



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

Stokes County Extension Master Gardener volunteers expand community outreach

Extension Master Gardener volunteers in Stokes County have launched an ambitious community garden project in the city of King. The garden, located on city property in the center of a highly visited public park, will initially serve as a teaching and demonstration garden. All food produced in the garden's first year of operation will be donated to local food banks. The half-acre site will be developed to include a small botanical garden with seating, making the garden a focal point and gathering place for the community.

Educational programs will be offered, including such topics as raised bed construction materials and techniques, square foot gardening, vertical gardening and pest control. Boy Scouts will also be offered the opportunity to earn a merit badge in gardening under the supervision of the Stokes Extension Master Gardener volunteers. The design of the garden includes accessible beds and pathways, which will increase gardening opportunities for those with mobility challenges.

Long-range plans include expanding the project's scope to include allotment style garden plots available for lease by local citizens. To find out more about the project and other Extension-sponsored events in Stokes County, call (336) 593-8179 or visit us online: <http://stokes.ces.ncsu.edu/>

— Randy Fulk

Smart Gardening — *To fertilize or not, that is the question*

I occasionally have the pleasure of sitting down with famous North Carolina gardener Ann Clapp for a radio call-in show. On one occasion, a caller inquired about the best time to fertilize a certain shrub. The ever wise and thoughtful Ann replied with a simple question, "How much do you want to prune it?"

Leaving the fertilizer in the bag is often a better choice. Adding nutrients to a healthy, vigorously growing tree or shrub is an invitation to do more pruning.

Also avoid fertilizing your tall fescue lawns during the summer. Warm-season turf, on the other hand, should definitely be fertilized. Note that the specifics for bermuda, centipede and zoysia are very different. Download a lawn maintenance calendar from NC State's TurfFiles website for details: <http://www.turf.ncsu.edu/>

In the vegetable garden, let's hope you applied nitrogen, phosphorous and potassium at planting according to your soil test report. Many summer vegetables, however, will benefit from an additional application of nitrogen. The rate

and timing will vary, but a conservative amount would be 0.5 pound of nitrogen per 1,000 square feet, applied about a month after planting. Your annual color beds may also benefit from a similar rate of nitrogen applied in midsummer.

Download "Fertilization of Lawns, Gardens and Ornamentals" from the NCDA & CS for more details: <http://www.ncagr.gov/>

Berry crops will benefit from some supplemental nitrogen during the summer. Apply a nitrogen fertilizer to blueberries about six weeks after bloom, while grapes, blackberries and raspberries will appreciate an application in July. Three-fourths pound of nitrogen per 1,000 square feet is reasonable.

While supplemental nitrogen during the growing season is good for many fruits and vegetables, don't overdo it. Overfertilizing can burn plant roots or result in lots of foliage growth but no fruit. Excess nitrogen also leaches easily, which can pollute our streams and rivers.

— Paul McKenzie

Food Production — *Growing to give*

Sometimes life can be a challenge, and getting food and the other basics we need to survive can be difficult. Not everyone has the resources to grow food, while others grow more than they and their family can consume. Preserving vegetables is also a science, and not everyone has the time and energy to freeze, can or process their excess produce to prevent it from becoming waste. By donating your excess produce to a local food bank, soup kitchen or shelter, you can help reduce the amount of food going to waste while helping to eliminate food insecurity in North Carolina.

According to the NC Association of Feeding America Food Banks, one out of every four children in North Carolina is food insecure. Although much of the food distributed at local food pantries is nonperishable, many pantries accept donations of fresh produce. Growing a little extra in your garden is easy and may just involve planting a few extra plants to harvest along with identifying a nearby drop-off location. When growing food to give away, make sure to follow safety recom-



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mendations: <http://growingasafegardens.files.wordpress.com/2012/10/foodsafetywebcurriculum-10-24-12.pdf>.

This means washing your hands before handling the produce, using safe and fully composted soil amendments, using clean water to water your plants and keeping clean work areas where produce is being handled. Once produce is harvested, get it to a distribution location quickly to prevent the produce from going bad. To find a food pantry or drop-off site near you, visit this website: <http://ncfoodbanks.org/finding-help/>

—Michelle Wallace

Pest Alert — *Early blight on tomatoes*

Tomatoes are one of the most popular garden vegetables planted in North Carolina. Unfortunately, in our humid climate, tomatoes are susceptible to a myriad of disease problems. One of the most common diseases of tomato is early blight, *Alternaria solani*. This fungal disease can occur during any part of the growing season.

Easily identified by dark grey or black spots on the leaves, a closer look reveals concentric or target-shaped rings on the leaves, stems or the fruit itself. The small, irregular, brown spots appear on the older, lower leaves and gradually move upward. As the spots increase in size, the leaves turn brown and eventually fall off. Early blight also produces dark, sunken lesions, usually near the stem of the fruit. Take these steps to reduce incidences of early blight on your tomatoes:

- Purchase disease-free transplants.
- Rotate your vegetables each year. Don't plant tomatoes in areas where tomato, potato, pepper or eggplant have been planted in recent years.



©Gerald Holmes, Valent USA Corporation, Bugwood.org

- Space your tomato plants to provide adequate air circulation. This allows the plants to dry quickly, reducing the incidence of disease establishment.
- Remove old vines as soon as harvest is completed, plow deeply and plant a fall/winter cover crop.
- Spraying fungicides on a regular basis may control the disease.
- Grow cultivars with a high resistance to the disease such as 'Mountain Fresh', 'Mountain Supreme' or 'Plum Dandy'.

—Darrell Blackwelder

Carolina Lawns — *Maintaining a beautiful lawn*

Creating and maintaining a beautiful lawn boils down to three main factors: variety selection, mowing height and tool selection. Here in the NC piedmont, the preferred grass is fescue. Fescue is a cool-season grass that thrives in the spring and the fall, though growth slows in the dead of summer and winter. Warm-season grasses, such as Bermuda and zoysia, also perform well here but go completely dormant in the winter, making them a less viable solution for year-round turf beauty.

No matter what grass species you choose, proper mowing height is key to encouraging a healthy lawn. As a rule of thumb, grass should be mowed at a length in which one-third of the height is removed. For example, if your grass is 6 inches tall, you should only remove the top 2 inches. Removing more than a third of the total

height can result in stunted growth and weaker stands. Fescue lawns are typically mowed to 3 inches tall, while Bermuda is best mowed down to an inch in height.

To put the final touches on your yard, be sure to use stick edgers and leaf blowers. Stick edgers are designed to make a small trench in between your driveway or bed and the turf. This creates definition between the two surfaces and stops your grass from growing into your beds. Leaf blowers are used to remove the loose clippings from your street, sidewalk and patio. Some homeowners who are attempting to maintain their own yards tend to overlook these small details. Try edging and blowing once to see the difference a few extra minutes can make on your landscape's appearance.

— Ben Grandon

Tips & Tasks

Lawns

- Fertilize Bermuda and zoysia-grass with 1 pound of nitrogen per 1,000 square feet. Use a complete slow-release turf fertilizer such as 12-4-8 or 16-4-8.
- Fertilize St. Augustine grass with ½-pound of nitrogen per 1,000 square feet. Use a complete slow-release turf fertilizer such as 12-4-8 or 16-4-8.
- Fertilize centipedegrass with ½-pound of nitrogen per 1,000 square feet using a high potassium fertilizer such as 5-5-15 or 8-8-24.
- To control brown patch in cool-season lawns, mow when the grass is dry and avoid fertilizing.

Ornamentals

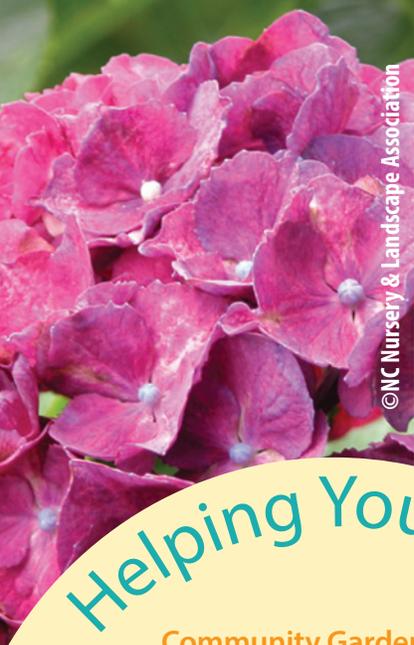
- Remove bagworm bags from infested evergreens.
- Avoid applying insecticidal soap when temperatures exceed 86°F.
- Pinch fall garden mums in June and again in July to encourage branching and to control height.
- Do not fertilize landscape plants after July 15. This gives time for plants to harden off before frost.
- Potted plants may need water every day during the heat of the summer, so check them often.

Edibles

- Regular watering will prevent blossom-end rot on tomatoes.
- Vegetable gardens need at least 1 inch of water per week. Water more frequently in sandy soils.

— Aimee Colf





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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

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

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