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

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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.



Plants with a variety of leaf sizes and textures give the impression of more space.

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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?



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

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Extension Showcase

New Gardening Program

In 2016, the Catawba County Extension center is teaming up with libraries throughout the county to offer a gardening program to the public. We hope this effort will extend the benefits of gardening to more communities in our area.

This program will have something for beginner and experienced gardeners alike. It was created in response to many residents expressing interest in a gardening course who were unable to attend the Extension Master Gardener Volunteer course daytime schedule.

We are initiating the 2016 gardening program with classes once a month at the Patrick Beaver Memorial Library (second Thursday, 6:00 to 7:00 PM), Newton Library (third Tuesday, 6:30 to 7:30 PM), and Maiden Library (fourth Tuesday, 6:30 to 7:30 PM).

Throughout the year, we will schedule service learning activities with community gardens around the county for hands-on practice of new skills.

Participants that attend at least 9 of the 11 classes (January through November) and complete 20 hours of learning service at one of our designated community gardens will earn a certificate and receive gift certificates from sponsoring home and garden supply businesses in our area to further inspire people to start a vegetable garden.

For other gardening classes and workshops, see gardening.ces.ncsu.edu/events/.

—George Place

Smart Gardening: Applying pesticides correctly



©Donna Teasley

We all want to have pest-free gardens. While some folks choose conventional spraying, others prefer an organic approach to ridding their gardens of unwanted weeds and insects. No matter which approach you choose, be sure to pay close attention to the label on each product. Not only is the label the law, it contains important information to help you choose a product that's best suited for your garden. A pesticide label will tell you the active ingredients of the product, the pests or weeds that the product controls, the amount of product to apply, and how often to apply it, along with other important information.

Say you have an issue with hornworms on your tomato plants. You go to your garage and grab the first bottle of insecticide within reach, which is insecticidal soap. What do you do next?

Read the label! Upon reading the label, you find insecticidal soap does not provide control of tomato hornworms. This means it isn't the correct pesticide to apply. Be sure the label lists the specific pest or weed you are trying to control. Also be sure the product is listed for homeowner use. When you find the correct product for your pest (in the case of hornworms, you might try spinosad), follow the label when mixing and applying the pesticide. Under-mixing a pesticide can result in uneven distribution of the active ingredients, which may lead to applying too much product on some plants and not enough on others. Apply only the amount stated on the label. Using too much pesticide does not improve pest control, but it does cost more. And it can result in plant damage. Whether your concerns are cost, active ingredient, or convenience, it's important to be familiar with the label on any pesticide you apply.

—Sarah Scott

Food Production: Asparagus

Asparagus is a perennial vegetable that grows wild in much of the United States. Fortunately, this delicious, low-maintenance spring crop has been tamed for raising in home gardens. Asparagus should be planted as crowns, which are usually sold as year-old plants. Crowns can be set out as soon as the ground can be worked in late winter to early spring. Look for male varieties such as 'Jersey Giant', 'Jersey Gem', and 'Jersey Knight'. Yields from female asparagus plants are less than those of males because female plants use their energy to produce fruits. Males don't, so they can put their energy into making spears.

Well-drained soil with lots of organic matter is a must. Raised beds filled with soil amended with compost work well. To plant, dig trenches 6 inches deep and 12 inches wide. Set crowns 5 to 8 inches apart. Cover with 2 inches of soil at planting. Continue adding 2 inches of soil as needed until crowns are 8 inches deep. Keep plants watered the first year, but don't harvest. That way the plants can focus their energy on establishing a root system. Lightly harvest in the second year. And by year four, enjoy a full harvest.

Spears are ready for harvest when they are 5 to 8 inches tall and their tips are tightly packed. To harvest, snap or cut at soil level. As the spears get taller and the tips begin to open, the spear becomes fibrous and tough. Spears that aren't harvested will grow into light, airy ferns. Let ferns grow all summer, and cut down just before new spears emerge the following spring. Plants will produce for 10 to 15 years, but production tends to peak around the seventh year. For more information on growing asparagus in your garden, see content.ces.ncsu.edu/asparagus-handout and contact your local Extension center.



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—Amanda Taylor

Pest Alert: Fire blight

Cool, wet spring weather can trigger fire blight, a potentially devastating bacterial disease of apples, pears, and other trees and shrubs. Fire blight bacteria overwinter in dead tissue on the tree trunk. In the spring, insects, wind, and rain spread the bacteria to flowers, where it enters the plant and progresses through plant tissues. Wounds made on leaves and stems by heavy rain, hail, or wind may also allow bacteria to enter the plant. The high winds, heavy rains, and hail we have experienced this spring have made conditions perfect for fire blight.

**Fire blight**

©William Jacobi, Colorado State University, Bugwood.org

Symptoms of fire blight include blossom wilt (with flowers and stems turning black) and twig wilt (with tips turning down, giving the appearance of a shepherd's crook). Leaves turn black or have black streaks following the veins in the leaves. Control of this disease is difficult, but there are things you can do to keep damage to a minimum. Disease-resistant varieties can be planted. No plant is immune, but some varieties are less susceptible. Pruning out infected limbs is very effective. This should be done as soon as fire blight is noticed, and debris should be burned or bagged and discarded. Chemical control may be applied in the form of agricultural streptomycin. With careful planning and proper management of this disease, plants can continue to live and prosper with few ill effects. For more information on managing disease in the landscape, see gardening.ces.ncsu.edu/diseases/.

— Donna Teasley

Lawns: Spring tasks for cool-season grasses

Spring is just around the corner, and the cool-season grasses of the NC mountains will be hitting their peak growth period soon. We hope you had a chance amid the rain to fertilize with 1 pound of nitrogen per 1,000 square feet around Valentine's Day. If not, make sure all fertilizer applications are finished by March 15. Encouraging growth late into spring causes an increase in stress on the turfgrass and an increased potential of disease issues.

Cool-season turf such as tall fescue cultivars should ideally be mowed at a 3-inch height, never taking more than a third of the leaf blade. If too much time has lapsed between cuttings and the turfgrass is too tall, make cuttings in stages a few days apart to prevent stress. Ensure that your mower blades are sharp, the tires inflated, and the engine sound. Ripped grass blades, rutted tire tracks, and leaking engine fluids can cause many lawn problems.

Spring is not the time to renovate by over-seeding or reseeding cool-season turf. Hold off until August or September, and you will have significantly more success with germination rates and stand performance. Small areas can be sodded at any time, but sod must be watered well to increase survival rate.

Tough summer weeds (such as crabgrass, goosegrass, and foxtail) should be controlled now with a preemergent by the time the dogwoods are in bloom. Preemergent herbicides prevent the weed from germinating and stop a problem before it starts. Any leftover winter annuals—such as chickweed or henbit—have most likely already gone to seed, and control is not necessary until fall.

For more information on turfgrass, including the latest research and timely alerts on insect and disease problems, check out 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, directly to your phone from the Play Store or iTunes.

—Kerrie Roach

Tips & Tasks**Lawns**

- Apply crabgrass preventer on cool-season lawns in late winter before crabgrass starts to germinate.
- Fertilize cool-season lawns with a slow-release lawn fertilizer.
- Spray wild onion and garlic with a product containing 2,4-D.
- Sharpen lawn mower blades before using your mower in the spring.

Ornamentals

- Prune fruit trees and grape vines for optimum fruit production.
- Prune established blueberries by taking out a third of the oldest canes at ground level.
- Prune summer-flowering shrubs such as crape myrtle, rose of Sharon, and butterfly bush.
- Prune roses before bud break.
- Deadhead pansies to prolong flowering.

Edibles

- Plant asparagus crowns when the soil is dry enough to work.
- Plant early season vegetables, such as English peas, onions, Irish potatoes, and spinach.
- Order garden seeds for warm-season crops, such as beans, corn, and okra.
- Make sure all debris is cleared out of the vegetable garden.
- Draw your garden plan to include crop rotation of sensitive vegetables such as tomatoes.

— Donna Teasley

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

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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'.

- '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.



Magnolia 'Coral Lake'
©JC Raulston Arboretum

— 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