

Master Gardener | Stanly County

APRIL 15, 2019

Stanly Gardener Quarterly



EMG's Richard Morton, Marcie Jackson, and Dianne Furr help Oakboro STEM students build a liter bottle greenhouse.

Spring Harbingers

The April issue is all about spring bursting wide open. Blooms are popping their heads out of Mother Earth after their long winter sleep. Pollinators are abuzz with activity as they search for pollen and nectar; many are looking for nesting sites to lay their eggs, while others are dining on nectar and collecting pollen. It's time for gardeners to make sure the pollinators have larval host plants as well as plenty of pollen plants so the insects will have plenty of dining and housing options throughout the season.

Upcoming Events have something for everyone.

Greenhouses are being built so gardeners can start their seedlings. See the photo essay on how Richard Morton, Marcie Jackson, and Diane Furr helped students and volunteers at Oakboro STEM School construct their new greenhouse.

Community Projects are gaining momentum. Expect an explosion of activity in the coming months.

Stanly County Historical Society gardens are being monitored by Laura Krug, Walter Deep, and Kay Hawkins. After existing plants pop their little heads out of the dark fertile soil the EMG's will be able to identify them. Only then will the EMG's know what they're dealing with and can move forward with garden design.

Laura and Kay are at it again as they introduce the Wildflower Plant of the Year.

Richard Morton tells us about the pawpaw tree. He'll delve into its history as well as divulge several intriguing yet mysterious details.

Meet our industrious leader Dustin Adcock as he talks about his plans for EMG.

Wanda Tyner introduces us to a Mystery Plant. See if you can follow her clues in identifying the plant. The prize? Well, bragging rights, of course.

Our continuing series of "What's Blooming in the Piedmont" introduces us to the plants that will bloom in upcoming months so we can make sure our pollinators have plenty of pollen and nectar.

My article on "Caring about Pollinators" rounds out this edition. I talk about how to attract and identify pollinators, their life cycle feeding needs, and then suggest ways to provide them with nesting material options.

Remember, your Garden Journal will help you improve your garden. The better your notes, the better you'll be able to make informed decisions.

We hope you enjoy this edition of *Stanly Gardener Quarterly* written by your Stanly County Extension Master Gardeners for you, Stanly County gardeners.

Pat Allen, Editor

Upcoming Events

- April 17 - 18th from 8:00 a.m. to noon: West Stanly High School is holding an Ag Day. No rain dates. EMGs will be making 10 to 15 minute presentations from 9:00 a.m. to noon.

- April 17th 5:30 p.m. - 7:30 p.m. "Getting Herby with It" at Ag-Center
- April 25th 10:00 a.m. - 12:00 p.m. "Tomatoes from Seed to Harvest" at Ag-Center

EMG Community Projects

Stanly County Historical Society and the Snuggs and the Freeman-Marks Houses

Update: Progress is being made on revamping the period-specific gardens at the Historical Society site. Most of the garden areas have been cleaned out or weeded, and many plants have been pruned. Currently, the EMG team is on hold, waiting to see which plants raise their little heads enough to be identified. Then Kay Hawkins photographs and identifies the plants 'for the record'. Over time these photographs will be used to design the various gardens. A workday to layout the Kitchen and Medicinal Gardens will be May 6th beginning at 9:00 a.m.

4-H Project at the Oakboro Choice STEM School, Oakboro, NC.

Update: According to Richard Morton, EMG Team Chair, Junior Master Gardener classes are going well and are on schedule. A work day is planned for May 4th for students, parents, and advisors. Kacie Hatley Extension Agent, 4-H Youth Development, is the 4-H Chair.

STEM Students and Volunteers build a liter bottle greenhouse



Marci Jackson, Diane Furr, and Richard Morton volunteered at Oakboro STEM School January 29th and helped them build a greenhouse out of two-liter soft drink bottles. Richard said, "We got everything done except for the

roof and we had a blast. There were lots of kids, parents, and grandparents there to help out." This project began with the Sustainability Club but now has become a 4-H club project.

by Richard Morton

4-H JUNIOR MASTER GARDENER PROGRAM AT OAKBORO STEM SCHOOL

Last year, Science Teacher Hannah Griffin and parent Christina Edwards organized students to form the Sustainability Club. After obtaining materials, seeds, and plants from local businesses, Griffin and Edwards directed the students and their parents in planting several gardens behind the school.

Extension Master Gardener Richard Morton, an Oakboro resident, reached out to Griffin and Edwards after observing this awesome accomplishment; an alliance was formed with the EMG group.

Several other EMGs, as well as Dustin Adcock, Extension Agent, Agriculture - Field Crops and Horticulture joined Richard in presenting programs to the Sustainability Club.

This year Kacie Hatley, Extension Agent, 4-H Youth Development and Dustin worked with Hannah Griffin and Christina Edwards to form a 4-H Club with the goal of the members becoming Junior Master Gardeners. The EMG group is now involved in teaching lessons to the club on an every other week basis.

We are grateful to Kacie and Dustin for helping form this 4-H Club and for developing the curriculum; Hannah and Christina for being our community contacts (this is essential for community service projects); and the enthusiasm of the students and their parents.

by Laura Krug

Stanly County Historical Society Project



Side view of the Snuggs House



A profusion of *Leucojum* or summer snowflake is located on the Snuggs House gardens.



Existing flowers waiting to be identified.



Kay Hawkins trimming rose bushes.

Update on the Snuggs House Historical Project

The Extension Master Gardeners (EMG) work on the project involves 1) discovering what is growing at the site

and then 2) making plans from what we learn.

We have discovered several plants, some we are working to identify. Many irises (some of which are already blooming), the promise of peonies, some lovely yellow pansies, a volunteer magnolia tree, and a profusion of Summer Snowflake (*Leucojum*).

A few weeks ago Walt Deppe, Kay Hawkins, and Laura Krug trimmed the fig tree located on the south side of the Snuggs house. Last week Kay trimmed rose bushes while Laura dragged all the clippings to a pile in the driveway.

We said we'd just trim the rose bushes but a pair of pruning shears in a gardener's hand is kind of like a shopper going to the store for just two things. Needless to say, we generated a very large pile of branches and vines. Historical society member Joyce Lambert came by and instructed us to put our pile of brush at the end of the driveway.

Laura and Joyce made an effort to have the excavators at the Pfeiffer University construction site (adjoining property) to gently pull out four red quince bushes so they could be saved. Unfortunately, the person we talked to must not have been on site the day that area was cleared and the quinces were lost.

by Laura Krugg

Meet the Laura and Kay along with their well-earned trophy (the clipping pile).



Getting to Know Our Extension Master Gardeners

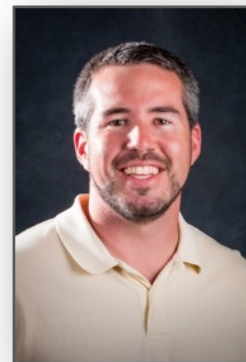
We begin this series with Dustin Adcock, Extension Agent, Agriculture - Field Crops and Horticulture because he was instrumental in re-establishing the Extension Master Gardener program. Dustin not only designed the curriculum but he, with the assistance of Brad Thompson, Extension Agent, Agriculture - Horticulture from Montgomery County, taught the first class of more than 20 students in the Fall of 2017. The second class of EMG was taught in the Fall of 2018.

Our goal with this series is to introduce each EMG so you will know their interests, their passions, and why they value the EMG program enough to volunteer their time and effort.

Dustin Adcock, Extension Agent, Agriculture - Field Crops and Horticulture:

1. **Where are you originally from?** Monroe, NC (specifically Unionville)

2. **Where do you currently live?** Monroe
3. **What made you decide to become a Master Gardener?** I've worked with Master Gardeners in other counties. When I came to Stanly, I was glad to have the opportunity and interest to start an EMG program up. For some time, I have only worked with edible plants and crops. It's so exciting for me to get to work with ornamentals more. EMG allows me an opportunity to teach more, which is what I enjoy.
4. **What is the most important lesson you learned during your EMG training?** I'm learning to continue learning. As the leader of the group, I have realized that differentiated learning styles apply to adults as much as it does to children. Therefore, the teaching strategies I use need to be flexible and customized to the learner.
5. **What are your main gardening interests? Are they the same as before you became an EMG?** I still love edible fruits and vegetables most. I'm learning more and more about native plant species and I love the application of my native plant knowledge being used in with edibles in the form of permaculture.
6. **What have been the greatest gardening changes you've made since teaching the EMG course ?** I am using more permaculture design techniques. Also, I am looking for opportunities for EMG to have a place to plant, learn, and grow in the area and around the Agri-Civic Center.
7. **What do you hope to bring to the Extension Master Gardener program this year to help us reach our objectives?** I hope to bring fresh ideas, excitement, and motivation to the group to accomplish all of their objectives. I hope that my teaching and leadership inspires and helps bring out the potential in every volunteer. I want the group to develop and continue building on the bond they have already formed.
8. **When you're not gardening, what are your other interests?** I love music, singing, and playing guitar/bass. I also read often and love escaping to the outdoors. I have a small farm and grow fresh produce and raise bees. My wife and I are quite the "wannabe foodies"; our favorite past time is trying new foods and restaurants.
9. **What would you like your fellow EMGer's to know about you?** I'm obsessed with old tractors and quirky plants! I believe laughter and happiness are something we have to actively pursue. It's my choice to wake up every day and decide what kind of person I want to be and reflect. I hope I am remembered for that type of personality and that others find my example to be contagious. I am not the world's best gardener, smartest horticulturalist, or best agriculture agent ... but I am happy and love working with people. If I show people some genuine compassion, they'll be okay with us learning together.



We will introduce another Extension Master Gardener in our next issue. If you are interested in becoming an EMG, contact Dustin for more information about our upcoming classes. 704-983-3897

What is a Pawpaw Tree?

The pawpaw is a fruit tree native to North America and was here long before the Native Americans migrated to this continent. The pawpaw once grew wild in every county in North Carolina, but due to land clearing they are now much harder to find in their native habitat

Hernando De Soto observed pawpaws during his expedition throughout the southeast United States in 1541; this is the first documentation of pawpaws by a European. Lewis and Clark ate pawpaws during their expedition and chilled pawpaws were President George Washington's favorite desert. Thomas Jefferson planted pawpaws at Monticello.

The pawpaw, a member of the Annonaceae family, is the only member of that family native to

North America. All remaining members grow in Central and South America. Its scientific name is *Asimina triloba*.

Pawpaws have large leaves approximately 4 to 5 inches wide and 10 to 12 inches long giving the tree a tropical appearance. Pawpaws may grow to a height of 35 feet. The foliage grows in an attractive pyramidal shape; but, if unkempt, pawpaws will form a clonal thicket. In the fall pawpaws have bright yellow leaves making them a good choice for landscaping.

The pawpaw produces the largest fruit of any native tree in North America. The fruit is approximately 2 to 3 inches in diameter and 4 to 6 inches long and may weigh as much as a pound. Pawpaw flesh has a taste described as a cross between banana and mango and is very nutritious.



Pawpaw seeds.



Pawpaw
booms.

Why have most people never seen a pawpaw? The answer is shelf life. Pawpaws become overripe in a few days, so that you will probably never see one in a grocery store, but may see them at a farmers market in late September or early October. Pawpaw fruit is very nutritious and actually has more vitamin C than an orange.

The pawpaw flower is red-purple or maroon and is 2 to 3 inches across. The flower has a faint fetid odor and does not attract honeybees. Fruit flies, carrion flies, and beetles pollinate pawpaws.

Actually, some pawpaw growers hang roadkill in their orchard to attract pollinators. Pawpaws are considered edible landscaping and *Asiminatriloba* is suitable for butterfly gardens as they attract the zebra swallowtail (*Eurytides marcellus*) for whom they are the exclusive larval host plant.

The twigs, roots, and leaves of the pawpaw contain a chemical called acetogenin that makes the tree deer resistant as well as resistant to most insect pests. Scientists at Purdue University have done research on acetogenin as a cancer fighting agent; the results of this research is very promising.



Pawpaw foliage.

Please visit <https://plants.ces.ncsu.edu/plants/all/asimina-triloba/> if you would like to learn more about growing pawpaws.

by Richard Morton

Native Plants 2019 Wildflower of the Year

We are hoping to pique your interest in native plants. You may wonder, "which plants are the best to plant, and how can I get the seeds?" One such plant is introduced to you in this installment of the series on Native Plants which is brought to you by the North Carolina Botanical Gardens and Garden Club of North Carolina.

Every year for the past 37 years these groups have worked together to choose a native plant that they promote by sharing seeds of the winner. This year's choice is Narrow-Leaf Mountain Mint (*Pycnanthemum tenuifolium*).

Native to central and eastern United States, it can be found in a variety of conditions. It flowers prolifically, attracting a large and varied amount of

native pollinator insects.

The long lasting flowers are a *must-have* for pollinator gardens. It is described as a well behaved mint and does not spread as much as mints are known to.

More history and positive attributes of this plant can be found in a brochure which comes complete with a seed packet and planting instructions.

To obtain your brochure, simply write a short note requesting the brochure along with a stamped, self-addressed envelope. Mail them to North Carolina Botanical Garden, UNC-Chapel Hill, CB 3375 , Chapel Hill, NC, 27599-3375

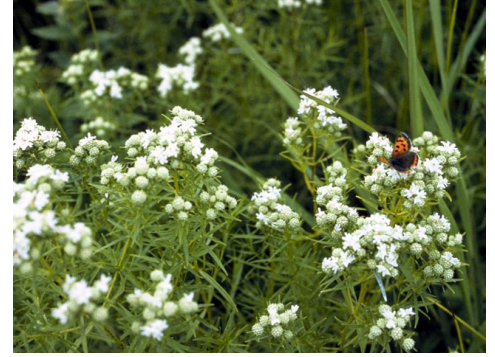
Submitted by Laura Krug and Kay Hawkins

For more information, visit the sites below:

North Carolina Botanical Garden
<http://ncbg.unc.edu/>

UNC Botanical Gardens
<https://gardens.uncc.edu/visiting-the-gardens/>

Lady Bird Johnson Wildflower Center
<https://www.wildflower.org/about/overview>



Pycnanthemum tenuifolium Schrad.
Narrowleaf Mountain Mint, Slender
Mountain Mint, Common
Horsemint Lamiaceae (Mint Family)

Can You Identify This Mystery Plant?



Photo by Elle_Ann, [CC BY-NC-ND - 2.0](#)

Appearing in late winter or early spring, this deciduous shrub is vigorous and free flowing with a very pleasant fragrance. A native of Japan, it is the earliest of the deciduous magnolias to flower and is frost sensitive. It is a nice accent shrub for small gardens with a medium texture.

Ornamental interests include spring blossoms, fragrant flowers, showy flowers and attractive bark. In winter it is covered with fat, silky-haired flower buds. Spring star shaped flowers open on bare branches and are composed of numerous 2- 4 inch narrow white petals. Flowers appear before leaves.

This shrub is pollinated by insects, specifically beetles. Woody carpels protect from beetle damage. Two inch mature fruit has a knobby cluster that opens to reveal reddish orange seeds. The fruit is not showy. This shrub has 2-4 inches long simple, light green elliptical leaves.

In fall leaves are modest yellow to bronze in color. This shrub should be planted in a sheltered location in sun or light shade and moist, well drained fertile soil (ranging from clay to sand).

This shrub tolerates heat. It rarely requires pruning. However, if left unpruned, it forms a broad spreading multi-stemmed upright shrub that can grow 10-20 feet in height and 10-15 feet in width. Shrub is suitable for zones 4-8.

by Wanda T. Tyner

Source: <https://plants.ces.ncsu.edu/>

(The answer is somewhere in this newsletter.)

What's Blooming in the Piedmont



Sumac *Rhus spp.*



Alsike Clover
Trifolium hybridum



Blackberry
Rubus spp.



Crimson Clover
Trifolium incarnatum

AVERAGE BLOOMING SEASON

Plant Name	Scientific Name	Start	Days	End
Sumac	<i>Rhus spp.</i>	3-Apr	151	1-Sep
Alsike Clover	<i>Trifolium hybridum</i>	4-Apr	102	15-Jul
Blackberry	<i>Rubus spp.</i>	10-Apr	20	30-Apr
Crimson Clover	<i>Trifolium incarnatum</i>	10-Apr	25	5-May
Ladino, White Clover	<i>Trifolium repens</i>	14-Apr	102	25-Jul
Tulip Poplar	<i>Liriodendrum tulipifera</i>	25-Apr	29	24-May

Black Gum	Nyssa sylvatica	26-Apr	14	10-May
Black Locust	Robinia pseudoacacia	27-Apr	10	7-May
Vetch	Vicia spp.	28-Apr	46	13-Jun
Holly	Ilex spp.	30-Apr	15	15-May
Raspberry	Rubus spp.	30-Apr	20	20-May
Privet	Ligustrum spp.	8-May	23	31-May
Persimmon	Diospyros virginiana	20-May	13	2-Jun
Sweet Clover	Melilotus spp.	28-May	37	4-Jul
Sourwood	Oxydendrum arboreum	10-Jun	20	30-Jun
Heartsease, Smartweed, Knotweed	Polygonum spp.	4-Jul	126	7-Nov
Goldenrod	Solidago spp.	8-Aug	67	14-Oct
Aster	Aster spp.	25-Sep	35	30-Oct

- [List of pollen sources](#)
- [Pollen Chart](#)
- *Garden Plants for Honey Bees*, P. Lindtner. Wicwas Press, Kalamazoo MI, 2014.
- <https://www.ncbeekeepers.org/resources/flowering-plants>
- [Flowering Plants in the Piedmont](#)

Caring about Pollinators

Identifying, Attracting, Feeding, and Building Pollinator Nesting Sites

Caring about pollinators begins with understanding them, their life cycle, their habitat needs, and the threats they face. Only then can you develop a strategy for helping them. After you identify the pollinators you want to attract to your garden you then begin selecting their food, water, and nesting materials.

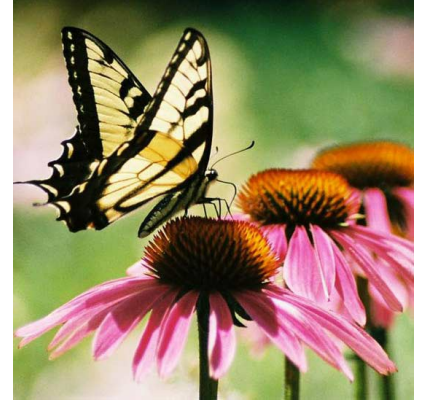
Why would we want to go to all this effort?

Because pollinators are essential for one third of all food is pollinated, the evolution of wildlife and native plants are intertwined, and pollination is the plant's way of reproduction: Seventy-five percent of plants rely on animals for pollination, whereas, twenty-five percent of plants depend on the wind to carry pollen.

The anatomy of a flower has evolved to where both insects and plants benefit from the relationship. Most flowers produce nectar which is a sweet food substance that attracts insects such as bees, butterflies, and hummingbirds. While insects are searching flowers for nectar, they inadvertently collect pollen from the male flower parts, known as stamen, then transfer it to the female parts, known as stigma, of other flowers. The benefit to the flower is that it gets pollinated and can reproduce while the benefit for the insect is that it gets the sweet food of nectar.

However, the flowers must first get the pollinator's attention. They do this in three clever ways: through brilliant *colors*, compelling *fragrances*, and advantageous *shapes*.

Since most pollinators fly, the flower color must attract them. The brighter the flower, the more likely it will be visited. Flower color also attracts specific pollinators: bees are attracted to bright blue and violet colors; hummingbirds prefer red, pink, fuchsia or purple flower; and, butterflies like bright colors such as yellow, orange, pink and red.



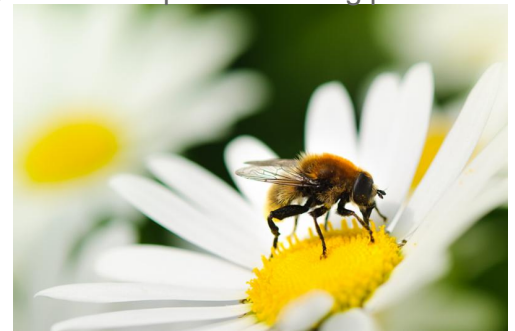
Swallow Tail butterfly on
Euchania.

Furthermore, insects **see** the flower's nectar via an *Infrared Syndrome*, also known as a *nectar guide* or honey guide which is visible to bees but not to humans. Infrared Syndrome is a series of polarized light patterns from different color wave lengths that the bee sees: a bee's version of GPS. Insects use these polarized light patterns as a navigating system and can hone in on nectar producing plants. What makes this a super power is that bees use polarized light to locate direction even when the sun isn't shining.

Scent is a signal directing pollinators to a particular flower whose nectar and/or pollen is the reward. Insect use their antennae for *feeling* and *smelling*: the fingers and nose of insects, so to speak. Flowers pollinated during the day tend to have brilliant colors and sweet scents, whereas night blooming flowers have musty, spicy, or fruity scents but softer colors to attract beetles, bats and moths. Plants emit maximum scent when they are ready for pollination; but, once pollinated their scent diminishes.

A wide variety of native plant flower **shapes** lure insects that have co-evolved along with the plants to 'fit' the flower, such as a long proboscis, or a particular body shape, or special landing requirements. The insect must be able to reach the nectar. A few examples include:

- **Lipped flowers:** Sage Family (*Lamiaceae*) or Pea family (*Fabaceae*) where the lip is the landing pad for bumblebees or solitary bees;
- **Open bowl-shaped:** Buttercup (*Ranunculus spp.*) attracts most insects; honeybee, bumblebee, solitary bees;
- **Daisy Family** (*Asteraceae*):
 - **Compound flower heads 'florets'** offers nectar for butterflies and mining bees,
 - **Brush-like flowers** (*Eupatorium*) attracts bees, hoverflies, and Butterflies/moths, and
 - **Larger central florets** (*Anthemis tinctoria*) offers pollen/nectar for honey bees;
- **Bunched flowers:** Teasel family (*Dipsacaceae*) attract Butterflies/moths, bees and hoverflies;
- **Deep tubes:** Monkshood (*Aconitum*), *Antirrhinum* (*A. braun-blanchetii*) attract deep throated bumblebees;
- **Small tubular center** *Dianthus caryophyllus* draw butterflies and moths, bees, and hoverflies;
- **Small, flat open flowers** Carrot family (*Apiaceae*) have flower bunches (umbels) that act as a magnet for hoverflies, small beetles, and solitary bees;
- **Small bowl-shaped** Geranium (*Geraniaceae*) with nectaries at the petal base attracts bumblebees.



Honey Bee on Daisy.

Typically, **exotic plants** (non-native plants) are not shaped for our native pollinators and most cannot reach the pollen for one reason or another.

In addition to shapes plants have evolved customized ways of being pollinated. For instance, **buzz pollination** (tomatoes, peppers, Geranium) attracts bumblebee and bees because their wing vibration releases nectar; and **wind pollinated** flowers like Meadow Rue (*Thalictrum*) are usually ignored except for some bumblebees.



Pollinators of all types face innumerable threats every day including pesticides, loss of habitat, alien plant/ animal invasions, and climate change. Helping them survive and prosper requires a healthy habitat. We can help by first learning to recognize their habitats, then either enhancing or restoring their landscape, and then managing the adapted landscape long-term.

Bumble bee on
XXXXX.

In rehabilitating pollinator habitats, start small then allow the landscape to prosper slowly yet gradually through the seasons. Offer a diverse selection of plants so pollinators will have an extended food system as well as a variety of nesting materials. Many insects need both nectar plants and larval host plants. While others, like birds, need grass for nests, bare ground for boring animals and everyone needs water. By all means, eliminate pesticides.

Meet the Pollinators

Pollinators include bees/wasps, beetles, flies, butterflies/moths, birds, and bats. While all of these pollinators need food, shelter, and water each has specific requirements based on their life cycle.

The majority of insects give birth by laying eggs: bees, wasps; flies; butterflies and moths have similar life cycles called *complete metamorphosis* consisting of four stages: egg, larvae, pupa, and adult. Complete metamorphosis is important because butterflies lay their eggs on host plants that support the larvae through their development to the caterpillar stage. When the adult emerges from the caterpillar stage, it flies from its larval host plant to surrounding nectar plants searching for food.

Incomplete Metabolism consists of three distinct stages: egg, nymph, and adult. Insects that have an incomplete metamorphosis life cycle include true bugs, grasshoppers, cockroaches, termites, praying mantises, crickets, and lice and are consider minor pollinators if not pests.

Sustainable pollinator habitats must provide year-round food, shelter/safety, and water. This includes patches of undisturbed grass, native trees, and shrubs for bumblebee nest sites and egg-laying sites for butterflies and moths as well as birdhouses, birdbaths, and feeders for a variety of birds.

Birds need places where they can **hide from predators** and inclement weather. Trees, shrubs, meadows, and even rock walls provide such shelter. Native trees and shrubs of different densities and heights give birds places of retreat and safety.

Where should I begin?

Begin by surveying your available habitat areas. Identify the pollinators your want to attract then plan your gardens and/or habitats. Identify available natural materials then provide supplemental materials as needed to build a sustainable habitat. Mitigate threats as often as needed to keep your pollinators safe. Finally, identify plants then implement your plan.

by Pat Allen

Remember your Garden Journal

TIP 1:

Write down details as you discover them so you'll remember them next season. Be able to make informed decisions by capturing information about your garden site, seasonal factors, plants, pests, projects, and expenses.

TIP 2:

Take a soil sample the first year; file your sample results sheets in your journal. Keep track of all your future soil sample tests in your journal. This way you'll be able to notice any patterns that are repeating themselves.

Stanly Gardener Quarterly is a newsletter supplying gardeners with unbiased, research-based information on gardens, lawns, and landscapes. Our readers are mainly Stanly County gardeners interested in a variety of gardening types, landscaping design, and permaculture.

Written by Stanly County Extension Master Gardener Volunteers (EMG), who have been trained and certified by NC State University and NC A&T State University horticulture faculty, our goal is to offer informative and timely articles on plants, gardening, garden design, pest management and gardening products.

(Answer to the Mystery Plant: *Magnolia stellata*, Common name: Star magnolia, Cultivars: Royal Star, Rubra)



NC State University and N.C. A&T State University work in tandem, along with federal, state and local governments, to form a strategic partnership called N.C. Cooperative Extension.