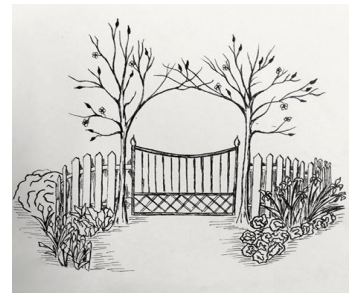


IN THE GARDEN NOW

HELPING GARDENERS PUT KNOWLEDGE TO WORK

SEPTEMBER/OCTOBER 2014



Discovery Garden Update

A lot has happened in the Discovery Gardens this summer. These gardens are intended to serve as teaching and demonstration gardens while also providing a great place for outdoor recreation and events. Onslow County Master Gardener Volunteers have been busy planting, watering, mulching, and weeding. Meanwhile others have been hard at work in the rest of the garden. Cahoon Construction has been busy building the boardwalk and a local metal artist has been busy creating a beautiful sculpture to greet visitors as they enter the gardens.

The boardwalk will lead visitors through a shady portion of the woods along an ephemeral stream bordered by native plants. The design includes two seating areas to accommodate classes or tour groups and to provide a shady place to sit, relax and enjoy the beautiful scenery. When the gardens are complete, the boardwalk will wind through portions of the shade garden and wildlife gardens.

Steve Zawistowski is creating a one-of-a-kind sculpture to grace the entrance of the Discovery Gardens. This sculpture includes a garden gate flanked by two dogwood trees. It also includes many metalwork plants. After installation, we will plant around the sculpture so live plants will grow up and through the metalwork. This sculpture will be exciting, interesting and inviting. An artist's rendering of the sculpture can be seen here in the upper right hand corner.

The boardwalk and sculpture will both be completed in September. As we get closer to completion, we will have an event to unveil these projects. Please follow our page on Facebook, Gardening in Onslow County, for details and join us to celebrate the addition of these two great projects to our garden.

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Protecting Pollinators

Honeybee populations have declined worldwide in recent years and many gardeners are coming to understand that protecting pollinator insects – particularly honeybees but native bees as well – is increasingly important. Three quarter of the earth's flowering plants rely on insects or animals to mediate pollination including one third of the world's crops. Many fruit and vegetable crops rely on insect pollinators including apples, blueberries, peaches, strawberries, cucumbers, squash, and melons.

Several factors have been identified in bee population decline including parasites and diseases, poor nutrition, habitat loss, pesticides and environmental stress. While we cannot address all of these issues, gardeners should recognize the importance of pollinator insects and can take steps to protect pollinators in and around the garden.

Honeybees are the most well known pollinator. They are native to Europe and are often managed for pollination in gardens and agricultural crops because they form colonies and are excellent pollinators – often flying 2 miles or more from the hive. Native pollinators, while less well known, play an important role as well. There are over 4000 species of native bees in the US. Native bees are also valuable crop pollinators. While they do not range as far as honeybees, native bees are very efficient and are more active in inclement weather than honeybees. Native bees also play an important role pollinating wild plants and sustaining native ecosystems. The greater the diversity of bees in an area, the better the pollination. While research has focused more on protecting honeybees, the same steps that protect honeybees will also protect native bees.

First, use pesticides sparingly and only as needed. Pesticides include insecticides (chemicals used to kill insects), fungicides (chemicals used to control fungi), herbicides (chemicals used to kill plants) and miticides (chemicals used to kill mites). While it seems apparent that insecticides are a threat to bees, other pesticides can also be toxic to bees.

Make sure that you have plant problems accurately diagnosed prior to applying a pesticide. Utilize integrated pest management practices prior to

resorting to chemical pest control. Building healthy soils, choosing the right plant for the right place, good sanitation and optimum watering can help reduce pest problems in the garden. Handpicking, row covers and fostering beneficial insects can help reduce pest pressures.

When insecticides must be used, consider the formulation. Powdered formulations generally last until the next rainfall and can gather on the bee's body and be carried back to the hive. For this reason, use liquid formulations when possible. Apply insecticides late in the day when most bee activity has diminished for the day. Never apply insecticides to plants with open flowers that are being actively foraged by bees and be careful to avoid pesticide drift on to adjacent weeds or crops that are in flower. Even following appropriate measures, many insecticides have residual toxicity that lingers for 24 hours or longer on the plant. It is important to note that insecticides labeled natural or organically approved can still be toxic to bees, so make sure that you read and follow all label directions regardless of the pesticide being used.

Provide a bee friendly landscape including diverse pollen and nectar sources for bees at various times of the year. Include flowering plants such as tulip poplar, sourwood, magnolia, red maple, serviceberry, various fruit trees, asters, black-eyed susan, goldenrod, coneflowers, and monarda. Choose single flowered forms over double flowered forms (which are harder if not impossible for pollinators to forage). Allow some crop plants to go to bloom – bees love the flowers of broccoli, mustard, carrots, and herbs such as basil, cilantro, dill and mints. Leave naturalized portions of the yard with blooming weeds such as clover, henbit and dandelion. Include native plants to support native bee populations. For a full list for pollinator plants visit

<http://growingsmallfarms.ces.ncsu.edu/growingsmallfarms-pollinatorconservation/>.

Preserve nesting habitat for native bees including ground-nesting bees. 70% of native bees nest in the ground. They prefer well-drained sunny areas with sparse vegetation. Most native bees are solitary with each female preparing her own nest. While the bees may be communal (many nesting in the same area), their solitary nature means that they are not

aggressive. Preserve their nesting areas by not disturbing them. Other natives nest in wood or hollow stems. Where safe, leave dead trees standing. Alternatively, create bee blocks by drilling holes in a wooden block or bundling hollow stems or straw together and place them in a location receiving morning sun about 4 feet above the ground.

Honeybees swarm in the spring and summer as a way to manage the hive. If you find a honeybee swarm near your home, contact a local beekeeper. Many beekeepers welcome a chance to collect a swarm to start a new colony. If you are interested in learning more about beekeeping, join your local beekeeping association. In Onslow County, the Onslow County Beekeepers meet on the second Tuesday of the month at 7 pm at the Onslow County Multipurpose Building at 4024 Richlands Highway. Between meetings, call the Extension Office at 910.455.5873 for current contact information or to report a honeybee swarm.

For more information about pollinators of all sorts:

<http://pollinator.org/PDFs/Guides/OuterCoastalrx7FINAL.pdf>

TIPS AND TASKS

Cooler temperatures make gardening and landscape maintenance more enjoyable in the fall. Some attention now will keep your garden neat and tidy over the winter and get your plantings off to a healthier start next season.

In the Vegetable Garden

- There is still time to plant. In September, you can plant onions, radishes and second plantings of short season hardy crops like leaf lettuce and spinach.
- Cabbage, kale, collards, Swiss chard and leaf lettuce can be set out through mid-October. Seeds of radish, spinach, turnip and salad greens can also be sown. Plant garlic cloves and onion sets until November. Choose short-day varieties of onions like Grano or Texas supersweet.

- Cool season herbs like dill, parsley and cilantro can be direct sown or set out as transplants and will stay green into winter.
- Extend the growing season of tender summer crops like tomatoes and peppers by covering them through the first couple of frosts. We often have several weeks of nice growing weather after the first fall frost.
- Clean up. Remove old plants, do a final weeding, and mulch the bed with compost, straw, grass clippings, or chopped leaves. These mulches can be turned into the soil next spring to help fertilize next year's crops.

In the Perennial Bed

- Fall is the best time of year to plant and transplant trees, shrubs and perennials. It is also a great time to divide and replant perennials. Keep new plantings well watered during their first several weeks as they get established.
- Collect leaves and debris for composting but don't compost insect or disease-laden plant material.
- As perennial beds go dormant, cut dead stems back to ground level. Seed heads may be left for winter interest or to feed the birds (sedum, echinacea, black-eyed susan).
- Most ornamental grasses hold up to the winter weather so leave them for interest.
- Prune shrubs to remove dead, diseased or broken limbs: however save significant pruning for late winter or early spring. Spring blooming shrubs shouldn't be pruned until after they flower, or you will lose next spring's blooms.
- Once all of the leaves have fallen, give your landscape plantings a layer of mulch over top. Three to four inches of mulch is good but excessive mulch can also cause problems so check the thickness of your mulch. Old mulch can be freshened up by raking. Don't let mulch lie against the trunks of trees and shrubs or it will encourage pest and disease problems.

In the Lawn

- Warm season grasses do not grow during late fall and don't require any nitrogen before spring. Fertilizing with nitrogen at

this time will encourage weed growth and disease problems like large patch and winterkill. Instead, opt for a September application of a potassium fertilizer on sandy soils. Potassium can improve winter hardiness while improving disease and drought tolerance.

- Raise the height of your lawn mower by ½ inch in mid-September to encourage your lawn to store energy for winter and protect your grass from winterkill.
- Resist the urge to overseed your permanent lawn with ryegrass. While this provides winter color, competition with ryegrass in the spring can stress your lawn – particularly centipede and St. Augustine.
- If you had large patch diagnosed this spring, apply protective fungicides the beginning of September and again in October for control. Also, make sure that you are not irrigating at all through the fall.

Soil Sample Now to Avoid Peak Season Fees

As of last year, the North Carolina Department of Agriculture and Consumer Services (NCDA&CS) Agronomic Division implemented a fee on soil samples submitted during its peak season: December through March. Peak season samples are charged a \$4 fee per box. Samples submitted the rest of the year (April through November) are still processed for free.

If you haven't sampled your soil recently, go ahead and sample now. We recommend sampling every 2-3 years in the coastal plain. If you send your sample through the Onslow County extension office, make sure it is received at the office before November 21 to ensure that it reaches NCDA prior to their deadline. Wait times are significantly shorter if you submit your samples during the off-season. It usually only takes about two weeks for the lab to process samples during the non-peak season; during peak season, sample turn around times can stretch to 8 or 9 weeks.

Caterpillars on the Move

Caterpillars are on the move in the landscape and garden. Here are just a few of the caterpillars that I am seeing right now.

I have seen several species of *Datana* caterpillars this summer. These caterpillars are the larval form of prominent moths and often feed on trees and shrubs. The caterpillars often feed in groups and assume a distinctive posture when threatened – lifting their heads and rear ends on a “C” shaped posture.

The most distinctive species of *Datana* in our area is the azalea caterpillar, *Datana major*. They feed primarily on azaleas but they have occasionally been found on blueberries. Adults lay eggs on the underside of azalea leaves where the small caterpillars emerge and feed in a group. As they grow, the caterpillars take on a distinct red, yellow and black coloration. I have also seen *D. ministra*, the yellownecked caterpillar, feeding on birch trees here in the Discovery Gardens.



Azalea caterpillars typically assume this pose when they are disturbed.

These caterpillars are often noticed once they have become fairly mature and have consumed a lot of foliage. They may defoliate a limb or two or possibly even the entire plant in the case of a small shrub. These caterpillars feed until they are about two inches long and most of the damage is done in the last couple of days of feeding. At maturity, the caterpillars drop off the plant and overwinter as pupa in the soil near their host plants. The adults emerge the following summer to mate, lay eggs and start the process over.

After a banner year of fall webworms in 2013, we have not seen nearly as many this year. Fall webworms build webbing nests on the ends of tree branches. These caterpillars are native to our area and occur every year, being more noticeable in later summer and fall. Fall webworms will feed for four to six weeks and then leave the tree to spin a cocoon in which they will over winter.

Tomato hornworms continue to be a problem in the vegetable garden. Several of these large green caterpillars can defoliate even the most vigorous tomato vine. If you find a tomato hornworm covered in small cottony cocoons, it has been parasitized by a tiny braconid wasp. Leave parasitized caterpillars in the garden until the wasps have pupated. You can tell the wasps are pupated when there are small holes in the tops of the cocoons. I have also seen beet armyworms feeding on my tomato plants in the last couple of weeks. This is a dark olive-green to brown caterpillar with light colored stripes running the length of the body. The armyworms will feed on a variety of crops including many weeds, trees, grasses, forages and garden crops.



A tomato hornworm that has been parasitized by braconid wasps.

Caterpillars of the black swallowtail butterfly can be

found on parsley, carrot, fennel, dill and parsnips. The green and black banded caterpillars are voracious eaters. When disturbed, they will expand a yellow forked osmeterium just behind their heads. This structure can release a smelly liquid when the caterpillar tries to scare off predators. Whether black swallowtail caterpillars are a pest or simply an immature butterfly depends on your perspective. In the butterfly garden, they are treasured for what they will become. In the vegetable garden, they may be a pest to be controlled.



– **Black Swallowtail caterpillar.**

This is just a short list of the caterpillars out and about right now. Scout for caterpillars by scanning shrubs and

garden plants for bare twigs or stems then look closer to investigate. If you find a caterpillar or a group of them, pruning the branch out or picking the caterpillar off with a gloved hand is a good option. You can drop the offending insects into a bucket of soapy water or squish them with your

shoe – whichever you prefer. I feed the tomato hornworms and armyworms to my chickens.

Insecticides containing *Bacillus thuringiensis* or spinosad are effective against smaller caterpillars (think ½ inch in length or smaller) and are less likely to impact the beneficial insects in your landscape. Products containing carbaryl (Sevin) or acephate (Orthene) will provide control on larger specimen. For fall webworms, focus chemical treatments on the foliage immediately adjacent to the web where the caterpillars feed.

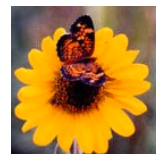


Gardening Information on the Radio

I have been asked to be the new host for the Garden Journal on Public Radio East starting September 12. The Garden Journal airs Friday at noon on all PRE stations and Saturday at noon on News and Ideas. In Onslow County, that is 91.5 FM and 89.3 FM on Fridays and 91.5 FM Saturdays. Tune in and join me!

You can also find me on WJCV once a month as Melvin Bland and I discuss all things garden and yard related. You can join us September 16 and October 14 at 8:05 am at 98.3 FM and 1290 AM.

Saving Your Own Seed



Fall is the perfect time to save seed with annual vegetables and flowers being an easy place to start. With a little attention to detail, you can harvest many of your seeds for next year.

When saving seed, make sure you are collecting from open pollinated varieties. These varieties will be listed as heirloom or bear the designation “OP” on the seed packet or plant description. Hybrid varieties (often designated as “hybrid” or “F₁”) are the intentional cross between two or more varieties. Because of their diverse parentage, hybrid plants

will not produce consistent, reliable offspring when you save their seed. If you grow more than one variety of a crop (say two or more varieties of tomatoes), you will need to take some precautions to prevent crosspollination between varieties. Cross-pollination will result in unexpected characteristics in your plants in subsequent generations.

In the vegetable garden, beans, peas and lettuce are good options for the aspiring seed saver because they self-pollinate. Separate different varieties by about 10 feet to prevent accidental cross-pollination by insects. Let the beans and peas mature on the vine until the pods start to dry out. Collect pods before they split and allow them to further dry for one to two weeks before shelling out the seeds.

You can also save seed from many tomatoes and peppers. Tomatoes and peppers often self-pollinate but insects like bees can carry pollen from one variety to the next. Separate different varieties by 20-30 feet in the garden if possible. Pick fruits when fully ripe (they should turn their full mature color – often red or yellow). For tomatoes, cut the fruit and squeeze the pulp into a container. Add a little water and let the pulp ferment at room temperature for 3-4 days, stirring daily. When the seeds settle out, pour off the pulp, rinse the seeds and spread them in a thin layer to dry thoroughly. Peppers are easier – simply cut the pepper in half and scrape the seeds out on to a paper towel to dry. Be aware that if you are growing hot and sweet peppers in the garden, accidental cross-pollination can result in hotness in subsequent generations. Cucumbers, squash, and melons are all cross-pollinated by insects. Plant only one variety of each species to avoid cumbersome barriers and hand pollination. Let the fruits hang on the vine until fully mature. For cucumbers and summer squash, this is well past the stage that we harvest for eating. The skin will become yellow and hard. Since we harvest winter squash at full maturity, simply harvest as usual and collect the seeds when you prepare the crop for eating. Scrub the seeds gently against the side of a sieve to remove the flesh or treat the same as tomato seeds.

Many varieties of flowers and herbs will cross-pollinate so plant only one variety of each crop or enjoy the variety that comes in your offspring

generations. Allow seeds to mature on the plant. Collect mature seed heads before the seeds fall and place them in a paper bag to continue drying them. Once they are fully dry, crush or rub the flower stalks to release the seeds. Separate the seeds from the chafe using a sieve or by winnowing them lightly in front of a fan. Zinnias, echinacea, black-eyed susan, basil, cilantro and dill are good candidates.

Many seeds will remain viable for three to five years if stored correctly. Place thoroughly dried seeds in a tightly closed glass jar, label with the crop and date, and store in the refrigerator.

Clemson has an excellent publication entitled *Heirloom Vegetables* that includes directions on saving seed:

<http://www.clemson.edu/extension/hgic/plants/vegetables/gardening/hgic1255.html>

To learn more about saving seed, check out the Seed Saving Resources on the Seed Savers Exchange website, <http://www.seedsavers.org/Education/Seed-Saving-Resources/>, or look for the book, *Seed to Seed* by Suzanne Ashworth.

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UPCOMING EVENTS AND REMINDERS

Baking an Award Winning Pie: September 18 from 6pm-9pm
Learn tips and techniques to bake a perfect pie for your family and possibly a win a Blue Ribbon at the Onslow County Fair this Fall!
Location: Onslow County Extension Office
Cost: \$5.00 per participant
Pre-register by September 15
Call (910) 455-5873 for more information.

Composting: September 19 at 1 pm
Learn how to get started composting and troubleshoot existing composting problems.
Location: Harriot B Smith Library
Corner of Holcomb Blvd and Birch St, Camp Lejeune
Call [910.451.5724](tel:9104515724) to register

Composting; September 25 at 5:30 pm
Learn how to get started composting and troubleshoot existing composting problems.
Location: Swansboro Parks and Recreation
830 Main Street Extension, Swansboro
Call [910.326.2600](tel:910.326.2600) to register

Hypertufa Workshop: September 27 at 10 am
Learn to make your own garden planters! You will get to make one to take home with you. Cost \$15 covers materials.
Location: We'll be outside behind the Onslow County Farmers Market
Call [910.455.5873](tel:910.455.5873) to preregister by September 23 (spaces are limited)

Follow us on Facebook at
www.facebook.com/gardeninginonslowcounty. For additional classes check out on the Onslow County Cooperative Extension website at
<http://onslow.ces.ncsu.edu/events/>.

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CONTACT US

If you have questions about lawn, landscape or garden problems, contact your local Cooperative Extension office. In Onslow County call 455.5873, Mon – Fri, 8 am and 5 pm, or visit us online anytime at <http://onslow.ces.ncsu.edu>. While you are there, you can post your questions to be answered by email using the 'Ask an Expert' widget (in the upper left hand corner).
problems, contact your local Cooperative Extension

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