



# Extension Gardener

NC STATE UNIVERSITY

NORTH CAROLINA COOPERATIVE EXTENSION

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Empowering  
gardeners.  
Providing  
garden  
solutions.

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## Plant native flowers for pollinators

**N**eed a reason to plant more flowers? How do supporting local agriculture, ensuring the availability of healthy fruits and vegetables, and protecting thousands of plant and animal species sound? By planting flowers that sustain pollinators, you are accomplishing all of this, as well as making your yard more attractive. Pollinators, which include bees, butterflies, moths, wasps, hummingbirds, and bats, make reproduction possible for more than three-fourths of the flowering plants on earth, including many of the fruits and vegetables we eat every day.

Of all the pollinators in the world, bees are the best. While almost everyone is familiar with European honey bees, fewer people are aware of the vast variety of native bees found in North America. These include bumble bees, sweat bees, miner bees, and mason bees, all of which are valuable pollinators of crops as well as native flowering plants. Alarming, populations of both honey bees and native bees are in decline.

Reasons for bee decline include disease and parasite infection, habitat loss, and stress caused by pesticide exposure and malnutrition. As gardeners, we have a critical role to play in reversing this alarming trend. One of the most important things we can do to preserve and support pollinators is to plant flowers. Bees gather nectar and pollen from flowers to feed themselves and their offspring. To stay strong and maintain healthy colonies, bees need a season-long supply of flowers that have not been contaminated with pesticides.

Many of our native bees specialize in feeding on native plants. Including native plants in your

landscape will support the widest range of pollinators. When planting flowers to support pollinators, aim to have at least three different types of flowers in bloom during each season, from early spring through late fall.

Flowering perennials are among the best nectar sources for bees. Recommended perennials native to the Southeast that are available from most garden centers include spring bloomers such as wild verbena (*Glandularia canadensis*), spiderwort (*Tradescantia virginiana*), *Coreopsis* species and varieties, wild indigo (*Baptisia* species), beard-tongue (*Penstemon* species), and bluestar (*Amsonia* species).

Some of the best native summer-blooming perennials for pollinators include coneflowers (*Rudbeckia* and *Echinacea* species), phlox, butterflyweed and milkweed (*Asclepias* species), Stoke's aster (*Stokesia laevis*), gaillardia, bee balm (*Monarda* species), liatris, and mountain mint (*Pycnanthemum* species).

To provide late-season nectar sources, plant a variety of native asters (*Symphyotrichum* species), goldenrods (*Solidago* species), joe pye weed (*Eutrochium* species), ironweeds (*Vernonia* species), and perennial sunflowers (*Helianthus* species). To see images of hundreds of pollinator friendly plants, visit [www.protectpollinators.org](http://www.protectpollinators.org) and click on the Pollinator Paradise Garden link. Check with your local Extension center or visit [www.ncsu.edu/goingnative/](http://www.ncsu.edu/goingnative/) for more plant recommendations suited to your area.

— Charlotte Glen



Honey bee feeding on late blooming native aster. ©Charlotte Glen

## Extension Showcase

Growing vegetables from seed can help gardeners save money, as well as allow them to grow a wider range of crops, including new or unusual varieties that are not available as plants from garden centers. Successfully growing plants from seed requires considerable knowledge and skill. Beginning gardeners can easily waste money on seed and growing supplies in early attempts to start plants from seed.

To increase seed growing success among beginning gardeners, Pender Cooperative Extension offers hands-on seed starting workshops each year, during which participants learn the basics of growing vegetables from seed and gain skills in sowing, transplanting, and caring for seedlings. Extension Master Gardener volunteers assist with the workshops, providing guidance to participants as they sow and transplant seedlings.

Attendees typically report increases in knowledge and skills that will help them successfully grow their own vegetables from seed. Considering the typical home vegetable garden has an average return value of \$0.74 per square foot, even a small, 200 square foot garden can have an economic benefit of \$148. To find out about upcoming Extension workshops, classes, and events in your area, visit <http://gardening.ces.ncsu.edu/> or contact your local Extension center.

—Charlotte Glen

## Smart Gardening — Early spring EPS outbreaks possible

Every spring, gardeners succumb to EPS: early planting syndrome. EPS, an affliction related to spring fever, causes gardeners to plant vegetables outdoors before soil temperatures can support healthy growth. Avoid this dangerous, plant-stunting, yield-decreasing disease by carefully following these protocols:

1. Use soil temperatures to determine planting time for tender crops. Don't be fooled into planting by warm air temperatures.

2. Use a soil thermometer to read soil temps on three consecutive mornings. The minimum for tomatoes, cucumbers, and snap beans is 60° F. A consistent reading of 65°F is needed for sweet corn, and limas. For peppers, watermelon, squash, and southern peas, use a soil reading of 70°F, and it's 75°F for okra and cantaloupe.

3. Circumvent EPS symptoms with a final round of cold hardy crops. If you simply must plant, try frost-tolerant crops: arugula, broccoli, carrot, collards, kohlrabi, leeks, parsley, spinach, turnips. Planted outdoors, these will

take longer to germinate in spring than in the fall (soil temperatures again). Season extension techniques may be necessary prior to and right after germination.

4. Read up. Research shows that early planted tomatoes, peppers, and cucurbits remain stunted even after soil temperatures are adequate, resulting in lower overall yields compared to plants of the same variety planted under appropriate conditions. Transplants set out in warm soil will quickly catch up to, and then outproduce, plants set out too early.

By planting at the correct time, you can avoid the damaging effects of planting too early. Be proactive, plant at the correct time, and employ season extension techniques: sheets of plastic, jugs of water, cold frames, and all manner of devices intended to shield seedlings from cold weather.

Avoid the temptation to plant too early, and remember timing is everything!

—Nicole Sanchez

## Food Production — Pawpaw trees for the home landscape

Native to the United States, the pawpaw tree (*Asimina triloba*) is one of the more interesting fruit trees that do well in our region. Planting pawpaws is a good idea if you like the taste of exotic fruit and are interested in growing native plants to support wildlife.

Pawpaws grow from Florida to Michigan and are hardy in USDA zones 5 to 9. The trees grow 15 to 25 feet tall with a pyramidal shape and prefer deep, well-drained, yet moist soil with a pH between 5 and 7. In the wild, pawpaws often grow on the banks of rivers and streams, but pawpaws will not survive in waterlogged locations.

Although pawpaw will produce fruit when grown in the shade, fruit production is highest in full sun. Seedlings will not survive in the full sun and shading is required for the first one to



©Scott Bauer, USDA—ARS

two years. Fruit is produced after the tree grows for about six years.

Dark-brown flowers are borne in the spring, followed by large yellowish-green to brown tropical tasting fruit that ripen in late summer and fall. The flavor is a blend of mango and banana with the consistency of banana.

Several brown seeds are contained within the 5-inch long by 2-inch wide fruit, which is shaped like a mango and grows in a cluster.

Pawpaw is an interesting tree to include in the landscape. Zebra swallowtail butterfly larvae feed exclusively on young pawpaw foliage. The beautiful butterflies are worth sharing some of the leaves. It is reported that deer do not feed on the leaves, twigs, or fruits of this native tree.

—Peg Godwin

## Pest Alert — *Black twig borer*

**B**lack twig borers are a type of ambrosia beetle—a family of wood-boring beetles that attack many varieties of hardwood trees and shrubs. Luckily the damage they cause is not severe enough to kill large, established plantings, but can be more serious for young or recently transplanted trees and shrubs.

The damage caused by black twig borer is much easier to see than the insects themselves. Once infested, branches wilt and turn yellow or brown, a symptom known as “flagging.” If trees or shrubs in your yard suddenly develop many dying branches, take a closer look. Inspection of the flagged limbs will often reveal small pinholes on the underside of stems. If you find the pinholes, prune out flagged branches 3 to 4 inches below the pinhole. Within a few weeks, the tree or the shrub will begin to generate new growth.

There are no insecticide sprays that will control black twig borers once they are inside the stem. Spraying to prevent infestation is not recommended or necessary. Instead, continue



©Lyle J. Buss, University of Florida

monitoring for black twig borer through the summer and fall, pruning out any infested twigs you find. Although black twig borers cause damage, the good news is that the damage will not kill your trees. With a little vigilance, you can successfully control this pest.

— Sam Marshall

## Carolina Lawns — *How to make your centipede lawn look better*

**C**entipede grass is a common pick among homeowners in this region because it generally requires little maintenance once established. There are, however, some important factors to consider before installing centipede grass in your lawn.

Centipede does not tolerate heavy foot traffic, compacted soils, high soil pH, high phosphorus, excessive thatching, drought, flooding, or heavy shade. Each of these problems will have to be corrected before the centipede can improve. Chronic problems may mean replanting with a better-adapted grass species for your situation.

Get your soil tested! A test will reveal the soil's pH level, phosphorus, and potassium index. Centipede will struggle if the soil pH is above 6.0. Elemental sulfur can be applied if pH is too high.

Stepping-stones or walkways should be installed in high traffic areas to prevent damage to centipede. Compacted areas will have to be core

aerated and top-dressed in the summer to improve root growth and soil drainage. Some areas could need drain tile installed to improve drainage.

Centipede can develop thatch if it has been overfertilized and not mowed correctly. Dethatching rakes are available as small, inexpensive hand rakes or as bigger models that are pulled behind a lawn mower. Dethatch only once every three years. Centipede should be mowed to 1 inch high and should not be allowed to grow more than 1½ inches tall. Fertilize centipede in June with ½ lb of nitrogen per 1,000 square feet. A high potassium fertilizer can be applied in August.

Large patch is a common disease in centipede. It begins killing centipede in fall, but damage often goes unnoticed until spring. Apply fungicides in early fall. Make the first application around Labor Day and another application six weeks later.

— Jacob Searcy

## Tips & Tasks

### Right plant, right place

In the spring, gardeners are often guilty of being bit by the garden bug, which leads to impulse plant purchases without considering if the plants are suitable for their landscapes. Taking time to consider proper plant selection can allow you to have plants that provide joy for years to come. When selecting landscape plants, consider the following factors:

- **Mature plant size:** Make sure you have enough space for a plant to grow in the future to prevent overgrown plants and unnecessary pruning.
- **Hardiness zone:** Know your hardiness zone, and check plant labels and descriptions to ensure a plant is recommended for your zone.
- **Light requirements:** Find out if a plant needs sun or shade, and determine if areas of your landscape meet those needs.
- **Soil and water requirements:** Find out what types of soil (wet, dry, well-drained) and water a plant needs, and determine if your landscape is suited for those needs.
- **Other factors to consider include** seasonal interest, growth habit, flower color, and potential pest problems.

Following the “Right Plant, Right Place” motto when selecting landscape plants will help you choose plants that will perform well in your landscape now and in the future.

— Jessica Strickland





## 'Scarlet Storm'

©MCI Lab, NC State University

## New from NCSU — Double Take™ quinces

If thoughts of old-fashioned flowering quince (*Chaenomeles speciosa*) do not excite you, it is time to think again. The Double Take™ series of flowering quinces developed at NC State are thornless, fruitless, and have double flowers that resemble miniature roses. The variety 'Scarlet Storm' (PP20,951) has deep-red flowers borne all the way out to the tips of the branches. 'Pink Storm' (PP20,920) bears salmon-pink flowers that resemble sweetheart roses, while 'Orange Storm' (PP20,950) bears bright-orange camellia-shaped flowers. All three varieties mature to around 6 feet in height, bloom from February through April, and are hardy in USDA plant hardiness zones 5 – 8. Plant these deciduous shrubs in part to full sun and well-drained soil to add an exciting splash of early spring color to your landscape.

— Shawn Banks

## Helping You Grow

plants.ces.ncsu.edu

NC Cooperative Extension has a new way for gardeners to get information about landscape plants: plants.ces.ncsu.edu. Type this URL in your browser's address or search box, and be whisked away to a searchable database of almost 2,800 plants. On the main page you can select from 20 different categories from annuals to wildflowers, including an "all plants" option. Once the first selection has been made, browse by scientific name (for self-proclaimed plant geeks) or common name, or narrow your search based on height, light requirement, wildlife attraction, flower color, or leaf color. As you add plant features to search, the list will narrow to the exact plant or plants you seek.

— Danny Lauderdale

## Edibles — An oxymoron

Webster's Dictionary cites the definition of "oxymoron" as "contradictory words that appear side by side." A perfect example of this is the blueberry variety 'Pink Lemonade' (*Vaccinium* 'Pink Lemonade') that is popping up in catalogs this spring. A true rabbiteye blueberry, 'Pink Lemonade' has bright pink berries that ripen from late July into August on plants that grow to 5 feet high. It makes an attractive shrub for the landscape with colorful fall foliage and brightly hued stems. Developed in the 1990s, 'Pink Lemonade' was not well received by growers because of the unorthodox berry color. But, with today's trend towards edible landscapes, 'Pink Lemonade' has a chance to become a popular dual-use addition to the garden. Although 'Pink Lemonade' is self-pollinating, it will produce more berries if it is planted with other blueberry varieties.

— Donna Teasley

## Sustainability — Vegetables for limited space

When talking about vegetable gardening, I often hear people say, "I can't grow vegetables. I live in an apartment with nothing more than a balcony."

Many vegetables, however, can be grown in containers. As long as the balcony receives 8 or more hours of direct sunlight during the day, almost any vegetable can be grown. Choose the correct size container for the crop, and it won't be long until harvest. For green onions, radishes, onions, chard, lettuce, peppers, dwarf

tomatoes or cucumbers, basil, and many other herbs, all that's needed is a 1- to 3-gallon container. For larger plants—such as eggplant, beans, peas, cabbage, broccoli, collard, or full size tomato or cucumber varieties, a 4- to 5-gallon container will be needed. Crops with a shallow root system, like lettuce, radish, and other salad greens, are well suited for pots that are 4 to 6 inches deep. Most other crops will need 8 to 12 inches of soil to accommodate their root systems.

Water will be a major concern in any container. Containers don't have a large water reservoir to draw from and will need to be watered more frequently as the plants grow. Drip irrigation of some type, even as simple as a bottle with a few holes punched in the bottom, will be needed to maintain soil moisture. Mixing compost in with the potting mix will add weight to the container to prevent plants from tipping over. The compost is also a good source of nutrients.

— Shawn Banks

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