



# Extension Gardener

NC STATE UNIVERSITY

NORTH CAROLINA COOPERATIVE EXTENSION

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Empowering  
gardeners.  
Providing  
garden  
solutions.

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## The advantages of raised bed gardening

**W**hile this summer's gardening season is drawing to a close, there is no reason you can't start planning and preparing your own garden. Why not take advantage of the cooler fall temperatures to build and plant raised beds?

What are raised beds? Raised beds are structures that are typically 3 to 4 feet wide (wide enough that you can reach in and work from both sides without stepping into the bed). The beds can be any length or shape, depending on the gardener's needs. Bed depth can range from 6 inches to waist high, and the structure can be made from wood, rock, or concrete block.

Raised beds aren't new. They've been used in various forms for many years to improve drainage. Their real value is utilitarian, especially for areas of poorly drained soil. But their many other advantages make raised beds a good choice for any garden.

Because they increase the height of the soil column, raised beds provide better drainage than planting at ground level. In our typically wet springs, the soil in raised beds dries out faster, permitting gardeners to work the soil when traditional gardens might remain wet for weeks. In addition, the soil in raised beds warms earlier in the spring, allowing earlier spring planting.

Raised beds provide an optimum soil environment for root growth. Because the beds are never walked upon, compaction of the soil is avoided, which is beneficial for root development. Also, as beds are built up, compost and organic material are incorporated into the beds. Due to the better root growth from these improved soils, you will likely see higher yields.



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Gardeners growing crops in raised beds often use interplanting or other intensive planting methods, which means more can be grown in a smaller area than with traditional row garden techniques. Research indicates that a well-maintained raised bed could yield approximately double that of conventional row gardens. This also leads to fewer weeds because plants shade the soil surface.

Another great attribute, and my favorite as I get older, is less stooping. Of course, this depends on how high you make your beds. Raised beds are perfect for individuals who find it difficult to bend over, and also make gardening accessible to people in wheelchairs.

Gardening in raised beds can help improve your soil structure, drainage, and nutrient-holding capacity, and increase vegetable yields. Whatever your reason for choosing raised bed gardens, I think you'll find them to be as attractive as they are productive.

— Karen Neill

## Extension Showcase



Alamance County Cooperative Extension has always offered great programming on urban horticulture issues. The problem has been how to fill the seats. The solution: "Think Green Thursdays"—a series of classes held on alternate Thursday mornings from January through October in Alamance Extension's auditorium and surrounding Arbor Gate Teaching Garden.

The curriculum is decided by the Consumer Horticulture Advisory Board based on subjects of greatest interest. Topics range from the usual—lawn care, vegetable gardening, and pruning—to the less common: African violets, hydroponics, and beekeeping. Classes are taught by Extension agents, Master Gardeners, and area experts. Most classes are free, but some hands-on activities, such as rain barrel construction, require a small fee to cover the cost of materials.

All of the classes are posted on the Alamance Extension website (<http://alamance.ces.ncsu.edu/>) promoted on Facebook, and advertised in our monthly "Alamance Gardener" e-newsletter. Contact your local Extension center to find out about classes they are offering, or visit <http://gardening.ces.ncsu.edu/> to learn about events and classes offered across the state.

—Christine Stecker

Smart Gardening — *Mulch improves gardening environments*

Homeowners and professional landscapers depend on mulch for many reasons. A good layer of mulch improves the aesthetics of your landscape, prevents weeds from sprouting and growing, conserves soil moisture, prevents erosion, helps maintain a more uniform soil temperature, and improves the tilth of your soil.

Mulches cannot eliminate established perennial weeds such as nutgrasses or bermudagrass in flower beds, but applying and maintaining a 3- to 4-inch layer of mulch over relatively weed-free areas can eliminate a lot of backbreaking weeding or use of herbicides.

Many organic materials can be used as mulch. The most widely used materials by NC gardeners are pine bark, pine needles, compost, and shredded hardwood mulch. The choice of which to use is very much a personal preference. I suggest creating self-mulching areas. For

example, where you have pines growing that will shed needles each year, mulch with pine needles. No need in creating more work for yourself.

Organic mulch can be applied just about any time of the year around trees and shrubs. To provide an additional layer of protection against weeds, you could use a sheet or two of newspaper. Moisten the sheets, and then cover with a more attractive mulch to keep them in place.

Inorganic mulches include gravel of differing sizes, crushed rock, small lava rocks, and broken brick pieces. These materials work well in walkways or as fillers between steps in the garden.

In general, organic mulches are preferable to inorganic mulches. After decomposing, organic mulch releases valuable plant nutrients, increasing the fertility of the soil.

—Karen Neill

Food Production — *Planning a fall vegetable garden*

Now that many summer vegetable plants are nearing the end of production, it is time to plan for fall crops. Getting a fix on approximately how much of the growing season remains is important to fall vegetable gardening success. The average first frost in the NC piedmont occurs in mid to late October. This is a good method for determining what you have time to plant:

1. Read seed packets to find out the number of days required for the crop to reach maturity.
2. Work backwards from that date to determine if you have a reasonable chance of producing that crop before first frost.

NC Cooperative Extension also offers a fall planting guide, available from your local Extension center or online. Once you have selected your crops, turn your attention to preparing the garden site.

First, you must decide what to do with the remains of the summer garden. One option is to remove spent plant material as far as possible from the site or burn it rather than plowing it into the soil. Pests and diseases can survive in garden debris and come back to haunt you next year. If disease is not present or if you are rotating to a different crop next year, mowing or



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tilling the plant material into the soil is another option.

Nutrition and water are also important for a successful fall garden. If the spring garden was not fertilized heavily and a soil test has not been taken, apply a complete fertilizer before planting. Irrigation may be even more important to a fall garden because soil moisture levels are lower and the surface temperatures are hotter in fall. One inch of water per week is a good rule to remember. If direct seeding your crops, plant seeds 1½- to 2-times deeper than in spring.

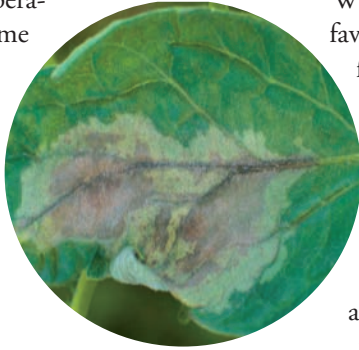
—Randy Fulk



### Pest Alert — *Late blight in tomatoes*

Despite our best efforts for over 150 years, tomato late blight (*Phytophthora infestans*) remains one of the most difficult and costly diseases of tomatoes. Late blight favors cool, wet conditions with daytime temperatures in the 70s°F and nighttime temperatures in the 50s°F. Cloud cover protects the spores from the sun's UV radiation, and wet conditions allow the spores to infect when they come in contact with tomato leaves.

Late blight attacks all aboveground parts of the plant, with the first signs appearing as wet, translucent lesions as illustrated in the photo. As the disease progresses, leaves shrivel, turn brown, and die.



©Margaret McGrath, Cornell University, Bugwood.org

Control relies mainly on fungicides, although a new variety, 'Mountain Magic', developed by NC State Extension, shows some resistance to several strains of the disease.

When cool, wet weather conditions favor infection, a comprehensive fungicide spray program is the best defense for home gardeners. Late blight has exhibited resistance to many fungicides, so rotating materials and modes of action is critical for successful control. Products containing chlorothalonil and mancozeb are among the most readily available. Azoxystrobin and cyazofamid, though somewhat more difficult to locate, are also effective.

As always when using pesticides, read and follow all label directions carefully and wear the recommended protective clothing.

— Randy Fulk

### Carolina Lawns — *Lawn care tips for fall*

As days get cooler, it is the perfect time to work on your cool-season lawn. Whether you want to establish, renovate, or maintain a lawn, here are a few things you need to think about.

When starting a new lawn, select the right variety. For information on selecting the best turfgrass for your yard, visit NC State University's Turf Cultivar Selection site, <http://turfselect.ncsu.edu/>. There you can indicate your conditions and receive information on turf cultivars suitable for your area.

Once you have made a selection, you need to take a soil sample. Proper soil preparation is the most important step required to cultivate a healthy lawn. If issues concerning soil pH, nutrient content, and availability are not addressed, growing grass will be difficult. Soil sampling is a valuable tool, and the analysis is free if samples are mailed prior to December 1.

Another important step is purchasing good quality seed. Be sure to check the label for the

percentage of noxious weed seeds in the bag. Avoid purchasing cheap seed. The time and money spent getting your lawn established or renovated will be wasted if noncertified seed containing a large percentage of weed seeds is purchased.

For establishing or renovating a lawn, you will need to prepare your site. This is where a soil report will come in handy because you will need to make amendments to the soil before you plant. For maintenance, you can use your report to see how much lime and fertilizer you need for your lawn.

For assistance with your lawn and soil report, contact your local Cooperative Extension center. For more information on lawn care and establishment, visit <http://www.turffiles.ncsu.edu> to download a copy of *Carolina Lawns*, an Extension publication that describes how to create and maintain a lawn.

— Danelle Cutting

## Tips & Tasks

### Lawns

According to NC State University's Turf Center, grasscycling is an ecologically and financially sound program for your lawn. Grasscycling consists of leaving grass clippings on your lawn after mowing instead of bagging and removing them. In North Carolina, it is illegal to dispose of grass clippings in landfills. Instead, use them to your advantage. They contain up to 85 percent water, represent a good nutrient source, and decompose quickly. This labor-saving practice can also supply up to 25 percent of the lawn's yearly fertilizer needs. Plus, the clippings do not contribute to thatch build-up.

### Ornamentals

- Remove diseased twigs and branches as well as fallen leaves from diseased trees and shrubs as many pest organisms overwinter in leaf litter.
- Lightly prune only to remove dead branches and gently shape plants. Save heavy pruning until late winter.
- Now is an excellent time to plant many trees and shrubs.

### Edibles

- Cool-season vegetables and many herbs can be planted for fall harvest or for overwintering beginning in late August and September.
- For specific planting guidelines, consult the "Central NC Planting Calendar for Annual Vegetables, Fruits, and Herbs," which can be found at your local Cooperative Extension center or online at <http://go.ncsu.edu/plantingcalendar>.

— Pam Jones



©JC Raulston Arboretum

## New from NCSU — 'Merlot' redbud

This redbud (*Cercis* × 'Merlot') is a cross between our native eastern redbud (*Cercis canadensis*) and the more heat- and drought-tolerant Texas redbud (*Cercis canadensis* var. *texensis*). The leaves of 'Merlot' redbud are glossy and dark purple, and tend to be thicker, smaller and more rounded in shape than other redbuds. What makes this plant better than other dark-leaved redbuds is that the leaves maintain that purple coloration throughout the summer without getting sunburn. 'Merlot' redbud is a beautiful small tree reaching a mature height of 12 feet with a 15-foot spread. Mature trees produce a heavy set of magenta-pink flowers in spring that are attractive to bees and butterflies. The seedpods tend to drop before maturing, providing a low seed set on these trees.

— Shawn Banks

## Helping You Grow

### Bugwood: A Pest ID Resource

Hosted by the University of Georgia and collaboratively maintained by multiple universities, [www.bugwood.org](http://www.bugwood.org) is a resource for identifying insect and disease problems. Bugwood includes images that are easy to sort using a variety of filters. Especially useful is the "IPM Images" section. Use the filters to narrow your problem by plant and damage type. Inspect the thumbnail pictures for similarities to your plant problem. Other parts of the site offer pest management apps and fascinating insect images. This site is full of reliable information. While not every plant or problem is included, new material is constantly added. It can be indispensable in trying to find out what's buggin' your plants.

— Nicole Sanchez

## Edibles — Romanesco

Not truly a broccoli, but not really a cauliflower either, romanesco fits into its own little category. Romanesco plants produce spiraled heads that can weigh up to 5 pounds each. Their flavor has been described as nutty with a cauliflower-like bite. Romanesco are in the Brassica family, so the same insects and diseases that attack cabbages affect them also. The growing conditions are the same as well: full sun and moist, well-drained soil with good fertility. Adding nitrogen fertilizer once or twice during growth will encourage large plants with good-sized heads. The heads are generally ready for harvest within 75 to 100 days from transplanting and can be kept in the refrigerator for about a week after harvest. Romanesco plants do not sprout side shoots for a second harvest. Succession planting will allow you to enjoy this crop for several weeks.

— Shawn Banks

## Sustainability — Rain gardens

A rain garden could be the solution to stormwater problems in your landscape. Rain gardens are built as slight depressions in the ground, around 8 to 10 inches deep. Rain gardens capture rainfall that runs off of hard surfaces, slow it down, and allow it to soak into the ground within a few days.

The plants, mulch, and soil in a rain garden combine natural processes to filter pollutants from runoff. These pollutants break down in the soil over time.

To determine where to create a rain garden in your yard, observe your yard during a rainfall event. Choose a location that will intercept runoff before it leaves your yard.

Size the garden based on the area of impervious surface draining into the garden. Your rain garden should be 1/10 the size of the drainage area.

Rain gardens can be designed for color and to attract butterflies while blending into the surrounding landscape. It's impor-

tant to know how the soil in your garden drains because the plants must be tolerant of drought as well as saturation (waterlogged soil). This might seem impossible. But because your rain garden is mimicking plants along a streambank, there are many choices for beautiful plants. Some great possibilities include rain lilies, baptisia, fothergilla, and inkberry.

For instructions and plant examples, visit <http://go.ncsu.edu/raingarden>.

— Wendy Hartup

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