Extension Gardener

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Empowering gardeners. Providing garden solutions.

in this issue

Pruning roses

Hybrid roses are among the most challenging garden plants to grow. The rewards, however, are beyond description. One of the most critical tasks to keeping these plants healthy is winter pruning.

Prune your roses when the buds begin to swell. Near the coast this usually occurs by mid-February, while in the piedmont and mountains this is usually early to mid-March.

Winter pruning is not as difficult as you may think. First, round up your supplies: sharp pruning shears, lopping shears, gardening gloves, and first aid kit. Then follow these tips for pruning success:

- Remove any dead, diseased, or otherwise weak and unhealthy wood.
- Prune to open the center of the plant. This allows for good air flow and can help reduce disease problems.
- Where canes cross or touch, remove either the weaker cane or the one that exhibits an undesirable growing position.
- Based on size and growing position, make your final choices for this year's canes. Retain canes that are at least pencil-sized in diameter. For more, smaller flowers, retain six to eight canes. For fewer, larger, specimen-type flowers, retain four to five canes. Prune these canes back to 12 to 15 inches. Cut about half an inch above an outward-facing bud.

Keep in mind that most species of old-fashioned roses only bloom once a year. They do not require the severe structural pruning of Hybrid Teas and Floribundas. Prune them mainly to maintain a desirable shape. Prune miniature roses for good plant shape. While deadheading minis can be tedious, it can ensure a plentiful supply of flowers almost all summer long.

All rose types require regular care to thrive. These tips will help you get your roses off to a strong start this season.

- When new leaves begin to emerge, begin irrigating your roses. Roses need around 1 inch of water per week. Use a soaker hose in your rose garden to conserve water and minimize leaf diseases.
- Begin your fertilization program in spring. Fertilize based on soil test results. Boxes for collecting soil samples and instructions for submission are available from your local Cooperative Extension office.
- If a soil test is not performed, use a complete fertilizer (one that contains nitrogen, phosphorus, and potassium), such as 5-10-5, 4-8-4, or 4-8-6. Apply fertilizer at the rate of 3 pounds per 100 square feet. This is about ¼ cup of dry fertilizer per plant. Spread the fertilizer evenly around the plant and scratch it into the soil surface.

Regular care and sound pruning practices such as those outlined above will be rewarded with shapely, healthy plants and an abundance of beautiful, fragrant flowers. Enjoy.

— Randy Fulk

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Extension Showcase

Extension essential in creation, operation of community garden

With our current economy, many North Carolina residents are looking for ways to save money. A trend seen across the state is the establishment of community gardens, which allow people to grow their own food, thereby cutting spending on groceries.

The Cub Creek Community Garden was established in 2011 as a coordinated effort between the Town of Wilkesboro, the Wilkes County Extension Master Gardener volunteers, and the Wilkes County Health Department. Forty-five residents rented garden plots and were supplied with plants, tools, and pesticides. The Wilkes County Extension Master Gardener volunteers advised participants on proper garden maintenance, and the Wilkes County Extension Service sent participants weekly emails about how to effectively manage garden pests and problems.

To date, more than 2,000 pounds of produce have been harvested from the Cub Creek Community Garden. The Wilkes County Extension Master Gardener volunteers have donated more than 300 pounds of produce from their demonstration garden.

— Bill Hanlin

Smart Gardening — *Extending the gardening season*

In North Carolina, we are lucky to have three growing seasons: spring, summer, and fall. What's more, there are a number of techniques you can use to extend a crop's growing season beyond its normal time limits, allowing food to be grown all year long. For summer crops, season extension can increase the growing season into the winter or allow it to start earlier in spring. Season extension can also allow cool-season crops to be grown into the heat of summer, in addition to the cooler spring and fall months.

Season extension can be used to protect plants from adverse weather conditions, allowing them to grow bigger, mature more quickly, and produce higher-quality crops than those grown traditionally. There are several ways to create season extension. Black plastic mulches can be used to heat soil sooner in the spring, and white plastic mulches can be used to cool soil in the summer heat. Shade cloths can be used to create a cool microclimate and prevent heat-sensitive plants, like spinach, from bolting in summer.

Floating row covers act like giant blankets for plants. Row covers are used to protect crops from late spring frosts and freezes. Depending on the weight of the cover, it can provide up to 14 degrees' worth of insulation. Low tunnels made of small hoops with row covers or plastic covering are useful for protecting tender transplants, such as tomatoes and peppers, without putting the weight of the cover on the plant.

High tunnels, hoop houses, and cold frames are all types of unheated greenhouses that can protect crops from damaging weather conditions, enabling farmers and gardeners to grow cold-sensitive crops outside their normal season. For example, a high tunnel can give a farmer or gardener a four- to six-week jump on field-grown tomatoes and allow the farm to extend the season four to six weeks later than normal.

An example of season extension in commercial agriculture can be seen at the Piedmont Research Station (www.ncagr.gov/research/prs.htm) in Rowan County, where researchers are growing strawberries under high tunnels to sell at Thanksgiving and Christmas. What's better than North Carolina strawberries in your Thanksgiving dessert? To learn more about season extension, go to http://growingsmallfarms.ces.ncsu.edu/growingsmallfarms-seasonextension/ or contact your local county Extension agent.

— Amy Lynn Albertson

Food Production — *Starting vegetable transplants indoors*

Starting vegetable plants at home is fun and easy. The first step is to determine your anticipated garden planting date and the number of weeks required to produce the transplants for each crop. These facts will determine the appropriate time to start seeds. Do not start them too early.

You can use cell packs, flats, or small flowerpots to start seed. Also, various types of sturdy food containers can be cleaned, punched with drainage holes, and recycled into seed trays. If reusing old pots or flats, clean and soak them in a solution of 1 part household bleach to 10 parts water for 1 to 2 minutes. After soaking, rinse well. Compressed peat pellets and containers are also available. These can be planted directly into the garden, and they work well for plants that do not like to be transplanted.

Sterile potting media is critical to reduce losses to damping off. There are many commercial soilless transplant mixes available. Most are combinations of peat moss, perlite, vermiculite, and usually some fertilizer. These mixes are sterile and free of pathogens, insects, and weeds. Premoisten the mix, and plant seeds in containers at recommended depths (usually twice the diameter of the seed).

Keep the seeds moist and warm until germination. Spray the media with water as needed to avoid overwatering. Sealing containers in a clear plastic bag or providing a clear covering that does not touch the surface will help keep the media moist.

Once seedlings emerge, remove the covering and place the containers in a sunny, south-facing window or 4 to 6 inches below two fluorescent bulbs, and keep the seedlings moist. Room temperatures of 60°F to 70°F are ideal. Fertilize with soluble fertilizers as directed on the package. Harden off transplants by gradually increasing exposure to lower temperatures and increased sunlight two weeks before setting in the garden. For more information on starting transplants at home, visit http://www.ces.ncsu.edu/depts/hort/hil/hil-8104.html.

— Colleen Church

Pest Alert — *Watch out for rose rosette*

Rose rosette has been known in the United States since the 1940s. However, in the last two years this fatal rose disease has become more prevalent in North Carolina.

All rose varieties appear to be susceptible, and they usually die within one to two years of infection. Infected plants exhibit the following symptoms:

- Rapid stem elongation
- Small, distorted leaf growth
- Thickened stems
- Leaf reddening
- Excessive thorn production
- Lateral growth thicker than parent rose cane


James W. Amrine Jr., West Virginia Univ., Bugwood.org

Rose rosette is a virus vectored by eriophyid mites (Phyllocoptes fructiphillus). Unlike other mites, the tiny eriophyid mite has only four legs. They can be found on new growth, buds, and at the base of leaf petioles with the aid of a 20x hand lens. Eriophyid mites move to new hosts via pruning activities and drifting air currents. Grafting is another source of infection.

Sterilizing tools, spacing roses so they do not touch, and removing infected plants are the primary control strategies. The wild multiflora rose is the most vulnerable to infection and should be removed around cultivated roses.

Applying pesticides to control eriophyid mites is unlikely to stop the spread of this disease and is only recommended for roses growing adjacent to an infected plant. Infected plants should be removed as soon as they are detected. Remaining roses should be sprayed every two weeks from April to October with abamectin or horticultural oil. Efficacy depends on coverage, timely application, and degree of infestation.

— Aimee Rankin

Environmental Stewardship — *Landscaping for wildlife*

North Carolina is blessed with a tremendous diversity of native wildlife: more than 17,000 species of animals, everything from bugs to mammals, both terrestrial and aquatic.

So with all these creatures calling North Carolina home, where are they, and why don't we see more of them? Many of these creatures live under leaf litter or fallen logs, or between pebbles and rocks in our forests and streams. Unfortunately, development degrades their natural habitats, leaving all types of organisms homeless. Researchers predict an additional loss of 5.5 million forested acres in North Carolina by 2040, which is that much less land to support wildlife.

In addition to development, wildlife is also affected by how landscapes are managed. For example, our preference for large, continuous lawns deters many wildlife species. If we could connect more natural areas in our neighborhoods from yard to yard, wildlife would have a corridor of habitat and be less likely to enter home landscapes for shelter.

Wildlife have the same basic needs that people do: food, water, and shelter. To craft a home landscape that benefits wildlife, follow these 10 guidelines:

1. Reduce lawns and add groundcovers or islands of vegetation.
2. Layer plants by planting trees, shrubs, perennials, and groundcovers of various heights.
3. Leave dead trees for feeding and nesting.
4. Provide water sources.
5. Plant native vegetation.
6. Provide bird or bat houses and bird feeders.
7. Remove aggressive non-native plants, because these do not provide essential nutrients for wildlife.
8. Manage pets.
9. Manage pesticide use by reducing levels of pesticide used, limiting applications to spot treatments, and encouraging beneficial species of insects.
10. Encourage neighbors to design wild areas on adjacent property lines.

— Wendi Hartup

Tips & Tasks

Edibles

- Fruit trees, grapes, and berries should be planted starting in February when the ground is not frozen.
- Pruning and training of dormant fruit and nut trees, grapevines, and berry plants should begin as late in the winter as possible, to reduce chances of winter injury.
- Start seeds of broccoli, cabbage, lettuce, and cauliflower inside in trays in late January to have transplants ready for March.
- Plant seed potatoes, asparagus crowns, and seeds of root vegetables, spinach, and garden peas into the garden in February.

Ornamentals

- Fertilize trees and shrubs in February or March before new growth begins. Plant roots will absorb nutrients when the soil temperature is above 40°F.
- Trees, shrubs, and ground covers can be planted throughout winter as long as the ground is not frozen.
- Prune dormant broadleaf and narrow leaf evergreen shrubs if needed in February or March.

Lawns

- In February, fertilize fescue lawns using a complete N-P-K turf-grade fertilizer that provides 1 lb of nitrogen per 1000 square feet, or follow soil test results. If brown patch has been a problem, avoid this fertilizer application.
- The best time to apply herbicides is February and March. A preemergent herbicide should be applied for summer annual weeds including crabgrass. Postemergence herbicides can be sprayed to control wild garlic, winter annuals, and cool-season perennial broadleaf weeds.

— Kathryn Holmes

Extension Gardener

Around the State

Showstopper — *'Oakleaf' holly*

The 'Oakleaf' holly is one of the most exciting recent introductions into the world of hollies. One of five different varieties introduced as the "red hollies" in the mid-1990s, 'Oakleaf' holly gets its name from the shape of the plant's leaf, which resembles that of our native scarlet oak. This evergreen beauty was a chance seedling from the well-known holly variety 'Mary Nell'.

The leaves of 'Oakleaf' maintain an attractive medium green color with a lighter-colored leaf edge throughout the year. Plants exhibit a pyramidal growth habit, reaching heights of 14 feet or more, and spread up to 8 feet across. Hardy in zones 6 to 9, the 'Oakleaf' holly is an ideal choice for evergreen hedges or planting en masse for screening purposes. This showstopper is attractive enough to place in your garden as a specimen plant. Grow in full sun or in very light shade and well-drained soil. — *John Vining*

Helping You Grow

Become an Extension Master Gardener

Extension's Master Gardener Program is designed to enhance public education in horticulture. Under the guidance of Extension agents, participants complete a 40-hour training course in horticulture. In exchange for their training, Master Gardeners work through their Extension office to complete a 40-hour volunteer internship. Volunteer opportunities include answering gardening questions, developing exhibits, working with community and demonstration gardens, and assisting with school gardening projects. To find out more about the Extension Master Gardener program in your area, contact your local Extension center or visit www.ncstategardening.org.

— *Katy Shook*

Edibles — *Mushrooms*

Mushroom-growing kits are a popular way for beginners to get started growing mushrooms. Kits are readily available and tend to have moderate to good success rates. In North Carolina, shiitake seems to be the most popular mushroom. However, growers are also having success with oyster, maitake, and lion's mane mushrooms, to name a few.

Mushroom kits start at around $13, though more elaborate kits can cost in excess of $100. A word of caution for beginners: It is important to start with smaller kits. These come with the essentials — spawn plugs, plug wax, and basic instructions. As the grower, you have to supply the wood (oak is preferred) and manual labor to inoculate the logs. When instructions are properly followed, you can expect mushrooms in six to 12 months, and the logs can last up to 10 years. — *Danielle Cutting*

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Sustainability — *LED lights: Growing into the future*

Since its debut in the 1970s, the light-emitting diode (LED) has morphed from a futuristic device to a fixture of everyday life. Described as solid-state lighting, today's LED more closely resembles a computer chip than a light bulb.

The impact of LED lighting on horticulture began in 1991, when researchers at the University of Wisconsin suggested that LEDs could be used to grow plants. These findings inspired NASA to develop LED-lit growth chambers as prototypes for crop production on Mars.

When used to provide artificial lighting for plants grown indoors, LED lights have many benefits. In addition to more closely matching the wavelengths most utilized by plants, LED lights also radiate very little heat. This allows them to be placed very close to plant leaves.

The environmental benefits of LED lights are impressive. According to Energy Star, LEDs are 20 times more efficient than incandescent bulbs, five times more efficient than fluorescents, and have brightness equal to or greater than other lighting technologies. In addition, they provide constant output for more than 25,000 hours, supply excellent color quality, light immediately upon start-up, do not flicker, and do not draw power when off. Finally, the LED device does not contain mercury or other hazardous materials that require special disposal. — *Bob Filbrun*