

A large, dense swarm of bees hangs from a tree branch, forming a large, irregular mass. The bees are brown and black, and their collective movement creates a textured, almost solid appearance. The swarm is surrounded by thin tree branches and small white blossoms, suggesting a spring setting. The background is a soft-focus view of more trees and foliage.

# North Carolina **Bee Buzz**

The Official Magazine of the NCSBA

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Photo: Brian Carlton



# North Carolina Bee Buzz Spring 2021



North Carolina State Beekeepers Association

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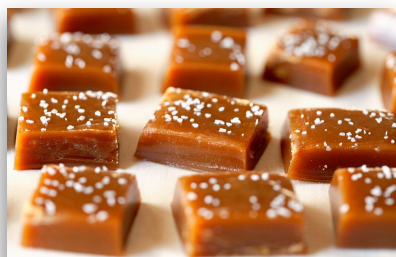
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On the Cover:  
Photo by Christi Henthorn

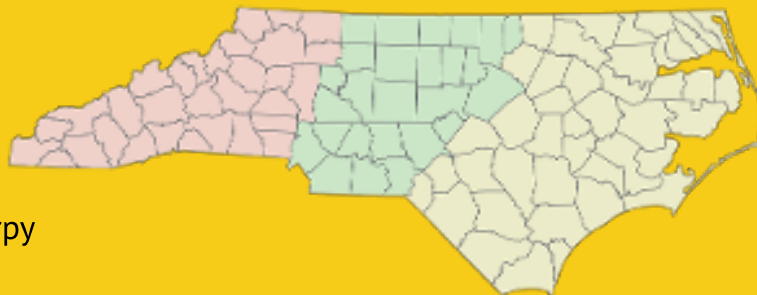
# North Carolina State Beekeepers Association



The mission of the NCSBA is to advance beekeeping in North Carolina through improved communication with members, improved education about beekeeping, and support of science enhancing the knowledge of beekeeping.

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*Contact information for the NCSBA Officers and Regional Directors can be found in your Yellow Book Directory and on the NCSBA website [www.ncbeekeepers.org](http://www.ncbeekeepers.org)*

Webmaster Todd Walker [webmaster@ncbeekeepers.org](mailto:webmaster@ncbeekeepers.org)

## From the *Bee Buzz* Editors:

***Bee Buzz* Story Submission Deadlines:** Spring : Jan 7 - Summer: Apr 21 - Fall: July 21 - Winter: Oct 21

We enthusiastically accept article and photo submissions! Please send us your articles and photos of news and information you'd like to share about your local association's latest events, successes and failures, a biography on a long-standing NCSBA member you would like to honor, or a young beekeeper you'd like to see highlighted. All honey bee-related topics will be considered for publication. While we regret that we cannot always include every submission, we will do our best to print as space permits. Submit your article in .doc or .docx format. Photos should be high quality jpg or tiff format. Please include a caption for photos. Do not embed captions in your photos or photos into your news article, but submit these as separate files. If you do not have access to a computer, we will accept typed or clearly handwritten articles. Mail written submissions to: *Bee Buzz* Submissions PO Box 1771 Pittsboro NC 27312.

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## Message From The President

by: Doug Vinson, NCSBA President

### MEETING PLANNING

As we move from 2020 into 2021, I am sure that we share some common wishes: healthy surviving beekeepers and healthy surviving honey bee colonies. As I mentioned in the *Winter Bee Buzz* edition, the NCSBA and North Carolina beekeepers have managed to co-exist reasonably well with the pandemic. Obviously the most difficult and disappointing aspect is the lack of in-person gatherings.

Regarding future planning, this is what we know now: The spring meeting planned for New Bern has been postponed. To continue our mission of education and to maintain connection within the membership, we have planned a web-based seminar series to be presented over three weeks in March and April. These will be Thursday evening sessions of about ninety minutes. March 18, 25 and April 1 are the dates. Please refer to 2nd VP Burton Beasley's detailed description of this event in this *Buzz* issue and on the NCSBA website, [ncbeekeepers.org](http://ncbeekeepers.org). I encourage everyone to take advantage of this educational opportunity and show your support for the effort put into it.

We continue to be optimistic regarding an in-person summer meeting if restrictions permit and health and safety of our members can be assured. A fall meeting with a reunion theme might be something to consider! This would allow more time for vaccine distribution and allow COVID-19 cases to significantly decline.

### NEWS FOR CHAPTERS

There is one inherent downside of quarterly magazine formats and that is, content current today may or may not be current nor pertinent when it is published and read. I am looking into some type of regular but brief NCSBA news update for chapters. This would in no way compete with the *Bee Buzz* which is a wonderful source of educational and informational material.

### FLORAL SOURCE IDENTIFICATION

In recent years there has been considerable interest in identifying floral sources of NC honey. Reasons being a combination of bragging rights and accuracy in labeling/advertising. Our most reliable source analyst has been Dr. Vaughn Bryant and staff, Texas A & M. It is common knowledge that Dr. Bryant is retiring, and that fact may lead to the slow death of identification by pollen analysis. The learning curve for pollen analysis is steep and lengthy; therefore, few are interested in developing proficiency in this area of bee science (palynology).

One of our members has located a privately-owned laboratory in Missouri (Sweetwater Science Labs) that is able to identify floral sources in honey samples. Because of the tedious and time-consuming nature of analysis of pollen, their margin is exceptionally low making it their

least favorite method. They feel that nectar analysis via NMR technology is just as, if not more, accurate than pollen. Of course, the accuracy of NMR is dependent on a sufficient sample size to create a database. Keep an eye out for more on this.

### APICULTURAL SCIENCE PROGRAM

Honey bee biological research at NCSU under the direction of Dr. David Tarpy is world renowned. Areas of queen health, reproductive energy and longevity are areas of particular interest for investigation. If you, like too many, have recently experienced difficulty in establishing productive colonies from package queens, you should be happy to know that this is an area that NCSU considers worthy of extensive research.

The fact that we had no summer meeting in 2020 had yet another negative impact, and that is our members did not have the opportunity to donate to the Apicultural Science Program at NCSU, either through their registration or via participation in the silent auction. I know that many of you generously donate directly to the NCSU Agricultural program. Thank you!

A recent review of our financials indicates that donations to the Apicultural Science Program from our members, and passed through via NCSBA, are less than 10% compared to 2019, and less than 5% of 2018. 2018 is a little skewed because of our successful Chapter Challenge that year.

Unfortunately grant funds have requirements restricting their use and state funding is very undependable and constantly reduced. For example, recently the purchase of a machine used for viral analysis necessitated salary reduction for some of Dr. Tarpy's staff.

Our association, with the membership numbers we have, has the opportunity and ability to give significant financial assistance to the program. Knowing this, I am announcing a *chapter and individual campaign* to solicit funding for a significant monetary gift to the Program. This will be an unrestricted gift. You will be getting information as to details of donating in future mailings to chapters and individuals.

*Please do not confuse this effort with assistance for a new field laboratory.* Major funding for that will have to come from the NC state budget (by way of the legislature). We have some valid reasons to believe that this item will be included in the 2021 budget. Hopefully, that will happen, and the budget is adopted by the legislature. There will be ample opportunity for the NCSBA to show our support of this project in the future.

This campaign is a great way for the NCSBA to continue our support of the Apicultural Science Program and the research that is being accomplished there.

Have a great spring of successful beekeeping!





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# BeeFeeders

## North Carolina Pollinator Plants

by: Ulana Stuart, NC State Extension Master Gardener Volunteer

### Honey bees often practice floral

fidelity which means they visit the same type of flower during their foraging trips. Floral fidelity makes honey bees efficient pollinators of agricultural crops and allows the production of varietal honeys. If you have many small groupings of different flower species scattered throughout your garden, you will attract native pollinators more than honey bees. Planting larger clumps or 'drifts' of a single flowering species will make your garden more attractive to honey bees. This points to the advantage of bushes and trees for bee feeders since they produce so many flowers in less space.

These hollies are an excellent selection of shrubs or trees that produce especially high amounts of pollen and nectar. Honey bees will swarm all over the white blooms when they are in full bloom. All hollies are dioecious which means the male and female flowers are on separate plants. If you want to provide berries for birds, you will need at least one male plant for multiple female plants and the male plant must be planted within 50 feet of the females. These male cultivars can be critical as hollies are important winter and spring forage sources for wild birds. Many of the cultivars described below may appear to be too large for your garden but these hollies can be successfully pruned to meet your space requirements.



*Ilex verticillata* 'Winter Red'

**Winterberry** (*Ilex verticillata*) is an amazing native deciduous shrub holly known for its profusion of small red berries on female plants from mid-autumn through winter. This shrub grows in zones 3 to 9 in full sun to shade but more sun means more flowers and berries. It

reaches 6 to 10 feet tall with a similar spread and has a nice architectural twist to the branches. In the wild, Winterberry is typically found in wetlands but is adaptable to gardens provided the soil doesn't dry out. Winterberry can be used for borders, hedging, rain gardens and erosion control along stream banks. The leaves are lance shaped, dark deep green in summer and then fall by winter to expose the fruit. Note below male and female cultivars have compatible flowering requirements. While there are many Winterberry cultivars, here are some easy-to-find favorites:

- 'Winter Red' is 6'-9' tall and wide and has an upright, rounded habit with lustrous dark green leaves. The large, profuse and bright red berries persist throughout the winter. Winter Red is a later-blooming variety.  
**Later-blooming male pollinators:** 'Southern Gentleman' or 'Apollo'
- 'Red Sprite' is a popular dwarf cultivar (2'-4' tall) with large, abundant red fruit often persisting to early spring. Glossy medium green leaves drop early. Red Sprite is an earlier-blooming variety.  
**Earlier-blooming male pollinators:** 'Jim Dandy', up to 10' tall and 'Raritan'

**Possumhaw** (*Ilex decidua*) is an underused native deciduous holly tree or large shrub. It is similar to the Winterberry holly but has silvery lustrous bark. It can be used for hedging, woodland gardens and rain gardens. It is tolerant of many soil conditions. In cultivation, Possumhaw grows 7-15 feet high and is  $\frac{3}{4}$  of that or equal in spread. It can grow in sun to part shade in zone 6-9. The leaves are smaller than Winterberry leaves. Here are two of the easiest cultivars to find:

- 'Warren's Red' cultivar grows to around 12'-20' feet with very glossy, dark green, persistent foliage and abundant bright red fruit. It is upright while young.
- 'Council Fire' cultivar is upright, rounded and grows 6'-15' tall with orange-red fruit. It keeps its dark green foliage longer than most.
- Male cultivar for pollination: 'Red Escort' up to 18' tall

If you need further assistance with holly cultivar choices seek out your reliable independent nursery and ask for help.

For more general information on hollies please visit:  
[https://plants.ces.ncsu.edu/find\\_a\\_plant/?q=Ilex](https://plants.ces.ncsu.edu/find_a_plant/?q=Ilex)





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## Master Beekeeper Program Receiving and Providing Mentoring

by Doug Galloway Master Beekeeper Program Chair

### Many Chapters are planning,

giving, or completing Beginning Beekeeping Classes at this time. Additionally, some supply houses, local community colleges and universities are also offering classes. Due to the challenges of Covid-19, the number of classes this year is limited, but it appears that the registration and attendance is strong, thus confirming the continued interest in stewarding our beloved honey bee. The nature of classes is rather varied, with Zoom classes dominating, but several are complying with CDC guidelines and offering person-to-person classes or hybrid classes allowing the students to attend either via Zoom or in person. The difficulty with either scenario is providing hands-on experience. Historically, this required students and instructors to work together in close proximity, something that is a bit harder to do in today's world. Mentoring just became a bigger challenge and so much more critical to support new beekeepers who are trying to learn the complexities of beekeeping and be successful.

Perhaps this is a good time to explore the definition of *mentoring*?

- A. Is offering to share knowledge via an article in your local, state, or national association's publication, mentoring?
- B. Is sharing knowledge via an article in a beekeeping periodical, state magazine, scientific journal, newspaper, or internet site, mentoring?
- C. Is presenting via Zoom at a school, beekeeper chapter, state, or national association event, mentoring?
- D. Is discussing beekeeping with a group of beekeepers at the local watering hole, restaurant, general store, bee supply shop, social distancing and properly masked of course, mentoring?
- E. Is mentoring when you are asked to help a fellow beekeeper with a specific problem, need or question?
- F. All the Above?

If you selected (F.), you pass. No certificate, no badge, no social recognition, just the personal satisfaction of knowing that you have shared your hard-earned knowledge with someone looking to provide quality stewardship to this fragile and special creature.

Your Master Beekeeper Program committee strives to contribute to the mentoring process by offering its insights, resources, reviews, and curriculum, along with

the many Certified, Journeyman, Master and Master Craftsman beekeepers it has recognized across the state. The information available at [www.ncbeekeepers.org/programs/mbp](http://www.ncbeekeepers.org/programs/mbp) is a great place to start for any beekeeper. From this website page: "Those beekeepers who are successful in the NCSBA Master Beekeeper Program are asked to sustain the integrity of the program by helping maintain consistent standards for evaluating future candidates at all levels. Further, successful candidates are asked to ethically represent the NCSBA MBP as faithful ambassadors of the program while promoting responsible beekeeping and community education."



NCSBA  
**MASTER**  
BEEKEEPER PROGRAM

You may not have participated in the Master Beekeeper Program on any level, but likely somewhere along the way an MBP-recognized beekeeper has shared their knowledge, enthusiasm, and appreciation for the honey bee with you. In these challenging times, we encourage you to pay it forward and find a way to support other beekeepers however and whenever you can.

### Know Your Numbers!

One of the most useful things a beekeeper can do for better management is to commit to memory the development times of workers (21 days), queens (16 days) and drones (24 days). In spring, colonies build up rapidly so beekeepers must walk the thin line between encouraging healthy growth in their colonies while reducing the risk of swarming- not an easy task. Swarming is often triggered by overcrowding in the brood nest. When an inspection in early spring reveals an abundance of newly laid eggs, beekeepers should be prepared with extra frames or boxes because in 3 short weeks, those eggs will be adult bees! The crowding that ensues will often trigger swarming behavior. Understanding the life cycle of honey bees will lend toward better management.



# In the Apiary: Spring 2021

by Jennifer Keller, NCSU Apiculture Technician



Spring is the best time of the year for beekeepers! The waiting is over, and you can finally see how your bees have done over the winter. Spring is also the busiest time of the year and it is the next two or three months that could determine your future as a beekeeper. If you plan ahead and keep up with your bees, they will most likely be productive and you will have an easier time during fall and winter. Otherwise, there may be extra work to do the rest of the season in trying to catch up.



*Jennifer Keller conducting early Spring inspections*

First inspections in spring should be relatively short but pay attention to detail. This is the time to determine how well the colony overwintered. Check on population size, food stores, the presence of a queen (or eggs), and the amount of capped and uncapped brood present in the hive. Make sure the bees and the brood appear healthy. If they are not healthy, it is important to determine the cause before getting much further into the season.

I am sure I don't need to talk about the importance of checking for varroa mites since that has been covered so many times already! Most beekeepers already know (and should know) that it is vitally important to determine mite levels early in the season using either a sugar shake or alcohol wash, or even scratching open some drone brood to inspect for the presence of mites. This way, if you sample and find high mite counts, you will have time to act prior to the honey flow. If mite counts are low, you now have a baseline with which to compare samples taken later in the season. It bears repeating how important it is to monitor for and manage varroa mites, even if you have already heard it a million times before!

My biggest advice for spring management is to plan ahead. Winter is the time to start thinking about what your goals are for the year. Are you trying to make honey this year? Are you wanting to increase the number of hives? Are you raising bees or queens in

hopes of selling? It is important to figure out what your goal is, and then develop a plan to achieve it. Do an inventory of equipment to determine what will be needed for the next few months and get everything ready now. It is easier to build boxes and frames in winter rather than trying to do it while the swarm is up in the tree!

Spring build-up seems to happen slowly but often overflowing hives and swarm cells catch us off guard. A hive may not seem crowded during one inspection, but just a few weeks later it looks like it could swarm at any moment. Once again this comes down to planning ahead. It is important to think one or two brood cycles ahead and plan accordingly. A typical early spring inspection will likely reveal a modest population of bees. It is common to find 6 or 7 frames of bees in a single deep box, which seems reasonable for that amount of space. It is also important to notice how many frames of capped brood are present, along with frames of eggs and open brood.



*A healthy frame of brood*

This is the season where the queen is laying the greatest number of eggs and the adult population is increasing by large numbers every day. So, in this same hive, if there are 5 frames of capped brood along with the 6 frames of bees, this hive will be extremely crowded very soon. Each deep frame has about 7000 cells, so in the next two weeks, there will be an additional 35,000 adult bees! For reference, a 3 lb. package has about 10-12,000 bees. If you are able to read what is occurring now and anticipate what will happen later, preventative action may be taken by adding an additional hive body or by making a split. If nothing is done until after the brood on the frames emerge, the colony's preparation for swarming may already be well underway by the time of the next inspection. At that point, there is little that can be done to stop it.



Feeding is typically not necessary at this time of year unless there is still a chance of extreme cold temperatures and the hive has no honey stored. Otherwise, a strong colony will be able to collect what it needs. Too much sugar water will result in reduced space for egg laying and will delay population build up. Likewise, there is no need to supply pollen patties at this time since there are plenty of flowers in bloom. Too much pollen in the hive can quickly lead to a problem with small hive beetles.

*Jennifer Keller has served as the Apiculture Technician at NCSU since 2003. She is responsible for maintaining healthy colonies for the multitude of research projects conducted at the NCSU Apiculture Lab under Dr. David Tarpy. Jennifer is also responsible for coordinating research projects and helping graduate and undergraduate students. She contributes extensively to NCSBA by way of presentations and workshops at chapter and state meetings and works closely with NCSBA and NCDA&CS apiary inspectors when dealing with statewide issues facing honey bees.*

*Prior to joining Dr. Tarpy's lab, Jennifer studied Apiculture under Dr. John Ambrose at NCSU, where she earned a Master of Science degree in Entomology. Her research focused on small hive beetles, which at the time had been recently introduced into North Carolina. Jennifer first became interested in honey bees while serving in the United States Peace Corps.*



Photo: Jody Moore

"Spring Swarm"

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# Wolfpack's Waggle:

## Spring Queen Problems and Their Diagnoses

by Dr. David Tarpy

Department of Entomology & Plant Pathology, NC State University



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**It is often said** that the top three management issues for beekeepers account for the vast majority (80-90%) of the problems that we face. The single largest issue—varroa mites—is always a challenge but particularly in the fall when their numbers escalate. Nutrition can be an issue pretty much at any time of the year, but if there is a season where it is of least concern it is during the spring when the main nectar and pollen flows are in full force. Queen problems, however, are often at their height in the spring, so right now is when you should be on the lookout.

Unforeseen queen problems vary widely in their causes and symptoms and further research is needed to really untangle that Gordian knot, but swarming and natural queen replacement still constitute the bulk of why colonies can have issues with queens. Regardless of the specific issue, what's really important to beekeepers is **how to detect whether or not your colony is experiencing a problem with replacing its queen** and, more importantly, what to do about it. Here, it's critically important to remember your biology of queen development (Fig. 1) since what to do when you find an issue with your queen will depend largely on when you're able to diagnose it. This is also why you absolutely should check each colony once every 7-10 days for queen cells, since if you don't problems can quickly arise.

**10 days since last inspection—Open and capped brood with queen cells present:** if you see queen cells, particularly capped but unemerged queen cells, you need to verify that the mother queen hasn't departed in a swarm. If you find her, then be sure to tear down each and every cell (you can't miss a single one or they'll swarm, and they can be hard to see so shake the bees off every frame to make sure!). You'll then need to decongest the brood nest by adding another brood box, checkerboarding, or making a split in order to reduce the swarming impulse; otherwise, you'll be right back in the same situation the following week. If you can't find the queen no matter how long you look or how hard you try, then assume she's gone and replace her ASAP.

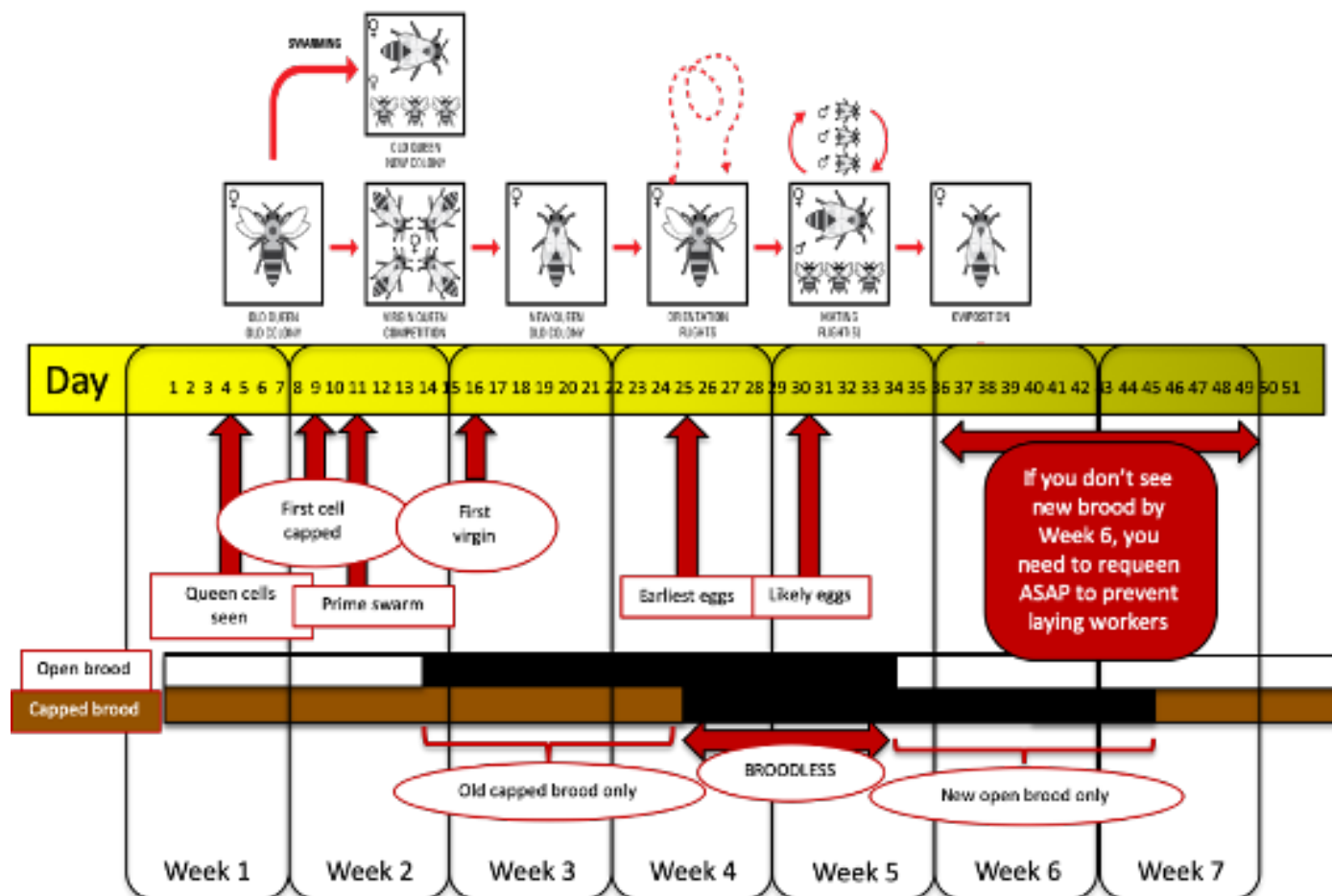
**20 days since last inspection—No eggs or larvae and only capped brood:** No open brood means the queen hasn't been laying for ~9 days, which is a problem no matter what. Check for queen cells and especially if any have

emerged (indicated by the cell cap being chewed off in a perfect circle). If none have emerged, then you still might have some time to split the colony or introduce a new queen immediately after tearing down all of the queen cells. If at least one cell has emerged, you have one or more virgin queens running around, which are almost impossible to find. In this case, you're already too late to requeen the colony with a mated queen—you'll have to wait another 20 days or so to see if they were successful in producing a new queen.

**30 days since last inspection—No eggs, larvae, or even capped brood:** If it's been a month since you've gone into your hive and you see zero brood, then you should immediately introduce a newly mated queen, right? Wrong! There's no brood because anything laid by the previous mother queen has all hatched out, but her replacement is still in the process of mating and laying eggs. So actually, it pays to be a bit patient here and wait a few days (up to a week) then check for newly laid eggs, which will be a sign that the new queen has come online. Also check for echoes of a queen replacement event, namely newly torn-down queen cells, that will give you an indication of what's happened over the last month.

**40 days since last inspection—Still no brood of any kind:** A new queen should be laying by this point, so if you still don't see any eggs or young larvae then something has gone awry. If you do see eggs but no larvae, then be triple-sure that there's only one egg per cell (multiple eggs per cell, of course, is a strong indication of laying workers). You can try to requeen the colony with a newly mated queen at this point, but that would only add another 3 weeks before new workers start to hatch out, so it would be preferable to unite the colony with another using the newspaper method then split the hive later on down the line.

As you can see, like with many things when it comes to honey bee management, an ounce of prevention is worth a pound of cure. Being proactive to deter swarming doesn't only help with your honey crop, it can also avoid preventable queen problems that can only compound issues later in the season. So, give each hive a thorough inspection every 7-10 days, and if you can't be sure you can spot potential queen problems if they might arise.



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### NCSBA Library Update

#### - Swarm Season -

It's that time of year again! Swarm season is my favorite time to be a beekeeper. I enjoy setting out bait hives and getting calls from people who have spotted swarms and want them gone! Those people also love to watch beekeepers catch the swarm... from what they hope will be a safe distance.

Want to review how others deal with swarms? Check out a DVD like *Free Bees for You* or *Swarm Plus* from the NCSBA collection. Simply go to the **Resources** section on our website, click on **NCSBA Library**, and follow the directions in the instructions. Selecting the bibliography link within the instructions will get you to the DVDs. Watching a DVD will get you ready for SWARM SEASON!

Do you have a favorite DVD that you would like to comment about? Send me an email!

Also, due to some recent concerns, patrons will be limited to checking out one DVD at a time.

Bob Kemper, NCSBA Fred Deer Librarian [kemper27530@gmail.com](mailto:kemper27530@gmail.com) 919-731-2146



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*J.D. & Betty Jean Foust*

## Telling the Bees



### Dr. Betty Jean Foust

by Charles Heatherly

Dr. Betty Jean Foust passed away Thursday Oct. 22, 2020. She was a teacher, and then a teacher of teachers, devoting her entire career to public education, the most noble of professions. Following an extensive teaching career, she was appointed Chief Reading Consultant for the NC Department of Public Instruction, a position she held until her retirement in 1987. In that role, she traveled throughout the state instructing teachers and principals about the best methods for teaching reading in NC classrooms. She authored a book, *Helping Your Child to Read*, which was the dissertation project for her Doctor of Education which she received from Duke University in 1973.

When her husband of 62 years, J D Foust began keeping honey bees in the early 90's, she became his dutiful assistant as he assumed various leadership roles in the North Carolina State Beekeepers Association, including President in 2003. Together they learned to cook with honey and won numerous blue ribbons for their delicious State Fair entries. Even today, their students of "Cooking with Honey" classes continue to win blue ribbons. For their extensive contributions to beekeeping, J D and Betty Jean were jointly awarded the NCSBA's prestigious Lifetime Achievement Award in 2006.

J.D. and Betty Jean Foust were an active part of our NCSBA for nearly two decades and made many lasting contributions.

## Telling the Bees



### Judy Pick

by Tara Lynne Groth



*Judy and her "Learning Hive"*

One of the founding members of CCBA in 1980, Judy Pick passed away on February 6, 2021. Newer members may not be aware of Judy's contributions because, for the past few years, illness prevented her from being active with the beekeeping community. An award-winning volunteer, Judy donated her time to the North Carolina Zoo Honey Bee Garden Exhibit, 4-H camp, Pittsboro's Pollinator Days at Chatham Mills, participated with our state beekeeper association, and educated the community in uncountable ways about honey bees.

Judy was known for always carrying around an observation hive. 2020 CCBA president Jody Moore shared that Judy liked to correct others and would say the observation hive is truly a "learning hive" since it's just a single frame. To honor Judy's insistence that observation hives should be called "learning hives", CCBA will install a plaque in her name on our observation hive and rename it a "learning hive." CCBA is also in the process of adding a sign to the 4C's bee yard, which will include a plaque in her memory.

#### **Our members describe Judy as:**

*Passionate beekeeper - Good and loved friend - Amazing woman - Sweet and pure soul*

*Gentle but strong spirit - Very funny*

These are all great things to be remembered for. There's a tradition in beekeeping called "telling the bees" and we tell the bees about life events. Visit your hives and tell your bees these great things about Judy.



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# Swarm Catching the Five County Way

by Jessica King, Tim Huffman and Keith McLaurin Five County Beekeepers

**It's Swarm Season,** the time of year where beekeepers rejoice at the prospect of getting "free bees" from neighboring colonies while at the same time, fearing the loss of our own bees to swarming. It's when beekeepers must navigate the tricky balance between colony build-up and swarm prevention. We need big, strong colonies if we want to get a lot of honey but the larger the colony, the greater the risk for swarming.

Swarming may occur because the growing population of bees has outgrown its current space and nurse bees feel crowded. Or, a colony may swarm simply because it is springtime, the natural season for colony reproduction. Regardless of *why*, working to prevent swarming is a main focus of spring management. Often beekeepers can take all measures possible to prevent it, but the bees swarm anyway simply because it is in their nature to do so. When this happens, our focus must shift from preventing swarms to catching them when they occur.

It is interesting to note that the worker bees control the swarming behavior, not the queen. When swarming is imminent, beekeepers may begin to notice increased activity outside the hive. Swarm cells will also be present, usually hanging from the bottom of brood frames. In further preparation, scout bees begin to make scouting trips to search for a new homesite. At the same time, the queen gets put on a diet so that she will be slim enough to fly. Meanwhile, the colony starts dividing itself up into two groups: those that will stay and those that will swarm.

Once the queen is light enough to fly and the weather appropriate, about 60% of the original population and the original queen leave the hive, leaving behind the rest of the colony and one or more swarm cells from which a new virgin queen/s will emerge. If only one swarm forms, the prevailing queen for the parent colony will be the one that emerges first and kills the other new queens. In very large populations, there may be "after swarms", smaller, secondary swarms that form with one of the other new virgin queens. In these situations, the worker bees will protect the secondary queens from the wrath of the first queen, so that there will be a queen available for any after swarms that may form. Beekeepers should expect to see a delay in the presence of eggs in colonies with virgin queens, as the queens must get mated before they can commence egg laying.

After an initial frenzy of bees leaving the hive, the swarm will gather on a nearby branch, fence post or similar temporary location prior to settling in their permanent new homesite. This is generally the best

time to capture the swarm, before they head off to their final destination. Keep in mind, you don't know how long a swarm will stay at its first destination. It could be a couple minutes or several days. Rarely, the bees may begin to build comb there. Once you see or hear of a swarm, it is best to act quickly. Don't stop for a sandwich on the way- they might be gone by the time you get there. Know that it is always a possibility that the swarm will not be there when you arrive to collect it. It is one of the gambles you take when swarm catching outside of your own apiary, something to keep in mind when deciding how far you are willing to travel for those "free bees".

Prior to leaving their original nest, the bees have engorged themselves on honey so that they have the energy to start building their new home once they arrive at their final location. This, and the fact that they don't have a home to protect at the moment, generally makes swarms very docile and easy to handle. It is one of the reasons why it is not necessary to use a smoker when collecting swarms. Smokers may also block the pheromone of the queen.



Photo: Keith McLaurin

OK, you see a swarm, or your friend calls you about a swarm. What next? The following are questions you should consider before rushing off to collect it:

- Is it *really* a swarm of honey bees? People generally have good intentions, but many do not know enough about honey bees or swarming behavior to understand what they are seeing. What they think is a honey bee swarm may actually be something else, such as a nest



of bumble bees, yellow jackets or bald-faced hornets, or simply a large group of worker bees robbing out a hummingbird feeder. Ask for a photo! Timing also matters. If you get a “swarm call” in September, be wary.

- Where is it located? Is the swarm 40 miles away, or a couple of blocks away? Is it on a sign on the median of a busy highway? Is it free-hanging from a branch or have the bees nested underneath the siding of a house? Many “swarm calls” turn out to be cutouts, which are much more involved than simply collecting a swarm. Cutouts require cutting away the house or building in order to access the nest. Cutouts are not for amateur swarm catchers.

- How high off the ground is the swarm? If somewhere outside of your apiary, ask to see a picture of the swarm with something in the foreground so that you can gauge the approximate height. Don't rely on the person's “best guess”, as a misjudgment could be off by enough height to be a deal breaker. Most of us have a limit to how high we are willing to go in order to collect a swarm. Know your personal limits, and the height of your ladder or scaffolding before setting off to collect the swarm.

- If the swarm is hanging off a branch, never assume you can cut off the branch! It might be the homeowner's 50-year-old apple tree or prized rose bush. Always ask if cutting off a branch is a possibility.

- How long has the swarm been there? As soon as the colony decides which scout bee found the best permanent homesite, they will quickly leave the temporary post. Swarm collecting should be carried out as soon as possible.

items to have in a swarm kit. All of these items will not be used in every situation. However, many beekeepers on “swarm lists” keep these or similar items in their vehicle during swarm season so that they will be ready to go for a variety of situations when a swarm call comes in.



Photo: Tim Huffman

- A ladder or scaffold
- 5-gallon bucket attached to a pole with (might be used in lieu of a ladder, or for swarms slightly out of reach from your ladder or scaffold)
- A bed sheet or plank (to help the bees march into the hive box or transport container)
- Pruning shears (again, no cutting without prior approval!)
- Smoker (generally not needed to catch the swarm but might be good to smoke the area after the swarm is caught so that the bees are not attracted there any longer)
- Bee brush
- A poster board
- Queen clip/cage (in case you get lucky and see the queen, so you can trap her)
- An 8-frame or 10-frame complete hive including bottom board and inner and outer covers, and possibly an extra hive body or a 5-gallon bucket, swarm trap or something similar to use as a temporary container for transporting the bees back to your apiary
- Ratchet tie-down straps to strap the hive components together once the bees are in there
- A way to shut off the entrance if collecting into a hive (it's not helpful to have them flying around in the car as you are driving!). Remember, bees need air so that they don't get overheated. Here are some options for closing off the entrance while transporting a swarm in a hive:



Photo: Darryl Gabritsch

After assessing the situation and deciding to move forward with attempting to collect the swarm, what should you take with you? The following are useful



- If a screened bottom board, then a wet rag is a good entrance stopper
- Entrance reducer with screen to close off the entrance hole
- A screened top with a hive top on that to not let the sun overheat the bees
- If collecting the bees into a temporary container, make sure the lid of the container has a screen or some sort of ventilation
- Lemongrass oil (if using a bait trap)
- Sugar water (to spray on a frame to draw them in or to mist the bees to keep them from flying)
- Protective gear (even though they are calm you don't want them accidentally coming down on your unprotected head!)
- Patience



Photo: Keith McLaurin

Swarms can be collected passively or actively. For collecting a swarm passively, you can set up a swarm bait trap near the swarm in hopes that the bees move into the box on their own. Bait boxes can be commercial swarm traps or regular hive boxes, that are equipped with a lure of lemongrass or other commercial swarm lure to add to the attractiveness of the box. If using a regular hive box, including a few frames of old, drawn comb may also be attractive to the bees. When practical, a bait trap works best when suspended about 15 ft in the air. However, beekeepers have been successful with bait hives placed much lower, or directly on the ground. Once the bait trap is set up, it's simply a matter of waiting to see if the bees move into the hive on their own. Bait boxes are a good

option if the swarm is too high up or in a location where it is not safe to retrieve them.



Photo: Jessica King

The other method for collecting a swarm is to physically collect the cluster into a hive box or temporary container for transporting back to your apiary. There are many ways to accomplish this, but the following are some of the more common ways. If you are lucky, the swarm is in a tight cluster hanging from a low branch, from which you can simply shake the bees into the hive or container. Or, you can shake the branch to release the swarm directly onto the ground. If you can trap the queen, the queen cage can then be placed inside the hive or container. Then place a bed sheet or plank as a pathway from where the cluster fell directly to the hive or container. The bees will often march right in! Really, they will. It's quite something to see.



Photo: Tim Huffman

More likely, getting the swarm into your hive box or container will be a bit more challenging! If a swarm has settled on a wall under the eaves of a house, for example, you can use a poster board to serve as a scoop to funnel the bees into the container. Another common method of collecting free-hanging swarms is to use a 5-gallon bucket attached to a telescoping pole that can reach the cluster. Gently jostling the bucket over the cluster will cause the cluster to drop into the bucket, which can then be lowered and closed off with a



*Continued from Previous Page*

vented lid or poured directly into the hive. Some beekeepers use commercial or DIY "bee" vacuums to collect swarms that are within reach. Keep in mind that the vacuums must be made especially for vacuuming bees, as regular vacuums produce too much suction and will injure or kill the bees.

Photo: Five County Beekeepers



Beekeepers have successfully collected swarms using a variety of methods. The main consideration is to use common sense and all applicable safety measures so that those "free bees" don't turn into a \$1,000 visit to the emergency room.

Photo: Five County Beekeepers



Now that you have the swarm, what's next? First, thank the person for calling you! Once the bees are in the hive box you have the choice of taking the bees

home right then but losing some of the foragers or you could leave the hive until dark and then come back and pick up the whole hive. This decision really depends on how far you are from the swarm location and if you are willing and able to come back. It also depends on whether the person whose home you are getting the swarm from is okay with some stragglers if you take the hive before dark.

Photo: Darryl Gabritsch



After you get the hive home, if you don't already have all of the frames in the box, remember to add a full set of frames. Swarm bees can start building very quickly and will pull comb off the lid if there are no frames to pull it from. Also, if you have a frame of uncapped brood from another hive to put in the box, that can help keep them in their new home. Swarm bees have been known to leave.

If the bees are in a bucket or other transport container, getting them into a hive is as simple as gently shaking them in, as you would a package of bees, or dumping them onto the ground in front of the hive and using the sheet or plank pathway to guide them into the hive on their own.

Once the bees are in the hive, keep an eye on them for the next few days. If you see them bringing in pollen you can be pretty sure they have decided to stay.

**Happy Swarm Catching!!**



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# NCSBA WEB SERIES

Dear Members of NCSBA,

I hope this message finds you in good health and we hope for the continued well-being of yourself, your family and loved ones, and friends. The Covid-19 era has hit us all hard and we are looking forward to when we can all gather in fellowship with other beekeepers once again. We understand that many may be discouraged or frustrated that we weren't able to host our usual summer conference last year and also have had to cancel our regularly scheduled spring conference this year in New Bern. We want you to know that we share your frustrations, but we have put the health and well-being of all our members first. Much of our membership is an at-risk demographic and we could not in good faith or legally hold a large group conference like we normally do.

Even though we haven't been having conferences, your Executive Committee and Board of Directors have been meeting to find ways to move our organization forward. It is in this spirit that we have decided to give back to our membership, for the good of the hive! We will be hosting a weekly Web series beginning in mid-March, hosting notable speakers from the honey bee world to present to our NCSBA membership at the steep price of on-the-house. We hope that you will join us and take advantage of the great speakers we have lined up for you. You will find below the dates, speakers, topics, and short bios on the speakers. We are hopeful that by summer there may be a possibility of an in-person conference, but it is too early to say with certainty.

Be on the lookout for more information on how to access the presentations from 1st VP Frederick Proni and message from the President Doug Vinson regarding any other details for NCSBA, conferences, & NCSBA programs for 2021.

Sincerely,

Burton Beasley

2nd VP of NCSBA

**March 18, 2021: 7pm-9pm Est**

## **Sam Comfort: Anarchy Apiaries**

**Topic: The Good, the Bad, and the Bugly: Recent Efforts to Simplify a Complex Bee World**

After winning 6 hives in a poker game, Sam Comfort worked for several years in commercial beekeeping across America. He started Anarchy Apiaries in 2005 to explore permaculture ideas of low input natural cycles. He breeds queens from hardy survivors, experiments with splitting techniques, and messes around with hive designs. His mission is to 1) make more beehives than there are televisions, and 2) have a good time, all the time (with bees). Anarchy Apiaries runs around 1000 hives that split seasonally into around 2000 mating



*Sam Comfort*

nucs with no treatments, minimal feeding, and do-it-yourself hive boxes in New York, Florida and spots in between. Through teaching independent, biological beekeeping, he hopes to make it more affordable, approachable, and enjoyable; thus, bring the means of production back to the beekeeper.

@anarchyapiaries

[www.anarchyapiaries.org](http://www.anarchyapiaries.org)



*Dr. Margaret J. Couvillion*

**March 25, 2021: 5:30-715pm Est**

**Dr. Margaret J. Couvillion Assistant  
Prof. of Pollinator Biology & Ecology**

**Dept. of Entomology, Virginia Tech**

**Topic: Dancing bees bio-indicate landscape profitability  
for pollinators**

I am a broadly trained bee researcher with a particular interest in the foraging and recruitment behaviors of the honey bee. I earned my undergraduate degree from Loyola University in New Orleans (B.S. in Biology, minor in Chemistry) and then spent a year as an AmeriCorps \*NCCC volunteer. I completed a M.S. in Neurobiology at Duke University before moving overseas for my Ph.D. with Professor Francis Ratnieks at the University of Sheffield, where I investigated mechanisms of nestmate recognition in honey bees and stingless bees. As a postdoctoral

researcher with Professor Anna Dornhaus at the University of Arizona, I investigated proximate and ultimate explanations for worker size variation in the bumble bee *Bombus impatiens*. For a second postdoc, I rejoined the lab of Francis Ratnieks, now at the University of Sussex in Brighton, England. There I worked to develop the honey bee, in particular its waggle dance communication, as a bioindicator for the "health" of the British landscape.



*Mike Palmer*

**April 1, 2021 7:00-9:00pm Est**

**Mike Palmer: French Hill Apiaries**

**Topic: A Year at French Hill Apiaries – An overview of  
the management that goes into a commercial apiary**

Mike Palmer bought his first two packages of bees from FW Jones Company of Quebec in 1974. They cost \$10.50 delivered. Neither colony made it through the first winter, but he kept trying and built up to 200 hives by 1981.

In 1982, Mike got a job managing the bees owned by Chazy Orchards in Chazy, New York and did so until 1986. Then he convinced Chazy to sell their bees to him, so at that time, he had more than 600 colonies.

Mike began raising his own queens in 1998 and has been doing so ever since. Today, Mike raises about 1200 queens and manages over 1000 colonies, with some 600-700 production colonies, and hundreds of nucleus colonies.

He has lectured on his methods of beekeeping all over the world

**\*\*April 8th, 2021: We are currently working on the  
possibility of hosting a 4th speaker\*\***



# COOKING WITH HONEY

## Winning Recipes

Complied by: Melinda Miller

### Blackberry Lavender Jelly (First Place 2018)

#### Ingredients:

3 pounds fresh or frozen blackberries

1  $\frac{3}{4}$  cups of honey

1 teaspoon of lavender buds

1 package of low sugar/ no sugar Sure-Jell

#### Directions:

Cook blackberries and lavender buds in a large stockpot for 15- 20 minutes. Strain blackberry juice and measure out 2 cups of blackberry juice.

Add juice and pectin and honey back into stock pot. Boil hard for 2 minutes. Make sure jelly coats the back of a spoon. If not, keep boiling until it does.

Pour jelly into sterilized jars. Seal.



### Pumpkin Salted Caramel

#### Ingredients:

1  $\frac{3}{4}$  cup of heavy cream

$\frac{1}{2}$  of 15 ounce can of pumpkin

$\frac{1}{3}$  cup honey

$\frac{1}{2}$  teaspoon ground cinnamon

$\frac{1}{4}$  teaspoon ground ginger

1 Tablespoon coconut oil

$\frac{1}{2}$  teaspoon sea salt

#### Directions:

In a saucepan, combine all ingredients except for the last two listed. Cook over medium heat until boiling, stirring constantly. Allow to bubble and simmer for 20 minutes or until mixture thickens and reduces.

Remove from heat and stir in coconut oil and sea salt. Sauce will thicken more as it cools.



### Strawberry Lime Poppyseed Vinaigrette (First Place 2017)

#### Ingredients:

$\frac{1}{4}$  cup chopped strawberries

$\frac{1}{4}$  lime juice

$\frac{1}{4}$  cup olive oil

1 Tablespoon honey

1 teaspoon poppy seeds

#### Directions:

Combine all ingredients except poppy seeds in a blender. Blend until smooth. Stir in poppy seeds. Refrigerate.



# Fig and Chai Tea Quick Bread

## Ingredients:

- 2 ¼ cups all-purpose flour
- 1 teaspoon baking soda
- ¾ teaspoon kosher salt
- 1 cup brewed chai tea (use 2 tea bags)
- 1/3 cup yogurt
- ½ cup honey
- 1 ½ teaspoons vanilla extract
- 1 cup chopped dried figs
- ½ cup chopped pecans (optional)

## Directions:

Preheat oven to 350 degrees. Grease a 9x5 loaf pan. Set aside. Steep 2 chai tea bags in 1 cup of hot water for 5 minutes. Set aside to cool.

In a medium bowl, combine flour, baking soda, and salt. Mix well with whisk to combine. In a separate bowl, combine the chai tea, yogurt, honey, and vanilla extract. Add the dry ingredients to the wet ingredients. Mix until no lumps remain. Fold in the figs and pecans.

Pour the batter into the prepared pans. Smack the pan on the counter to let any air bubbles escape. Bake 45-60 minutes or until a toothpick inserted in the middle comes out clean. Allow to cool for 15 minutes before removing from the pan.



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# Bee Gardening

## Spring into Action for Bees All Year Long!

by: Steve Amerige NC Beekeeper & Gardener

**We are at that perfect time** of year to plan a pollinator garden for all four seasons! Honey bees and other pollinators are under stress and will benefit from our help. Being one with nature and having a garden of any size reaps rewards for us *and* the bees all year long!

This article may be used as a guide when planning your four-season garden. The plant list is especially designed to be used as a reference page.

### Planting to Attract Bees

- Plant in Large Groups:** Honey bees are drawn to many plants of the same species in one large area.
- Plant Type:** Honey bees are not native to the Americas so a mix of non-native and native plants will give your bees a competitive advantage while still attracting other pollinators such as butterflies to your garden. Perennials offer more nectar than annuals.
- Plant Species:** Plant species that bloom at different times of the year and cover all four seasons.
- Smells:** Plant scented herbs with sweet fragrances: bee balm, lavender, clematis, phlox, sage, etc.
- Flower Shape:** Open, flat, or shallow tubular flowers loaded with nectar and pollen draw bees. Consider adding clover to your yard.
- Flower color:** Bees primarily prefer purple, violet, and blue. Bees see UV/Blue/Green. Secondary colors are Yellow, Orange, and White.

### What do Bees Dislike or Ignore?

- Plant Type:** Double flowers make it difficult for honey bees to gather nectar and pollen.
- Smells:** Honey bees avoid garlic, peppermint, geraniums, marigolds, roses, wormwood, and cucumbers. Bees also avoid pest and plant management products such as citronella, soap, vinegar, mothballs, and cloves.
- Flower Shape:** Hard-to-access flowers with a trumpet

shape or no convenient landing pad are not favored by honey bees.

•**Flower color:** Red—it looks black to bees.

### Companion Plants

Mix herbs into your garden to entice even more pollinators and to provide host plants for butterflies. Include basil, dill, oregano, sage, thyme, fennel, and parsley. You can harvest some and let the rest go to flower. You can also mix in evergreen plants and ornamental grasses to give your garden year-round eye appeal. Enjoy!

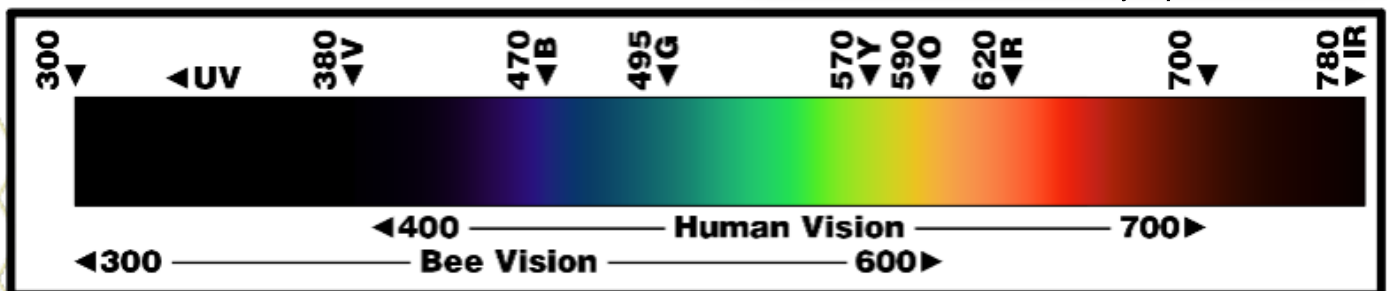
### Garden for the Bees. Plant for all seasons.

*Family > Genus > Species > Variety* is the lower end of plant taxonomy classification. In the list below, varieties that are shown in quotes are just examples. *Cultivars* are varieties produced by selective breeding and may be sterile or will not self-propagate and thus may offer no pollen. Ask your nursery whether specific plants are sterile hybrids. Choose within a *species*, generally from non-sterile plants, at your local nursery.

There is a lot more that could be said. But the best way is to just get started. Pick an area for your planting, look over the list, put in plants, and have fun watching the bees and pollinators all year long!



"Bee on Anise Hyssop"



## 4 Season Pollinator Plant Starter List

Bee Magnet 
 Pollen 
 Nectar 
 Native 
 Deer Resistant 
 Invasive  
 Tree 
 Full Sun 
 Part Sun 
 Shade 
 Height x Spread 
 Blooms

### Spring

*Acer rubrum* (Red Maple)  
 40-70 x 30-50 Feb-Apr  
*Amsonia tabernaemontana* (Blue Star)  
 2-3 x 2-3 May  
*Aquilegia canadensis* (Eastern Columbine)  
 2-3 x 1-2 Apr-May  
*Chrysogonum virginianum* (Green and Gold)  
 6" x 12"   
*Dianthus barbatus* (Sweet William)  
 1-2 x 1/2-1 May-frost  
*Erysimum cheiri* (Wallflower)  
 1/2-2 x 1/2-1 1/2 Apr-Jun  
*Illium giganteum* (Ornamental Onion)  
 3-5 x 1-2 May-Jun  
*Nepeta racemosa* (Walker's Low/Catmint)  
 1-2 x 1-2 Apr-Sep  
*Nyssa sylvatica* (Black Gum)  
 30-50 x 20-30 May-Jun  
*Penstemon* spp. (shallow e.g.: Bearded Tongue)  
 3-5 x 1 1/2-2 Apr-Jun  
*Trifolium repens* (White clover)  
 4" x 12" May-Jun

### Autumn

*Helianthus angustifolius* spp. (Narrowleaf Sunflower)  
 3-4+ x 3-4+ Jul-frost  
*Liatris scariosa* (Blazing Star)  
 2-4 x 1-2 Aug-Oct  
*Liatris spicata* (Blazing Star)  
 2-4 x 3/4-1 1/2 Jul-Aug  
*Salvia leucantha* (Mexican Bush Sage)  
 2-3 x 2-3 Aug-frost  
*Solidago* 'Crown of Rays' (Goldenrod)  
 2-3 x 1-2 Jul-Sep  
*Solidago rugosa* 'Fireworks' (Rough Goldenrod)  
 2 1/2-3 x 2 1/2-3 Sep-Oct  
*Symphotrichum lateriflorum* (Wht. Woodland Aster)  
 2-3 x 2-3 Sep-Dec  
*Symphotrichum oblongifolium* (Aromatic Aster)  
 1-3 x 1-3 Aug-Sep

### Summer

*Agastache foeniculum* (Anise Hyssop)  
 2-4 x 1/2-3 Jun-Sep  
*Clethra alnifolia* (Sweet Pepperbush)  
 2-4 x 2-3 Jul-Aug  
*Eryngium yuccifolium* (Rattlesnake master)  
 4-5 x 2-3  
*Eutrochium dubium* spp. (Joe Pye Weed)  
 3-4+ x 1-3+ Jul-Sep  
*Lavandula* spp. (Lavender)  
 2-3 x 2-4 Jun-Aug  
*Monarda didyma* (Bee Balm)  
 2-4 x 2-3 Jul-Aug  
*Pycnanthemum muticum* (Blunt Mountainmint)  
 1-3 x 1-3 Jul-Sep  
*Salvia guaranitica* 'Black & Blue' (Anise-Scented Sage)  
 2-5 x 2-5 Jul-Dec  
*Salvia rosmarinus* (Rosemary)  
 2-6 x 2-4 Jun-Jul  
*Stachys byzantina* (Lamb's Ears)  
 3/4-1 1/2 x 1-1 1/2 May-Jul  
*Vitex agnus-castus* (Lilac Chaste Tree)  
 8-10 x 5-8 Jul-Aug

### Winter

*Daphne* spp. (Daphne)  
 3 x 3 Late Winter  
*Mahonia eurybracteata* 'Soft Caress'  
 3 x 3 Dec-Apr  
*Pieris japonica* (Japanese Pieris)  
 9-12 x 6-8 Apr  
*Salix discolor* (Pussy Willow) dioecious: male/female  
 6-15 x 4-12 Mar-Apr

### References

- NC Beekeepers Association Resources  
<https://www.ncbeekeepers.org/resources>
- Pollinator Conservation Guide  
<https://growingmallfarms.ces.ncsu.edu/growingmallfarms-pollinatorgarden>
- North Carolina Native Plant Society  
<https://ncwildflower.org>



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