mowing or using a string trimmer.
- Don't plant trees and shrubs in summer unless you plan to water regularly. Fall is a better time for such plantings.
- Watch for blossom-end rot on tomatoes. Consistent watering will help minimize this common problem.
- Black spot on roses and other foliage diseases can be reduced by using a drip irrigation system or soaker hose, or by watering in the early morning, close to the ground.
- Crowded spring bulbs can be dug up, divided and replanted after the foliage has turned brown.

— Katy Shook







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## Helping You Grow

### Community Garden Portal

Interested in community gardening? This website connects you with others involved in community gardens: <http://ncommunitygardens.ces.ncsu.edu/> Search for gardens near you, and join others at one of the 126 registered gardens. Explore how to start a community garden, including funding opportunities. Find resources and suggestions for your garden's policies and ground rules. The NC Community Gardens website supplies facts on when and how to harvest and store vegetables, tips for making gardens accessible and organizing your garden, and resources for reducing food safety risks.

Visit today to discover what a resource it is for growing communities through gardens.

— Peg Godwin

## Showstopper — 'Glowing Embers' hydrangea

I fell in love with *Hydrangea macrophylla* 'Glowing Embers' many years ago when I read about its vivid red flowers. This plant was first introduced on the market as 'Alpenluhen'. With a hard to pronounce name, it was even harder to find at a garden center. Thanks in part to a name change, 'Glowing Embers', one of the finest mophead hydrangeas, is now easily acquired. It's a vigorous grower, with a mature height and spread of 3 to 6 feet. The 8-inch flowers appear midsummer, start out pink and slowly deepen to red. Grow this plant in moist, well-drained soil amended with compost. Full morning sun with afternoon shade is preferred to prevent wilting. 'Glowing Embers' blooms on old wood so wait to prune after flowering. For a stunning display, mass plant 'Glowing Embers' with evergreen shrubs.

— Cyndi Lauderdale

## Edibles — Fruit trees

Maintenance needs of fruit trees vary from one type to another, but all require regular care to be productive. Begin by selecting the right cultivar for your area. Most fruit trees should be planted in full sun and well-drained soil and require regular pest control, fertilizing, thinning and pruning. Control weeds by mulching around trees or through targeted herbicide use. Avoid mechanical weed control near tree trunks. Home gardeners can use multipurpose home orchard pesticide sprays for insect and disease control. Sanitation, which includes removing, burning or burying fallen fruit and debris, is also helpful. Fertilizer applications should be based on soil test results.

Thinning and pruning is crucial to fruit development. Thin to one fruit every 4 to 6 inches when fruit is the size of a nickel. Pruning is species specific; contact your local Extension center for advice and recommendations.

— Katy Shook

## Sustainability — The benefits of mulch

Mulch is one of the most important and inexpensive tools available to gardeners. Once established, an even layer of mulch helps control weeds, retains soil moisture, moderates soil temperatures, prevents the establishment of a soil crust, reduces soil compaction and reduces injury from lawn equipment.

Maintain a 3- to 4-inch-thick layer of mulch around trees and shrubs. Extend mulch to the drip-line of trees and large shrubs, never allowing it to touch the trunk or base of any plant. Mulch can be applied

right over top of perennial bulbs, but be careful not to smother annual and perennial flowers by applying mulch too thickly around plant crowns.

Mulch comes in many different textures, colors and substances. Mulches available from your local garden supplier that are made from organic materials include pine straw, pine bark, hardwood bark, cedar chips and dyed wood chips. Organic mulches break down into a humus-like material that slowly works its way into the soil, helping to improve soil over time.

Which mulch is best for your landscape? It depends on your aesthetic preferences and site conditions. Pine straw is readily available in many parts of the state, and once settled, it will not move. Hardwood mulches decompose more quickly than others causing thin areas. Chunky mulches, such as pine bark nuggets, tend to wash out with heavy rains and will need refreshing more frequently.

— Kerrie Roach



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