



# Extension Gardener

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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.



©Shawn Banks

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

### 2014 Eastern NC Farmers' Market Consumer Survey

Farmers selling at a market are often turning transactions quickly, with little time for conversation. With more time, produce growers would likely seek information from consumers about why they choose to shop at the market, their product preferences, and understanding of industry terms. These insights could help the grower to shape his or her business to best meet consumers' needs.

Funded through the Community Transformation Grant Project, Extension Agent Nicole Sanchez and Program Assistant Holly Blake have conducted more than 1,200 surveys of farmers' market consumers in numerous markets in Eastern North Carolina. There are five survey topics: product mix, seasonality, sustainable terms, food safety, and motivation. So far, more than 200 surveys on each topic have been conducted. Participants receive a small gift and a food sample featuring an in-season product such as blueberries, strawberries, or watermelon.

Sanchez is currently analyzing data and sharing preliminary reports with area growers. It is hoped that insights into the minds of farmers' market consumers will help growers better respond to customer demand and market their products more effectively. Surveys will be conducted through August 2014, with final reporting on the findings expected by year's end.

— Nicole Sanchez

## Smart Gardening — *Fall is the time to plant trees and shrubs*

**P**lanting trees and shrubs in the fall allows them to establish roots before the stress of summer. Good practices are needed if the newly planted tree or shrub is to thrive in its new environment. Planting at the right depth and providing adequate water will help trees and shrubs prosper for years to come.

Proper planting begins with preparing a good planting hole. In well-drained soil, the planting hole should be at least twice as wide as the root ball and should never be any deeper than the height of the root ball. The soil at the bottom of the planting hole is best left undisturbed.

The best soil to use around the root ball of a newly planted tree or shrub is the loosened original soil from the planting hole. Break up any clods that might hinder root growth.

In compacted or poorly drained soils, plant trees and shrubs with their root ball higher than ground level. Planting high allows oxygen to reach the roots in the upper surface of soil and allows excess water to drain away from the plant rather than collect beneath it.

Examine the roots of container grown trees and shrubs before placing them in the planting hole. Cut any circling or pot-bound roots as this will enhance the distribution of regenerated roots in the surrounding landscape soil.

Fill the hole in stages, lightly tamping the soil as you add each new layer. Construct a water ring around the edge of the root ball to help hold water. The ring should be removed after the second growing season.

— Peg Godwin

## Food Production — *Still time for late-season planting*

**I**f your vegetable garden is looking and feeling a little wilted these days, keep in mind that it's not too late to try again! A reprieve from the summer heat means you can now get back in the garden and keep your garden producing fruits and vegetables until winter.

The first fall frost in eastern North Carolina typically occurs in late October, which means there may still be time to start quick-maturing warm-season crops such as cucumbers and zucchini or other squash. These crops require at least two months of frost-free weather to

mature, so check the calendar before planting to make sure there is enough time for crops to produce.

Cool-season crops such as cabbage, broccoli, kale, and collards thrive in fall and tolerate frost. Set out transplants in September. Carrots, beets, and other root crops, as well as leafy greens such as mustard, turnips, spinach, and lettuce, can be seeded directly in the ground. Make several small succession plantings of spinach and lettuce to keep lots of fresh greens on hand this fall.

Established plants from the summer garden—such as peppers and tomatoes—will put on a second flush of blooms and will continue to produce fruit as long as they are healthy and disease-free. As always, make sure plants receive adequate water throughout the growing season.

Insect pressures can be different for fall-versus spring-planted vegetables. Many insects have multiple generations a year, such as the cabbage looper, making late planting more challenging because pests are already present. Kudzu bug may also pose a threat to plants, so monitor for pests frequently.

— Nicole Sanchez



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## Pest Alert — Control bagworms on your landscape trees

**B**agworms are caterpillars that may feed on many different trees and shrubs. This pest is most damaging to needled evergreens such as cypress and juniper. If left untreated, bagworms can kill coniferous trees and shrubs within one or two seasons. Bagworm infestations can be easily identified by their conelike cases that hang among brown and defoliated branches.

To construct its cone-shaped case, the bagworm collects pieces of the host plant and spins them into a protective casing using a white silklike material. Bagworms feed from within their protective casing from late spring through midsummer.



©Lacy L. Hyche, Auburn University, Bugwood.org

By early August, bagworms stop feeding and attach to a branch to pupate inside the hanging cases, from which they will eventually emerge as moths.

Bagworms can be controlled with insecticides or by hand removal.

Chemical control works best during late spring and early summer. Insecticides such as Orthene, Sevin, and DiPel are some of the options available to homeowners.

Once bagworms have stopped feeding and start pupating, chemical control is not effective. Control future populations by cutting off the cases with scissors or a sharp knife. Remove and destroy the cases.

— Katy Shook

## Carolina Lawns — Fall weed watch

**T**he approach of fall means cool-season weeds will start to make an appearance in your lawn. Late summer is the time to begin controlling these weeds before they take over. Successful control depends on identifying which weeds are in your lawn, choosing the appropriate herbicide, and applying it at the right time.

Florida betony is a perennial weed that emerges in the fall and persists through spring. It can be identified by its upright growth habit, toothed leaf margins, and very distinctive “rattlesnake-like” root. Atrazine will control this weed, but multiple applications over two seasons may be required.

Another hard-to-control weed is annual bluegrass. This light green annual grass forms bunches or clusters in your yard that are especially noticeable in bermudagrass lawns. A pre-emergent herbicide application in the fall is the best strategy for bluegrass control. Atrazine, dithiopyr, pendimethalin, and prodiamine are labeled for use as pre-emergent herbicides in all

warm-season varieties and should be applied in early September.

There are several common broadleaf annual weeds that infest lawns in the fall and winter. Cudweeds are easily identified by the grayish-green appearance of their leaves.

Common chickweed is a low-growing, shallow-rooted weed that is easy to pull by hand but will quickly recolonize your lawn. Atrazine will control many of these weeds if applied as a pre-emergent in early September. Or spray newly emerged weeds with a broadleaf herbicide containing 2,4-D, dicamba, and mecoprop in mid to late October.

When possible, rotate herbicides to avoid the development of resistance and to ensure long-term control of fall weeds. When using any pesticide, be sure to read and follow all label directions.

— Sam Marshall

# Tips & Tasks

## Edibles

- Plant cool-season vegetables, including cabbage, broccoli, collards, spinach, lettuce, radishes, onions, garlic, dill, parsley, and cilantro.
- Clean up the summer garden. Common garden pests overwinter in debris.
- Do a final weeding and mulch the beds with compost, straw, grass clippings, or chopped leaves.

## Ornamentals

- Now is the time to plant trees, shrubs, and perennials. It is also a great time to divide spring-blooming perennials.
- Collect leaves and debris for composting, but don't compost insect- or disease-laden plant material.
- As perennials go dormant, cut dry dead stems back to ground level. Seed heads may be left for winter interest or to feed the birds.
- Many ornamental grasses provide great winter interest, so leave them standing until early spring.

## Lawns

- Don't apply nitrogen to warm-season lawns after August as this will encourage weed growth, winterkill, and disease problems.
- On sandy soils, apply a potassium fertilizer in September to improve winter hardiness as well as disease and drought tolerance.
- Raise the height of your lawn mower by ½-inch in mid September to encourage your lawn to store energy for winter and protect your grass from winterkill.

— Lisa Rayburn





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**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

— 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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