



Extension Gardener

NC STATE UNIVERSITY

NORTH CAROLINA COOPERATIVE EXTENSION

Summer 2013

Empowering
gardeners.
Providing
garden
solutions.

in this issue

MOUNTAINS AND FOOTHILLS NEWS

How to Make Your
Thumb Greener

Crop Rotation

Spotted Wing
Drosophila

Brown Patch

STATE NEWS

Deer-Resistant
Plants

'Fireball' Hibiscus

Malabar Spinach

Drip Irrigation

Plant Disease and
Insect Clinic

Deer-resistant plants

One of the simplest ways to minimize deer damage in your yard is to landscape with plants that deer prefer not to eat. While no plant is deer proof, there are many good landscape plants that deer find less palatable. This does not mean deer will not eat them if it comes to a choice between eating something they don't like and starving to death. But most of the time these are plants that deer will pass over in favor of others.

Like goats, deer are browsers who feed on a variety of plants, including trees and shrubs. Once mature, large trees tend to be spared simply because deer are too short to reach any but the lowest branches, leaving small trees and shrubs to bear the brunt of the damage. Small to medium-size trees that have proven deer resistant over the years and can be grown in most of the Carolinas include river birch, crape myrtle, sweetbay magnolia, and chaste tree (*Vitex*).

Because they provide a food source in winter, evergreen shrubs are particularly prone to deer attack. Evergreen shrubs for sunny areas that deer prefer not to eat include yaupon, Chinese juniper, wax myrtle, oleander, rosemary, gardenia, nandina, and Chinese holly. In shady sites try Japanese plum yew, available in both low-growing and upright varieties, or needle palm, a shrub-forming palm hardy to at least zone 7.

Although flowers are deer favorites, there are several perennials they find less tasty and are less likely to damage. These include drought-tolerant, sun-loving perennials such as the silver-leaved 'Powis Castle' artemisia, colorful and hardy 'Miss Huff' lantana, and Arkansas blue star (*Amsonia hubrichtii*), a Southeast native. Other perennials that deer avoid include false

indigo (*Baptisia*), purple coneflower, gaura, and perennial salvias such as Mexican bush sage (*Salvia leucantha*), Texas sage (*Salvia greggii*), and 'Black and Blue' anise sage (*Salvia guaranitica*).

On the whole, deer avoid eating ornamental grasses, which is great for gardeners because this group includes many tough, attractive, low-maintenance options. Some of the most dependable varieties for North Carolina include pink muhly grass, panic grass (*Panicum virgatum*), and hardy fountain grass (*Pennisetum alopecuroides*).

Another group of plants that deer dislike is ferns, which are great for moist, shady sites. Reliable perennial ferns for our state include Japanese painted fern, lady fern, and cinnamon fern, all of which go dormant in the winter. Evergreen ferns that can be grown in most areas include autumn fern, Christmas fern, holly fern, and southern shield fern. Check with your local Extension office for more recommendations of hardy, deer-resistant plants for your region.

— Charlotte Glen



Extension Showcase

Burke County Master Gardeners Graduate

The coming of spring doesn't just mean flowers and showers; for many North Carolina counties it also signifies the graduation of a new crop of Extension Master Gardener volunteers. This past spring, 22 graduates of the Burke County Extension Master Gardener Program — the county's 10th graduating class — met with family, friends, and other volunteers to receive their badges and celebrate their accomplishments. The theme of the day was "Graduating from Garden Bootcamp." Retired district director Deborah Crandall joined the celebration as the featured speaker. More than 100 well-wishers attended the event.

Extension Master Gardeners are respected throughout the community, both by Extension staff and by county residents, for their many acts of community service and endless sense of civic pride. Approximately 200 volunteers have graduated from the Burke County program since it was founded in 2003. Over the past 11 years, Burke County Master Gardeners started a community garden, installed a cistern system at the Extension office, helped establish numerous school gardens, and gave many helping hands to those in the community who needed gardening expertise.

To find out more about the Extension Master Gardener Program in your county, visit www.ncstategardening.org.

— Donna Teasley

Smart Gardening — How to make your thumb greener

Everyone has heard the advice to work smarter instead of harder. This is a good recommendation for gardeners as well. But what exactly does "smart gardening" mean? Let's take a look at some of the principles that smart gardeners follow.

In the landscape, smart gardeners choose plants carefully, making sure the plants are hardy and match the intended site in terms of light, soil, and drainage. They do research to make sure the chosen species are not prone to pests. Smart gardeners also take the time to prepare soil properly. North Carolina soils often need amendment with organic matter, and for some plants the soil pH will need to be adjusted. Plants are planted at the right depth, mulched, and watered as needed.

Smart vegetable gardeners understand when different vegetables need to be planted. Soil improvement is crucial here as well, and we have the chance to amend the soil every year prior to planting time. Smart gardeners have also seen the advantages of raised-bed gardens, which allow

them to grow more produce in less space. Raised beds are great for gardeners with limited space or who have reached the age when they don't want a big garden anymore.

Smart gardening principles can be applied to lawns, too. Understanding how high to mow your lawn and when to fertilize can go a long way toward nurturing a healthy lawn. Another smart move is avoiding unrealistic expectations. In reality, few lawns will resemble a groomed athletic field. Most home lawns include a variety of weeds and a few bare spots. Striving for an acceptable lawn is reasonable. Hoping for a perfect lawn can lead to a lot of frustration and a significant expenditure for lawn care products.

What are some examples of "not so smart" gardening? How about the use of plants with known problems, such as Leyland cypress, or trying to start a vegetable garden without getting rid of Bermudagrass first? We all make mistakes, but smart gardeners learn from their mistakes, and their thumbs get greener as they get smarter.

— Kevin Starr

Food Production — Crop rotation

When gardeners find a good spot in the garden for a certain vegetable, they'll often grow it there year after year. However, this method of growing can have consequences. Insect pests such as squash bugs, and soilborne diseases such as early blight, can build up and become major problems. Crop rotation — one of the easiest yet most underused practices for growing a healthy garden — can break the cycle by eliminating the host crop from the location.

The first step in crop rotation is to identify the families of the crops you want to grow. The most commonly grown garden crops are in the following families: cucurbit (squash, melons, and cucumbers), legume (beans and peas), grass (corn), nightshade (tomatoes, eggplant, and peppers), and amaryllis (garlic and onions). When designing a crop rotation plan, strive for at least three years

between growing crops from the same family in an area. Rotating between crops within the same family (e.g., tomatoes followed by peppers) is not beneficial.

Knowing where different crops are planted each year will allow you to avoid planting crops from the same family in the same location year after year. Creating a map of the garden will help make this easier. Once the garden is sketched out, divide it into several areas, and use these areas as guidelines for rotating crops. An example of sound crop rotation would be to grow tomatoes (nightshade family) in an area the first year, cucumbers (cucurbit family) the second year, corn (grass family) the third year, and tomatoes the fourth year. This area would have three years between tomato crops. For more information on vegetable gardening, visit go.ncsu.edu/mm415k.

— Amanda Taylor



Pest Alert — *Spotted wing drosophila*

Spotted wing drosophila (SWD) is a new and potentially devastating pest of fruit and vegetable crops in the South. A type of fruit fly, SWD feeds on fruits with soft skin and especially likes the berry crops, including strawberries, blueberries, and blackberries. SWD has been present in North America since 2008 and was found in North Carolina in 2010.

SWD adults look like small fruit flies. Males have one characteristic black spot on each of their wings; females do not have spots on their wings. It is the immature, or larval, stage of this pest that causes the most concern.

The SWD larva is a type of maggot that can be found inside ripening fruit. Unlike other fruit flies that feed on overripe fruit, this pest feeds on sound, intact fruit and can result in devastating losses for gardeners and growers.

Dr. Hannah Burrack, an entomologist at NC State University, offers the following advice for managing SWD: “Sanitation is extremely important in managing SWD. In areas where SWD is present, all ripe fruit should be removed, and plants should be treated with insecticide regularly, with the interval depending

upon the material used. Infested fruit should be destroyed or removed from the site. Composting may not be sufficient to kill SWD larvae and may attract adults to rotting fruit.” For more information about SWD, including photographs of SWD specimens, visit

the *NC Small Fruit & Specialty Crop IPM* blog at ncsmallfruitsipm.blogspot.com/p/spotted-wing-drosophila.html.

— Daniel Shires



Hannah Burrack, NC State University, Bugwood.org

Carolina Lawns — *Brown patch*

As the weather warms, there are some issues to look out for in your lawn. Brown patch (*Rhizoctonia solani*) is a common fungal disease of cool-season lawns and is no stranger to the foothills and mountains. Conditions that favor the development of brown patch are high temperatures, high humidity, and high levels of nitrogen in the soil.

Here in western North Carolina, the first cases of brown patch tend to show up in June, as temperatures and humidity levels start to soar. Brown patch attacks cool-season grasses and shows up as tan-colored patches of turf grass that grow larger as the summer progresses. Brown patch is always worse during prolonged periods of hot, humid weather.

Although fungicides are available to treat brown patch, they are expensive and only marginally successful in home lawns. The best way

to manage this disease is to prevent it from ever establishing. One of the most important practices for preventing brown patch in cool-season grass is to fertilize at the correct time, using slow-release fertilizers at the recommended rate. Applying too much fertilizer and fertilizing after mid-March encourage this disease.

Even when everything is done correctly, brown patch can still be an issue in the summer lawn. Cool-season grasses are especially susceptible to this disease, and occasional brown patch flare-ups should be expected. If brown patch has been a problem in your lawn, plan to overseed in late August. The western counties enjoy long, mild autumns, giving cool-season turf grasses ample time to establish before cold temperatures show up.

— Donna Teasley

Tips & Tasks

Lawns

- Mow cool-season lawns frequently when the grass is growing quickly. Ideally, no more than one-third of the leaf blade should be removed during mowing.
- Have your soil tested to determine whether lime is needed to raise the soil pH. Lime can be added to soil any time of year, and it is one of the cheapest, most effective ways to increase nutrient availability to plants.

Ornamentals

- Many trees and shrubs can be pruned during the summer. Prune to remove diseased, dead, or crossing branches. Be sure to prune spring-blooming shrubs before midsummer.

Edibles

- Thin fruits on apple and peach trees if they have set a heavy crop. Thinning fruits so they are about 5 inches apart will result in larger fruit and will reduce the weight load on the tree.
- Peaches, nectarines, and apples have numerous pests that reduce fruit quality. Fruit trees should be sprayed on a regular basis to get edible fruit at harvest. Start spraying when the petals finish falling, and use a solution containing both an insecticide and a fungicide.
- Summer vegetables, such as tomatoes, peppers, and squash, can be planted as late as mid-July. You do not need a large space to produce your own vegetables. Many can be grown in pots or other containers.

— Bill Hanlin



J.C. Raulston Arboretum

Showstopper — 'Fireball' hibiscus

What has showy, fire-red, 10-inch-wide flowers from June through August? The 'Fireball' hibiscus, a hardy herbaceous perennial that has dazzled gardeners since its introduction in 2001.

An attractive addition to any landscape, 'Fireball' hibiscus reaches a mature height of four feet. This plant displays a special ability to thrive in heat and humidity. Grow this tough perennial in full sun with evenly moist soil. In addition to its heat tolerance, this perennial hibiscus is cold hardy from zone 5 to zone 9. In other words, 'Fireball' can be grown anywhere in North Carolina.

This plant's impressive red flowers and attractive, deeply cut green foliage with distinctive purple veins will impart a unique charm to any sunny garden. Keep the soil from drying out, and you'll learn why this plant is a true showstopper!

— John Vining

Helping You Grow

Plant Disease and Insect Clinic

NC State University's Plant Disease and Insect Clinic (PDIC) is a great resource for home gardeners, landscapers, and commercial growers. The PDIC can identify problems such as plant diseases and injuries or unfamiliar insects. PDIC experts also give control recommendations.

Gardeners can submit digital pictures of insects or plants at no charge. Physical samples are evaluated for \$20 when submitted through an Extension office or \$30 if sent directly to the PDIC. For more information, including instructions for how to take and submit a sample, visit www.cals.ncsu.edu/plantpath/extension/clinic.

— Shawn Banks

Edibles —

Malabar spinach

If you want to create a lush, tropical look in your garden this summer, try planting Malabar spinach (*Basella alba*), a beautiful, delicious leafy climber. The leaves and purple stems are valued in many cuisines across India, Africa, and Asia. This vigorous vine can be grown outdoors across our state. Our long, hot summers also provide a growing season long enough to allow you to gather seeds for future years. Although plants may be slow to start, if planted in full sun they will cover whatever structure you build for them. Malabar spinach tolerates dry weather, but it will produce succulent green leaves most abundantly if you provide a little compost and plenty of water throughout the season.

Prepare to be amazed by this plant!

— Jeana Myers

Sustainability — Drip irrigation

Recent droughts and water restrictions have led to an increased awareness of how precious and limited our water resources are. As a result, gardeners are showing more interest in microirrigation, also known as drip irrigation. This method of watering uses a network of plastic pipes or hoses to deliver water under low pressure to garden plants. Drip irrigation applies water very slowly and is more efficient than sprinkler irrigation. Additionally, drip irrigation is usually exempt from watering restrictions.

Drip irrigation has traditionally been limited to commercial vegetable, nursery,

and greenhouse operations. As drip irrigation systems become more readily available and designs are developed specifically for home gardeners, they are popping up in home landscapes and gardens all over. Drip irrigation is much more efficient than sprinkler systems because it delivers water only to the targeted areas that need it. These flexible systems can be expanded or redirected as the gardener's needs change, and they are even suitable for watering container plants. Drip irrigation systems can also easily be automated for gardeners whose busy schedules make hand watering difficult.

Drip irrigation systems are available online and in many garden centers. Most systems can be installed by the average gardener, and kits are available to help first-time users with the initial setup. These systems can be customized for specific plants needs down to the size of the emitter, which delivers the amount of water that an individual plant needs.

As we become more conscious of the need to conserve our natural resources, drip irrigation is a great tool in water conservation efforts.

— Donna Teasley