

Gardening News

December 2020/January 2021



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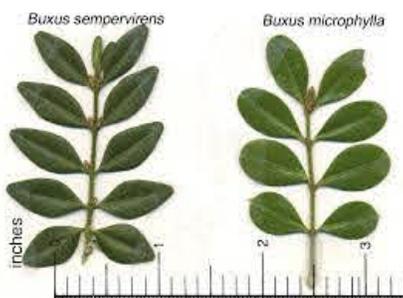
Boxwood Blight

Are your boxwoods losing leaves? Do they seem to be slowly dying? Are there black streaks on the stems or black spots on the leaves? If you have 2 of these 3 symptoms on your boxwood, you most likely have boxwood blight.

Boxwood blight is a fungal disease, *Cylindrocladium buxicola*. Boxwood blight has been in Europe since the mid-1990's and in 2011, it was found in North America. Since then, it has spread across much of the eastern U.S. and into some of Canada.

Do You Have Boxwoods or Hollies?

Your first step in identifying this disease is ensure you really have boxwood shrubs. Many holly shrubs look very similar to boxwoods. To identify your shrub, look at how the leaves are attached to the stem. Boxwoods have opposite leaf arrangement, while hollies have alternate leaf arrangement. This makes it easy to determine which type of plant you have. There are dieback diseases in hollies, but that is a different pathogen.



Boxwood Opposite Leaf Arrangement
Source: trees.stanford.edu



Holly Alternate Leaf Arrangement
Source: landscapeplants.oregonstate.edu

How Does It Spread?

Boxwood blight, like many fungal diseases, spreads several ways. The spores are sticky, thereby allowing them to stick to pruning tools. When the tools are used on other boxwood plants, the disease is moved to that healthy plant. The fungal spores can also stick to workers and animals and be moved when they come into contact with healthy plants. If a landscape worker has spores on tools or clothes and goes to another site whether nearby or far away, there is the chance that the spores of boxwood blight are going with them. Fallen leaves that are not cleaned up are another method for the fungus to move. Lastly, splashing water in the form of rain or overhead irrigation can spread the fungus. Make sure to clean your tools with a bleach solution between pruning boxwoods. Clean up diseased plant material and dispose of in a proper method, but do not put into a

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compost pile. You can unintentionally spread this disease to healthy plants unless you plan ahead.

Symptoms:

Leaf spots often have a darker (brown to purple) margin.



Photo source: plant-pest-advisory.rutgers.edu



Photo source: ces.ncsu.edu

Stem lesions or 'streaks' are typical symptoms of boxwood blight.



Photo source: ces.ncsu.edu



Photo source: canr.msu.edu

Leaves dropping off, often, but not always from the starting at the lower part of a branch moving to the tip.



Photo source: ladybug.uconn.edu



Photo source: canr.msu.edu



Photo source: swain.ces.ncsu.edu

Control of Boxwood Blight

At this time, there is no control for boxwood blight. According to Kelly Ivors, Extension Plant Pathologist, Dept. of Plant Pathology, NC State University, "All plants infected with boxwood blight should be destroyed as the chance of further spreading the fungus is highly probable."

Minimize the Spread:

- Disinfect pruners and tools frequently. To disinfect, dip them for 10 seconds in a mixture of 1-part bleach and 9-parts clean water for 10 seconds. New mixture should be made daily.
- If allowed where you live, burning the diseased boxwood is an option, but do not compost.
- Discard boxwood waste so it will not come into contact with other healthy boxwood plants.

If you think you have boxwood blight, contact your office of NC Cooperative Extension. There is an office in every county in North Carolina and the Eastern Band of the Cherokee Indians. To find the Cooperative Extension Office in your county: <https://www.ces.ncsu.edu/local-county-center/>. NC Cooperative Extension is a cooperative effort of each NC County, NC State University and NC A&T University.

Landscaping for Wildlife with Native Plants

North Carolina's native plants provide well-adapted food and cover for North Carolina's native animals, and a well-planned landscape of native plants can help you attract a diversity of wildlife to your property. Native North Carolina plants also are well-suited to the state's soils and climate and require relatively little upkeep, once established on an appropriate site. However, the spread of non-native plants poses a threat to native plants and animals of North Carolina. This publication describes the problems associated with some non-native, invasive plants and presents a detailed list of native plants that may be used in place of these foreign ornamentals to attract wildlife to your property.



American goldfinches commonly feed on the seeds of orange coneflower in the fall and winter. Chris Moorman.

Why Use Native Plants?

Biologists and other scientists consider invasion by non-native plants to be one of the most serious problems facing native plant and wildlife populations in the United States. For example, multiflora rose, bicolor lespedeza, Japanese honeysuckle, and autumn olive are examples of non-native plants introduced into North Carolina—all for the purpose of promoting “wildlife habitat.” However, each introduction has proven detrimental to North Carolina's native plants, pushing them out of their traditional habitats; and recent research indicates that many invasive plants may be harmful to local wildlife as well.

- Native plants generally are identified as those that occurred in North America before European settlement.
- Non-native plants are those not native to an area. In North Carolina, non-natives usually come from Asia or western Europe, regions that have similar climate and environmental conditions to those in this state.
- Some non-natives are planted intentionally as lawn or garden ornamentals or as plants to attract wildlife, but other non-native plants were introduced accidentally.
- Many non-native species become naturalized, which means they are able to survive, spread, and reproduce on their own.
- Approximately 25 percent of the plants growing wild in the United States are naturalized non-natives, some of which have become invasive, that is, they grow unabatedly where native plants otherwise would occur.

Invasive non-native plants are those that pose the greatest risk to the native plants and animals of North Carolina. Competitors, diseases, and insects control a plant's growth and dispersal in its native range.

Over thousands of years, natural checks and balances develop, which greatly reduce the chance that a single species will increase in number to completely dominate a plant community. However, when a non-native plant is introduced to North Carolina, it escapes its natural controls and can become invasive. The characteristics that make many non-native plants attractive as ornamentals (colorful berries, pest resistance, tolerance of harsh conditions) also increase their potential for invasiveness and make them difficult to contain. Prolific growth by a single plant species can be harmful because forests with a limited number of plant species provide very poor habitat for wildlife.

All non-native plants do not become invasive, and most can safely be planted as ornamentals. However, it takes scientists many years or even decades to fully understand an introduced plant's potential invasiveness. New information is being gathered continually, and you should check with your local nature center, botanical garden, conservation organization, or Cooperative Extension agent about a plant's invasiveness before introducing it to your property.

Ironically, non-native plants that are attractive to birds and other wildlife often are the most invasive because animals serve as great dispersers of their fruits and seeds. Autumn olive is a non-native plant that produces fruits favored by birds, but the plant grows and often spreads quickly where the seeds are defecated. Native fruit-producing plants may succumb to the competition from this type of invasive plant, thereby reducing the diversity of foods available to birds. In addition, research from the Midwestern United States suggests birds that nest in some non-native shrubs experience poor nesting success. Lower nest height, the absence of sharp thorns on the non-native plants, and a branching pattern that allows predators easier access to nests built in non-native plants all could contribute to the increased nest predation. Despite the growing base of knowledge related to the potential problems of non-native plants, species like sawtooth oak (*Quercus acutissima*) continue to be recommended as plantings to encourage wildlife. Until adequate information on the invasiveness of such plants exists, native alternatives should be used).



Native plants are attractive additions to any property. Both American beautyberry (left) and strawberry bush (right) produce fruits that are attractive to wildlife and the human eye. Chris Moorman.

Reversing the Trend

You can help stop the non-native plant invasion by using and nurturing native plants around your home and on your property. Native plants generally grow well and require less care than non-native species when grown on the proper soils under the right environmental conditions. Additionally, North Carolina's native wildlife has become adapted to using native plants over thousands of years. Therefore, native plants meet the needs, including food and cover, of North Carolina's native wildlife without causing long-term damage to local plant communities.

Many native plants produce showy flowers, abundant fruits and seeds, and brilliant fall foliage. A diversity of native plants in an urban landscape provides:

- Protective cover for most animals.
- Seeds, nuts, and fruits for squirrels and other mammals.
- Seeds, fruits, and insects for birds.
- Nectar for hummingbirds and butterflies
- Larval host plants for butterfly caterpillars (many caterpillars are adapted to eat the foliage of specific plants, called their host plants).

To view the complete article, visit NCSU Landscaping for Wildlife with Native Plants
<https://content.ces.ncsu.edu/landscaping-for-wildlife-with-native-plants>

December Gardening Chores

This is a good time of year to winterize your lawn mower. Change the oil and air filter, replace the spark plug, and clean and store the lawn mower.

Finish cleaning weeds out of planting beds, and make sure you have a 2- to 3-inch layer of mulch in place.

If scale and mite insects have been a problem in the past, apply preventive horticultural oils on the entire plant.

Make sure poinsettias get at least 6 hours of bright indirect sunlight every day, and water them regularly to prevent them from drying out.

Begin planning your spring vegetable garden by reviewing seed catalogues.

Landscape plantings still can be done in December. If you have purchased plants and are waiting to plant them later, then be sure not to let them dry out or suffer cold damage.

January Gardening Chores

During a mild winter, bulbs start popping up during January. While a few of the older cultivars can be damaged, most won't have any problems. Bulbs should be able to survive 20° F weather.

If you haven't already, cut back old foliage on grasses and most perennials. The exceptions are lantana, verbena and salvia. Wait until March to cut them back.

Bring spring indoors early by forcing branches of forsythia, quince, spirea, and winter honeysuckle. Place stems in a vase of water and watch them open well before those in the landscape.

Start cool-season vegetable seeds such as cabbage, broccoli and lettuce in January.

Apply dormant oil on fruit trees to kill insect eggs before leaf and flower buds begin to expand.

Pull or hoe winter weeds such as Henbit and chickweed while they are still small.

Know and Grow... Christmas Cactus

The holidays are bearing down on us, and you will see many holiday plants for sale at your local garden center or hardware stores. Christmas Cactuses (*Schlumbergera*) come in many colors, from yellow, salmon, pink, fuchsia and white or combinations of these colors.

Around this time of year, Christmas Cactuses are covered with colorful flowers that began forming way back in October.

Many people hold these plants for many years. They will grow bigger and bloom each year if properly cared for during the year.

There is some confusion when referring to Christmas, Easter and Thanksgiving cactuses. They are three distinct types with minor variations in leaves and flowers. All will bloom at the appropriate times if grown under natural lighting conditions. Or, they can be forced to bloom at Christmas and are all referred to as Holiday cactuses.



Christmas Cactus Care Checklist

Once you buy or receive a Holiday Cactus for your home, follow these simple instructions for continued growth and bloom.

Plants grow best in bright light and should be placed within 6 feet of a window. Any light exposure will work with the exception of north windows. When new growth begins following bloom, prune plants to force branching. The last pruning should be done in late spring. This will increase the number of flowers. The segments could be cut off, but they can just as easily be twisted off when pruning is done.

Make sure the soil is well-drained and light. If the soil holds too much water, the plant stems or roots will rot. Combinations of peat moss and perlite, vermiculite, or builder's sand are all acceptable soil choices. Try a mix of two-parts peat moss to one-part perlite for a rich but well-drained media.

Watering is one of the keys to success with these plants. Allowing the soil to dry out will cause the flowers to drop. On the other hand, soil that is too wet will lead to disease problems. It's important to keep the soil moist but not wet. Having a light, airy soil media that's rich in organic matter is the most forgiving. A Christmas cactus needs freely draining soil and a pot with open drainage holes. Water whenever the top inch of soil feels dry rather than on a fixed schedule. Water thoroughly, until water runs out the bottom. If the soil



becomes too dry and won't absorb water, water every 10 minutes until it holds moisture. Afterward, pour out any water that accumulates in the saucer.

Fertilize every month or every two months, depending on the growth of the plant. If it's a fast grower, monthly fertilizer applications would be best. Soluble fertilizers or slow-release products are both acceptable. Consider reducing the fertilization rate that is listed on the label, because excess fertilizer salts can contribute to root problems.

Heading Off Problems

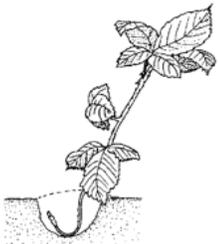
A common problem with holiday cactuses is bud drop. This usually occurs because of a change in environment, especially high temperatures. To avoid bud drop, do not place the plant in a draft or near a heat source (vent, fireplace or television). Other than high temperatures, the other thing that usually causes bud drop is improper watering. These plants are easily propagated by placing cuttings of two or three jointed sections in one pot full of moist sand. Use three or four cuttings per 4-inch pot or five to six cuttings in a 6-inch pot. Keep them in high indirect light and keep them moist until rooted – when new growth appears. Once rooted, transfer them to one of the mixes mentioned above. Cuttings are typically taken in the spring following a flush of new growth.

ABC...XYZ Gardening Vernacular

L is for Layering

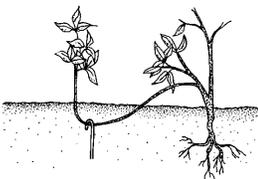
This article in its entirety is from NC Extension Gardener Handbook, Chapter 13 Propagation. Reference and source information is at the end of the article.

Stems still attached to their parent plant may form roots where they come in contact with a rooting medium. This method of vegetative propagation is generally successful because water stress is minimized and carbohydrate and mineral nutrient levels are high. The development of roots on a stem while the stem is still attached to the parent plant is called layering. A layer is a rooted stem after it has been removed from the parent plant. Some plants propagate naturally by layering, but sometimes plant propagators assist the process. Layering is enhanced by wounding one side of the stem where the roots are to form or by bending it very sharply. The rooting medium should always provide aeration and a constant supply of moisture. Some common forms of layering are as follows. However, keep in mind these protocols are sometimes modified.



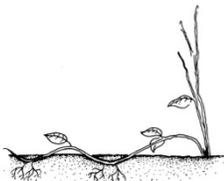
Tip Layering

Dig a hole 3 to 4-inches deep in the rooting medium. Insert the tip of a current season's shoot and cover it with soil. The tip grows downward first, then bends sharply and grows upward. Roots form at the bend. The recurved tip becomes a new plant. Remove the tip layer and plant it in late fall or early spring. Examples of plants propagated this way include purple and black raspberries, trailing blackberries, and dewberries. The aforementioned plants also do this naturally.



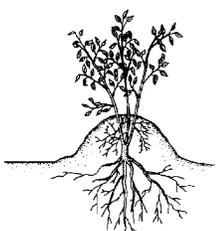
Simple Layering

Bend the stem to the ground. Cover part of it with soil, leaving the remaining 6 to 12 inches above the soil. Bend the tip into a vertical position and stake in place. The sharp bend often induces rooting, but wounding the lower side of the bent branch may help. Simple layering can be done on most plants that have low-growing branches. Examples include azalea, forsythia, boxwood, honeysuckle, rhododendron, and wax myrtle.



Compound (Serpentine) Layering

Bend the stem to the rooting medium as for simple layering, but alternately cover and expose stem sections. Wound the lower side of the stem sections to be covered. This method works well for plants producing vine-like growth such as heart-leaf philodendron, pothos, and grape.



Mound (Stool) Layering

Cut the plant back to 1 inch above the ground in the dormant season. Dormant buds produce new shoots in the spring. Mound soil over the new shoots as they grow. Roots develop at the bases of the young shoots. Remove the layers in the dormant season. Mound layering works well on apple rootstocks, cotoneaster, daphne, quince, and spirea.



Air Layering (Pot Layering, Circumposition, Marcottage, Chinese Layering, Gootee)

Air layering can be used to propagate large, overgrown houseplants (such as rubber plants or dieffenbachia that have lost most of their lower leaves) as well as some woody ornamentals such as camellias. The process varies depending on whether the plant is a monocot or dicot. For monocots, such as *Dracaena fragrans* 'Massangeana' (corn plant), make an upward cut about one-third of the way through the stem. This is normally done on a stem about 1 foot from the tip. The cut is held open with a toothpick or wooden matchstick. Dust the wound with rooting hormone and surround with damp, unmilled sphagnum moss. Wrap the moss with plastic and hold in place with twist ties or electrician's tape. Aluminum foil can also be used; it does not require twist ties or tape to hold it in place.

The process for dicots is similar except a 1-inch ring of bark is removed from the stem. Scrape the newly bared ring to remove the cambial tissue in order to prevent callus from forming. Wrap and cover using the same procedure as that described for monocots.

After the rooting medium is filled with roots, sever the stem below the medium. The new plant requires some pampering after planting until the root system becomes more developed.

Natural Forms of Layering

Sometimes layering happens without the help of a propagator. Runners and offsets are specialized structures that facilitate propagation by layering. A runner produces new shoots where it touches the growing medium. Plants that produce stolons or runners are propagated by severing the new plants from their parent stems. Plantlets at the tips of runners may be rooted while still attached to the parent or detached and placed in a rooting medium. Examples include strawberry and spider plants. Plants with a rosetted stem often reproduce by forming new shoots, called offsets (offshoots), at their base or in the leaf axil. Sever the new shoots from the parent plant after they have developed their own root system. Unrooted offsets of some species may be removed and placed in a rooting medium. Some of these must be cut off, whereas others may simply be lifted from the parent stem. Examples include date palm, haworthia, bromeliads, and many cacti.



LeBude, A.V., and F.A. Blazich. 2018. Propagation, Chapter 13. In: K.A. Moore, and L.K. Bradley (eds). North Carolina Extension Gardener Handbook. NC State Extension, Raleigh, NC. <http://content.ces.ncsu.edu/13-propagation>

Broomsedge *Andropogon virginicus*

North Carolina roadways during winter are mostly painted in shades of gray and charcoal from the trunks of the trees and tan and brown from the native Broomsedge that seems to occupy most sunny spots. The hold this grass has on the ground is tenacious and bears a closer look.

Broomsedge, *Andropogon virginicus*, is not a sedge at all but a grass in the same genus as the more appreciated little and big bluestem. It's a clump-forming perennial warm season grass that sends up slender stems to three feet tall in late summer. These produce numerous white, wind-borne seeds that glow when the sunlight catches them just right.



The native range of broomsedge is across all of the eastern states anywhere rainfall exceeds 25 inches per year. It grows on nutrient-poor soils and is especially tolerant of low nitrogen and phosphorous levels.

In the springtime, the grass produces clumps of curly, boot-top-tall blades that cattle will eat, but the fodder provided is short lived and grazers ignore it once the slender stems appear in fall. Unless you're a grass expert, broomsedge is hardly noticed during the fall and winter when the warm tones of tan, beige, orange and copper brighten the roadsides in winter.

It earned its common name because it made a passable broom for use in pioneer homesteaders. Several handfuls of broomsedge stems harvested after the first frost, tied tightly around a stout stick and then trimmed to length made a serviceable broom, though not nearly as durable as store bought brooms made from fibers of *Sorghum vulgare*.

Broomsedge is an invader grass, one moving into old fields, road cuts, overgrazed pastures and other places with bare ground. But, unlike most invaders in these early stages of ecological succession, broomsedge tends to occupy a site and only reluctantly give it over to more permanent members of the plant community.

The reason for this tight grip on the control of the ground is broomsedge's ability to produce allelopathic chemicals suppressing the germination and growth of competitive species. In effect it makes its own natural weed killers.

Because broomsedge seeds are immune to the effect of the allelopathic chemicals, pure stands are common in the early stages of old field succession. In nutrient-poor sites, broomsedge will maintain a grip on the land for many years, but in more fertile soils its hold is usually under a decade before it begins to give way to other species.

Broomsedge is not usually grown as an ornamental, though a few nurserymen have made selections of especially colorful clumps. If you wish to control it, springtime fires tend to suppress it while wintertime fires encourage its spread.

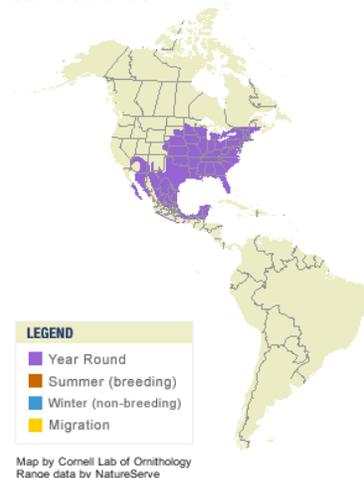
Article source: <https://www.uaex.edu/yard-garden/resource-library/plant-week/broomsedge-2-02-07.aspx>

Northern Cardinal (*Cardinalis cardinalis*)

The Northern Cardinal is one of the most recognizable birds in the landscape. Cardinals don't migrate and they don't even molt (shed old feathers, hair, or skin, or an old shell, to make way for a new growth) into a dull plumage, so they are still a beautiful red in the winter, in contrast to our dull winter colors.

Northern Cardinals can be found at bird feeders any time during the day, but are often the first and last birds at the feeder. In the wild, they prefer seeds and fruits but will eat insects. Leaving undergrowth in your garden or around the edge of your property, will provide a nesting site for Cardinals. They do feed their nestlings primarily insects. When supplying birdseed, they will eat many different kinds, but their preferred is black sunflower seed.

Northern Cardinal
Cardinalis cardinalis



Female and Male Northern Cardinal
Photo source: roundlake.sals.edu

For more information on birding visit allaboutbirds.org, Audubon.org and carolinabirdclub.org.

Control Root-Knot Nematodes in Your Home Vegetable Garden

Root-knot nematodes are microscopic worms that feed on the roots of many common garden plants. This can significantly reduce your vegetable yield. There is not a chemical method of control that is realistic for homeowners. Some steps you can take are to grow resistant varieties, if possible move your garden to an area where there are less



nematodes. Also, when you rotate your crops in the vegetable garden, select non-host crops so nematodes have less plant material to feed on. Be sure to pull up all nematode infested plants and destroy them after you are cleaning up your garden. There are several other methods that you can do to minimize root-knot nematodes in your vegetable garden. Follow this link for more information: <https://www.uaex.edu/publications/pdf/FSA-7529.pdf>

Quote

“Anyone who thinks gardening begins in the spring and ends in the fall is missing the best part of the whole year; for gardening begins in January with the dream.” – Josephine Nuese

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