NC STATE

Extension Gardener

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

Content Editor and Team Leader
Lucy Bradley, Ph.D.
NC State University
Campus Box 7609
Raleigh, NC 27695-7609

Managing Editor
Shawn Banks

Regional Editor, Coastal
Sam Marshall

Regional Editor, Piedmont
Joanna Radford

Regional Editor, Mountains
Donna Teasley

Statewide Editor
Katy Shook

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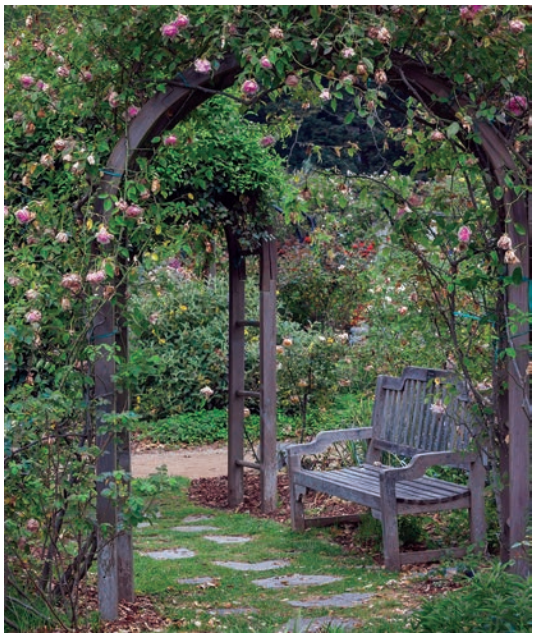
Designing for small spaces

Times are changing. Homes with an acre lot aren't the norm any longer. As we get older, I'm not sure we want lawns that large anyway! But if you have a gardener's spirit, it is difficult to give up precious growing space. Whether your forte is flowers, shrubs, or veggies, it isn't easy to decide which plant to delete from the garden.

Much can be done with a small space, if you just teach yourself to think a little differently. First of all, think vertical. Vines of all kinds give wonderful color and texture to a garden, whether ornamental or edible.

When planted in containers, plants are mobile, which means they can become even more adaptable to a space. Think of shade for a hot summer's day or even a wind or noise barrier where a vine in a pot can serve double duty.

When trying to design for a small area, remember that upright and columnar plants can give the illusion of space. Using plants with a variety of leaf sizes and textures makes a bold statement and gives the impression of lots of space.



Trellised plants can make a delightful focal point, and a sitting area gives visitors a destination.
©Wolterk, bigstockphoto.com

Plants with a variety of leaf sizes and textures give the impression of more space.
©Mandy Jansen, Creative Commons, cc-by-nc-nd20

Use interesting visual elements such as paving stones or boardwalks to break up open areas into smaller individual spaces. Have one or two destinations in the landscape with a path leading to them, such as a sitting area or perhaps a water feature with a bench or a swing. This gives visitors a place to go. With a destination in sight, the walk through the garden will seem longer.

Throw in some interesting design elements along the way—such as unusual containers or a piece of artwork like a simple sculpture. These distractions will keep the eye moving from place to place and give the feeling of a much larger space.

Color is also a great way to make a garden feel bigger. Bold colors catch our attention initially, making the remaining landscape recede in the distance and thereby giving the illusion of space.

The use of dwarf plants is another way to save space. Take advantage of a wall or a structure by using some espalier plants. These don't take much room and certainly give an interesting look to a growing shrub or tree. Trellised plants can also be a delightful surprise and can add architectural interest to the landscape while using space efficiently.

A downsized garden can give just as much pleasure as a large one. Although downsizing might take a little more planning, isn't that half of the fun?

—Donna Teasley

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Coastal Extension Gardener

Extension Showcase

©Chowan County Extension center

Albemarle Master Gardener Volunteer Spring Show

Explore northeastern North Carolina this spring with a visit to the Albemarle Master Gardener Volunteer Spring Show. Hosted by NC State Extension Master Gardener Volunteers in Chowan, Gates, and Perquimans counties, this annual one-day event features gardening opportunities unique to northeastern North Carolina.

Enjoy shopping regional craft, home, garden, and food vendors, or the plant sale, which features plant selections suited for NC landscapes. Ask an Extension Master Gardener Volunteer your gardening questions, and bring kids through the Children's Garden for hands-on activities. Educational exhibits and expert speakers will share tips and ideas on how you can grow your own food at home! This event is free, and proceeds support an area Extension Master Gardener Volunteer scholarship for high school youth pursuing horticultural and agriculture-related degrees. Save the date, Saturday, April 30, 2016, at the Perquimans County Recreation Center in Hertford, from 9:00 AM to 3:00 PM. For information, visit **perquimans.ces.ncsu.edu/springgardenshow** or call (252) 482-6585.

—Katy Shook

Smart Gardening: Are you worried about GMO seeds?

Don't be. Seed catalogs are arriving, and it's time to plan the garden. Are you wondering where to purchase GMO-free seeds? Many seed companies have signed a "safe seed pledge" stating they don't knowingly buy, sell, or trade GMO seeds. This safe seed pledge may raise questions and imply that other seeds are unsafe. But is this true?

Every crop we grow has been modified from its original wild form. The terms "genetically modified" (GM) and "genetically modified organism" (GMO) apply to crops in which the DNA has been modified through a specific process where several genes are added or removed. The added genes can be from a completely unrelated organism. This is a process that would be difficult, if not impossible, to achieve through regular plant breeding.

GMO products are in the grocery store, your clothes, and your car's gasoline. In the United States, there are nine GM crops commercially available: corn, soybeans, cotton, alfalfa, sugar beets, canola, papaya, squash, and potato. If you buy processed foods containing corn, sugar, or soy, chances are good you are buying GM products—unless the food is labelled as organic or GMO-free.

You are not likely, however, to find GMOs in your vegetable garden. Seed companies are not marketing GM-seeds to home gardeners because the companies could easily lose control of their investment and technology patents. Getting access to GM seeds would take extraordinary effort and ingenuity on your part. The "safe seed pledge" is a marketing strategy that takes advantage of consumers who do not know that GM seeds are not freely available to home gardeners. So rest assured. Whether you choose organic, heirloom, or hybrid seeds for your garden, there are no GM seeds in your cart.

—Lisa Rayburn

Food Production: Cucumbers—the workhorses of the garden

©J. Capaldi, cc-by-nc-nd

Cucumbers are among the easiest and most delicious additions to the vegetable garden. Once the heat of summer rolls around, my refrigerator is well-stocked with cold cucumbers. Great in a salad, on a sandwich, or for making your own homemade pickles, cucumbers are a true pleasure in a summer garden. As a warm-season plant, cucumbers ideally are planted when soil temperatures reach 75°F to 85°F. Cucumbers are sensitive to cold temperatures and can be killed by a light frost. If you plant earlier in March than later, make sure you have some way of protecting plants from freezing nighttime temperatures.

Watering is most critical during fruit set and development, so make sure your plants don't dry out during these stages. Cucumbers typically reach maturity around 50 to 70 days, depending on the variety, and should be harvested when they are about 2 to 3 inches long. Waiting too long will result in oversized, yellow fruits that have a bitter flavor. Fruits can be pulled or cut away from the vine. I find cutting is a faster and an easier method of harvesting.

Choosing the right variety of cucumber depends on how you use them. For fresh slicing cucumbers, 'General Lee' is a variety with tough flesh and excellent disease resistance, maturing in about 66 days. 'Sweet Slice' is a heavy producer with excellent disease resistance and flavor. This variety is also burpless and a little more compact than 'General Lee'. 'Olympian' matures in about 55 days and has good flavor and broad resistance to some foliar and root diseases. For pickling cucumbers, choose varieties such as 'Fancipak', 'Calypso', and 'Carolina'. 'Carolina' also has excellent disease resistance. For more information on growing vegetables see **gardening.ces.ncsu.edu/plants-2/vegetables-2**/.

—Sam Marshall

Coastal Extension Gardener

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Pest Alert: Colorado potato beetles

Colorado potato beetles
©David Cappaert, Michigan State University, Bugwood.org

The Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae), can cause substantial defoliation of many solanaceous crops, including potatoes, tomatoes, and eggplants. The ½-inch-long adult beetles overwinter in the soil and emerge in spring to feed and mate. Adults feature yellow wing covers marked by longitudinal black stripes. Females oviposit bright-orange, football-shaped eggs on the undersides of leaves of host plants. Larvae are distinguished by reddish-orange, convex bodies with two rows of black spots along each side. Larvae feed continuously on leaf tissue for about three weeks while molting through four developmental phases (instars). After feasting in your vegetable garden, fourth-instar larvae drop to the ground to pupate in the soil for 5 to 10 days before emerging as adult beetles. Up to three generations per year are possible in North Carolina, so scout throughout the growing season.

Removing Colorado potato beetles by hand is an effective control method for small gardens and minor infestations. Adults and larvae often occur on newer growth. Adults and larvae can be eliminated by simply dropping them in soapy water, while eggs, located beneath leaves, can be crushed by hand. Spinosad and *Bacillus thuringiensis (Bt)* var. *tenebrionus* are organic pesticides effective on early instar larvae. Because Colorado potato beetles overwinter in the soil near host species, crop rotation out of solanaceous crops can provide longer term control. For more information on insect management see **gardening.ces.ncsu.edu/insects-2**/.

— Matt Jones

Lawns: Spring lawn care tasks to avoid

As temperatures warm, many homeowners who do their own lawn care are ready to get their lawns off to a good start for the growing season. Unfortunately, some tasks done in the spring are not needed and can cause damage to warm-season lawns. If you have bermudagrass, centipede, St. Augustine, or zoysia, then pay attention to what *not* to do in early spring to get your lawn off to a great start and finish in 2016.

- First, avoid weed-and-feed products on warm-season lawns during March and April. These months are not the right ones to fertilize warm-season grasses, and the weeds growing at this time are winter annual weeds that are near maturity and difficult to control.
- Avoid spraying lawns with weed killers during lawn green-up. Again, weeds are large and difficult to control, and many grasses are sensitive during green-up. Control winter weeds in February, and wait until May to start on summer weeds.
- Do not fertilize most warm-season lawns until May. If disease issues have occurred in past springs, such as large patch in centipede, wait until June.
- Do not use a power rake, verticutter, or motorized dethatcher on your centipede or St. Augustine lawn. Because these grasses spread by surface runners only, these devices cause too much damage. Core aerification with hollow tines in May or June is a better option. Many companies offer this service, and core aerators are available at many rental centers.
- Avoid spring treatment for white grubs; fall is a better control time.

Keep it clean and green out there! For more information on turfgrass, see **www.turffiles.ncsu.edu** or **content.ces.ncsu.edu/extension-gardener-handbook/9-lawns**. Or download the NC State University Lawn Care app: **www.lawncare.ncsu.edu**.

—Danny Lauderdale

Tips & Tasks

Vegetable Garden

- Harden off seedlings started indoors in preparation for spring planting.
- Be prepared to cover early vegetables in case of a late frost.
- Seedlings started indoors can be moved outside by the end of March.
- Succession-plant quick-maturing vegetables for continual harvest.

Annual and Perennial Beds

- Pull any leftover cool-season weeds and re-mulch beds as necessary.
- Succession-plant annual seeds or plants for continual spring and summer color.
- Perennial plants can be divided now and moved.
- Ensure that you are watering appropriately (up to 1 inch per week) if we experience early drought periods.
- Begin scouting for spring and summer weeds, such as cudweed, yellow wood sorrel, goosegrass, and crabgrass. Apply preemergents according to Extension recommendations, or hand-pull early.

Pruning

- Stop pruning! Seriously, stop. At least stop with the heavy pruning.
- Prune spring-flowering shrubs after all petals have fallen.
- Hydrangea pruning is recommended on a case-by-case basis. Mophead and lacecap (*H. macrophylla*) varieties should be pruned immediately after flowering. Avoid pruning in fall or spring.

Insect Pests of Concern

- Spotted cucumber beetles
- Squash vine borers
- Stink bugs or kudzu bugs
- Leaf-footed bugs

— Sam Marshall

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Helping You Grow

Horticultural Science Summer Institute

High school students are invited to spend a week discovering the many facets of the Department of Horticultural Science at NC State University through the Horticultural Science Summer Institute (HSSI), July 10 – 15, 2016.

HSSI students will have hands-on opportunities designed to connect students to the many career opportunities within horticulture. Students will experience breeding fruits and vegetables, propagating a diverse selection of woody ornamentals, lengthening the life of cut flowers, learning sustainable production and design practices, and delving into practical tools that enhance our understanding of plants.

Students will visit innovative NC farms, markets, greenhouses, and gardens. Youth will also explore decision-making, leadership development, team-building, and living in a campus residence hall. The camp provides a forum for students across the state (and country) to broaden their interest and knowledge about horticulture.

Any high school student with an interest in a horticultural career is encouraged to apply. The cost for the week is $550 and includes lodging on campus, most meals, field trips, workshop materials, and entertainment. Apply online at **www.go.ncsu.edu/hssi**.

—Liz Driscoll

Plant Watch: New magnolia varieties

If you want to break away from the traditional white magnolia flowers, look no further than varieties such as 'Coral Lake', 'Spectrum', 'Lois', and 'Royal Robes'.

Magnolia 'Coral Lake'
©JC Raulston Arboretum

- 'Spectrum' is a fast-growing variety but stays short, reaching 30 feet or so at maturity. It is bare in the winter. The bright-pink flowers in late spring, however, make this one a must-have.
- 'Coral Lake' is an interesting variety that has been called a "breakthrough in color for magnolias." This variety has petals streaked with yellow and pink, giving the appearance of changing colors throughout the day as the light changes.
- 'Royal Robes' reaches approximately 15 feet, making it ideal for hedges. This one is relatively slow-growing and may not fill in for several years. The deep-burgundy flowers in early spring make it well worth the wait.

— Sam Marshall

Incredible Edibles: A carrot of many colors

Carrots (*Daucus carota*) are an easy-to-grow cool-season crop. With so many varieties to choose from, a gardener can have a rainbow of carrots—red, purple, black, white, yellow, and the traditional orange. Plant seeds in late winter as soon as the ground is workable, in soil that is well-cultivated and free from rocks. Seeds should be planted with ¼-inch spacing in rows 12 inches apart. Keep the seedbed moist as carrot seeds are often slow to germinate. Once the seedlings are 1 to 2 inches tall, thinning to a 2-inch spacing is necessary to ensure adequate room for root development. Because the desirable carrot root is a storage structure, fertilization and water are important. Complete a soil test for recommendations, and water to a 6-inch depth. Weed the area often. Carrots do not compete well with others but are virtually insect- and disease-free. Pick a color, and plant the rainbow!

—Kerrie Roach

Sustainability: Recycling plastic plant containers

©NC Agricultural Recycling Program

Recycling plastic pots, packs, and flats in which plants are grown is not always as simple as recycling drink bottles and food containers. Plant containers are made from a different type of plastic than most food and beverage containers—a type of plastic few municipal recycling centers accept. But there are local options for keeping these plastics out of the landfill.

• **Reuse them at home.** You can reuse plastic pots for your own gardening. Larger pots are particularly useful for growing vegetables. Save four- and six-packs to start seedlings or root cuttings. Hanging baskets can be replanted with new plants each year. Wash and sanitize pots before reusing by first scrubbing off any soil or plant debris and then soaking the pots for at least 30 minutes in a 10 percent bleach solution.

- **Take them to Lowe's.** Nationwide, all Lowe's Home Improvement stores accept plastic plant pots, flats, and packs for recycling. Look for the recycling rack in the outdoor garden center.
- **Take them to a nursery.** A local nursery may be able to reuse plastic pots if you return them clean and in good condition. Call first and ask if the nursery is willing to take back pots and what sizes are needed. Most nurseries will gladly take back larger pots in which perennials, trees, and shrubs were grown. But many nurseries are not able to reuse six-packs or pots in which annuals or vegetables were grown. Your best option for recycling these is Lowe's.

To learn more about agricultural plastics recycling in North Carolina, visit **ncagplastics.org**.

—Charlotte Glen