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North Carolina State Beekeepers Association

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On the Cover: Chatham County Beekeeper David Jones checks his swarm traps

NC Bee Buzz - Summer 2021

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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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

As I mentioned in a previous article, the NCSBA is not operating in a bubble but our activities have certainly been adversely affected by Covid-19. One of the most disturbing and disappointing aspects is the lack of in-persons meetings. In place of our Spring Meeting, we were able to present a no cost, three-part web series to our membership. These were three separate topics from three separate speakers. This effort was very well received, and I have heard nothing but complimentary remarks regarding it. Thanks to Burton Beasley for making this happen.

I am incredibly happy to announce that we are planning an in-person **Summer Meeting to be held November 19 – 20, 2021.** The location will be the Hickory Metro Convention Center, Hickory NC. It will be great to again meet in person! One downside to a later date is that we will again have to do officer elections via electronic process. Remember, if you wish to vote you must have an accurate email address in your profile information.

The Riverfront Convention Center in New Bern will be the location for our **Spring 2022 Meeting. March 3-5, 2022** are the dates. Hickory Metro is being considered for Summer 2022, but they are starting a large expansion project which may negatively influence that decision.

A 4-H grant was recently awarded to Johnson County to assist with the purchase of protective equipment for 4-H youth. Beekeeping activity in 4-H programs is always encouraging in that it may be starting the beekeepers of the future.

MBP testing is set to resume in late June after being restricted for a long time. See more regarding MBP news in this *Buzz* issue.

The NC State Fair Committee has announced that fair activity will resume in October 2021. Hopefully, our association will be able to again have our honey sales booth. Having chapters do blocks and or days as booth volunteers worked well in the past so look for something similar this year. Thanks in advance!

Surprisingly, memberships and renewals have been strong and that speaks to the resiliency of the NCSBA!

Local chapters continue to demonstrate their desire to remain viable and productive. Just credit must be given for efforts put forth in response to the pandemic with virtual meetings and other innovative activities.

The state legislature is working on a new budget and if we can believe what we read and hear, there is plenty of money to go around, excess in fact, so if you have any opportunity to interact with your state legislative representatives, PLEASE refer to the needs of the NCSU Apiculture Program and especially the need for budget assistance with construction of a new field laboratory.

Beekeeping during spring months reminds me of activities that require a lot of planning and preparation much like a large wedding. The emotional highs and lows are higher and lower than any other time in the beekeeping year. Unlike the wedding, beekeeping does not end with a one-day ceremony and celebration.

Despite the ongoing trials and tribulations of spring management, the wonder of brood nest development, honey storage and swarming (or the lack thereof) continue to fascinate even the well-seasoned keeper.

Early summer, where we are now, is pretty much set up as a direct result of that early planning and preparation. By this time, we know what we have as far as production colonies and the scale of the honey flow in our individual locale. This information will dictate your next phase. Planning for mid-summer management must begin now in order to maximize effectiveness.

New beekeepers (and others) need to recognize early on that beekeeping year segments overlap tremendously. Failure to do so will either make your beekeeping experience miserable or end it.

Having worked with a many new beekeepers I see a repetitive feature, that is the tendency to look for a 1-2-3 or ordered approach to colony management. Given, there are many established beekeeping dos and don'ts that need to be adhered to, there will also be many unique situations that require "right now" judgment calls. We will not always get it right but the times that we do give us confidence to continue to make management decisions that may not fit the accepted norm and the times that we do not are great lessons. I am not suggesting wild and crazy abandonment of accepted management practice, but there may not be an accepted practice for your problem/issue; therefore, apply what you know and the best logic you can and proceed.

My sermonette is prompted primarily by the fact that we are having so many new beekeepers coming out of our chapter bee schools this spring. Most school participants will become NCSBA members through that process and thus receive this publication. What a great tribute to our faithful chapters for their efforts to offer beekeeping training during such challenging times! As I hear more about those along with creative ways for Certified testing, the more I realize that the dog is correctly wagging the tail, not the other way around.

Here is hoping all your supers are filling to the max!

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North Carolina Pollinator Plants

by: Ulana Stuart, NC State Extension Master Gardener Volunteer

Many of you have wondered why a

particular plant in your BeeFeeder garden did not attract bees the way it did the previous year. I remember one year my honey bees were all over a particular redbud tree but the next year there was no attraction at all! Keep reminding yourself that bees make their choices by going to what THEY like best at that particular time.

One reason is nectar flow quality and quantity can vary greatly year to year based on growing conditions, which also vary. Nectar flow is affected by many factors that may be beyond our control: soil chemistry, temperature, number of hours of sunlight, amount of rainfall, and humidity.

Another important variable affecting forage choices is honey bee communication in the hive. A scout bee's excitement can vary as they perform their dance language. Some scout bees can be more persuasive and compelling while others are ignored. Close observation will reveal two hives sitting next to each other foraging in two different locations.

Keeping these thoughts in mind, below are two nectar producers during summer dearth to consider for your BeeFeeder buffet:



Rhus copallinum 'Dwarf Sumac'

Dwarf, Winged or Shining Sumac (*Rhus copallinum*) is a native deciduous shrub or a small tree with compound leaves that grows in all parts of North Carolina. A single specimen might use considerable garden space as it can grow to a height of 7 to 15 feet and a width of 10 to 20 feet. Sumac will earn its space in your garden with the huge amount of nectar that it produces while blooming from July to September. This nectar flow has been favorably compared to tulip poplar flow in the

spring depending on the sumac's location and access to full sun for at least 8 hours. Winged Sumac also produces a fair amount of medium sized yellow pollen pellets. This sumac is rarely browsed by deer.

Winged Sumac tolerates a wide variety of soils except soils that are constantly wet. It spreads by root suckering which can form colonies in a naturalized area or on a slope/bank. One strategy for size management is to remove suckers and dead limbs in the spring on annual basis. It can also be pruned to a hedge or a tree shape. The best time to prune this late blooming sumac is late fall or late winter/early spring.



Veronicastrum virginicum 'Culver's Root' Culver's Root or Bowman's Root (*Veronicastrum virginicum*) is a native perennial that produces tall spikes of white flowers for 3 to 4 weeks sometime in mid to late summer depending on your location. These flowers produce a good amount of nectar and fair amount of dark yellow pollen pellets which attracts honey bees and other pollinators.

Culver's root tolerates summer heat well and grow best in moist to sometimes wet open areas with full sun. It performs well in zones 3 to 8 throughout North Carolina reaching a height of 4 to 7 feet and a width of 3 to 8 feet. Culver's root can be used in a rain garden where the soil can dry out at times. Be sure to plant enough so that your bees will practice flower fidelity and get the nectar they need during summer dearth. Try cutting Culver's root back towards the base of the plant when blooming is almost over for a possible rebloom in the fall. Do not forget that fall is the best time to plant in North Carolina so plan ahead now!

For more information on gardening, use the North Carolina Extension Gardener Plant Toolbox at www.plants.ces.ncsu.edu.







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Master Beekeeper Program Spring is Time for Testing

by Doug Galloway Master Beekeeper Program Chair

It is nice to enjoy the change of seasons from winter to spring. This year, a sense of impending normalcy has begun to creep into our day-to-day lives. Some relaxation of gathering restrictions, vaccinations for Covid-19 on the rise, and as our bees are flying, all are welcome changes.

With the first warm days of spring, the opportunity to go through our hives and determine colony health, queen health, potential for expansion, risk of swarming and which management decisions need to be made, this is one of the most important inspections we make as beekeepers.



HEALTHY BEES, HEALTHY PEOPLE, HEALTHY PLANET.TH

Did I forget something important? Oh yes, testing to determine our varroa mite levels. Two important resources are available to help us with this process. At http://honeybeehealthcoalition.org you can access both information to determine your varroa risk level and treatment options, but also a presentation to share at your chapter meetings or schools. The Honey Bee Health Coalition website includes presentations that provide practical step-by-step demonstrations on monitoring varroa along with controls. You can also download the "MiteCheck" App from Bee Informed Partnership. Look at "My Guide" to follow along how to do an Alcohol Wash or a Sugar Roll. To see if you are agitating the bees enough during your Sugar Roll, use the "Tutorial" Shake Trainer to insure your varroa count is accurate.

By the time this article appears in the *Bee Buzz*, most Chapter Beginning Bee schools will have concluded, yet not all MBP Certified testing will have been completed. Posted as a link under "Programs", "Master Beekeeper Program", "Administering MBP Testing", on the NCSBA website, "Recommended Chapter Guidelines for Certified Level Testing" is available. This article serves to aid both Chapter administrators and Certified Level candidates, in understanding the procedures and expectations they should consider while offering/pursuing Certification.

Though there was a minor hiccup on the Website posting this winter, the MBP committee is still creating Quizzes and Games to test and further your beekeeping knowledge. Each Quiz or Game stays on the website for two months, giving you plenty of time to view and test yourself. No need to include your name when taking a quiz or game, though we are happy if you do. The most important value is to see what you know or learn what you do not.



The MBP committee plans to offer testing on Saturday, June 26, 2021. This testing will only be for the advanced levels, Journeyman and Master, and only written tests will be offered (no practicals at this time). To participate, you must sign a "Waiver of Liability" which the committee will provide via email once you have been approved for testing. This document must be signed, scanned, and emailed back to the committee within a week of it being emailed to you. No Waiver, No Testing. Testing will be conducted in a cleaned classroom. Approved facial coverings/masks are required for the duration of your attendance at the venue and social distancing will be mandatory. Journeyman candidates will have 1 1/2 hours to test, while Master candidates will have 2 hours. Only pre-registered candidates will be allowed to test, and registration will close on June 11, 2021. Further details will be provided to all candidates once each testing session has been filled. Email mbp@ncbeekeepers.org to begin the registration process. We will only be accepting a total of 30 registrants for this testing event in compliance with CDC guidelines. This event will take place in the western part of the state. If enough interest is shown, an eastern North Carolina testing event may be scheduled.



Finally, I hope you all had an opportunity to enjoy the excellent Web Series produced by NCSBA. Speaker subjects were varied, highly informative and the Zoom session excellently managed. The work both in organizing and producing these events is significant so I hope you were able to watch. Learning from the experience of others whether in a Zoom Session or at a person-to-person conference is the best way to grow as a beekeeper.



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When temperatures stabilized in

early April, healthy hives really took off this spring to quickly build up their populations, just in time for the nectar flow. With proper hive management and optimal weather, many colonies are likely to have made a bountiful crop of honey by mid-summer this year: the most recent fall/winter season had plentiful rains, which are often followed by heavy nectar flows from trees such as redbud, maple, sourwood and tulip poplar.

Most NC beekeepers start to harvest honey during June, and this is when many of us reap some of the rewards of our efforts (and that of our bees!). But without investing time and other resources into our honey bee colonies for months in advance, we're unlikely to get much of a honey crop from them: it takes a LOT of healthy bees to make a significant amount of honey. If you are somewhat new to beekeeping and have never extracted honey or seen it done, it is worth offering to help another beekeeper extract and bottle this liquid gold: there can be messy and/or costly mistakes trying your first extraction on your own. The demand for honey, especially local honey, is high, and selling some of what your bees made can help those bees earn their keep!

While spring is often the most productive time of year for honey bees in North Carolina, summer is perhaps the most critical time of year to ensure best management practices in your beehives. (See "Best Management Practices for Bee Health: A Guide for Beekeepers" on the <u>www.honeybeehealthcoalition.org</u> website.) These days, if we aren't keenly aware of the pest management and nutritional needs of honey bees, the colonies that looked great in May can start to lose strength in August and be dead before the following March. The Honey Bee Health Coalition website referenced above has excellent videos/documents to help us be more effective in keeping the deadly varroa mites from destroying even healthy hives. Varroa mismanagement can cause queen failure and/or colony death and is also a factor in why it is getting more difficult to control varroa populations: mistakes that we make in varroa management enhance the survival of hardier, more resistant varroa mites.

Of course, small hive beetles must be addressed when discussing summer apiary activities in North Carolina.The beetles started early this year, and <u>love</u> to invade weak and/or shaded beehives.Trying to keep colonies strong and in as much sun as possible really by Nancy Ruppert, Apiary Inspector, NCDA & CS

does help to limit hive beetle damage. A bit of direct pressure on those beetles that *do* show up works well also...

Honey bees during the summer are only a few generations away from the winter bees, and those winter bees <u>must</u> be hardy for ongoing colony survival. Building colony numbers and strength is not an overnight endeavor, but the process can be greatly enhanced by helping the bees acquire the best nutrition available. Leaving at least a full super of spring honey on the hive (admittedly hard to do) is much more nutritious than a few gallons of sugar water during the nectar dearth of summer. Pollen sources are widely available, so protein supplementation is not needed for most hives during summer, and sometimes invites small hive beetles. See *Fat Bees Skinny Bees* by Doug Somerville, or another reliable source for more nutritional guidance.

Summer is when some of your neighbors might want to be out at their swimming pools, but don't want your honey bees to crash their parties. Please provide consistent, available water sources for honey bees to help prevent serious problems before they start.

Keep <u>yourself</u> well-hydrated as well: dehydration or overheating can be serious. Bee cool!



Erratum:

In our Spring 2021 edition of the Bee Buzz, the planting icons didn't render correctly on page 29. The author, Steve Amerige, says it was just a bump and that, just as in our beekeeping, not everything goes smoothly so we're lucky to have NCSBA that helps us through the bumps to learn, have fun, and profit from our efforts! Please revisit the online edition of the Spring 2021 Bee Buzz on www.ncbeekeepers.org for the corrected version.

Wolfpack's Waggle: Bees and Swimming Pools Don't Mix-So Try Not to Let Them

by Dr. David Tarpy Department of Entomology & Plant Pathology, NC State University

Summer is heating up, and so the bees are turning their attention to their primary priority this time of year—air conditioning. Bees like to keep their broodnest temperature at a nice balmy 95°F (34°C for you metric folks), and they regulate it very closely to within about a degree. With all the body heat and activity in the hive, the bees are always generating some heat, which means when the thermostat gets into the 80s outside the bees start to cool things down inside.

Their first line of defense for cooling is simply venting the hot air. They do this by fanning—rapidly beating their wings while standing still, thereby creating airflow. If you've ever seen many bees at the entrance all facing towards the inside and fanning their wings, they're all collectively creating a draft that draws the hot air from the nest to the outside.

When it gets really hot, however, then the bees have to resort to even greater tactics. They go out and collect water, much like they do nectar, then bring it back to the colony. Rather than storing it in the wax cells, they spread the droplets out onto the surface of the comb and start fanning. The evaporative cooling wicks away heat from the nest, much like sweat on the surface of our skin keeps us cool. Bees don't like to venture too far to get their water—the closer the better, since they don't want to waste too much energy to get it. Once they learn of its location, they'll pretty much keep going to that source. That means the local water source that's easier to find is usually the one that they keep using.



Herein lies a potential problem for beekeepers, especially in residential areas. Swimming pools can be alluring to bees because they are so much more odiferous than ponds or other sources (because of the



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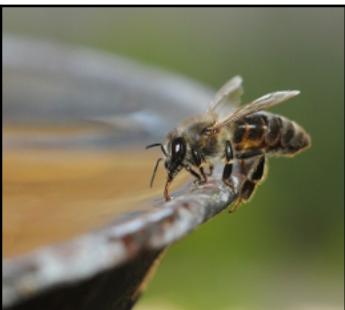
chlorine) and a place where they can get micronutrients, salts, and minerals. Bees usually don't drown in pools because they like to get the water in areas where they can access it (like puddles on the pavement). For non-beekeeping neighbors, the sight of a few dozen bees flying around can prompt anything from concern to panic.

If you'd like to avoid potential problems with your pool-owning neighbors, an ounce of prevention can be worth a pound of cure. Before it starts to get really hot outside, make sure your colonies have a closer, more convenient source of water <u>and make sure they're using</u> <u>it</u>. Garden ponds, bird baths, and other such containers can be helpful here, just as long as there are many stones or pebbles inside so the bees have a place to land and not drown. Particularly effective are 'drip boards', wood planks placed underneath a slowly dripping outdoor faucet so the slight trickle of water is easily accessible to the bees.



If you still get an angry neighbor telling you that your bees are ruining their summer fun, here are a couple things you can try (unfortunately, there really isn't a quick and easy additive or deterrent that can be used). First of all, verify that they are bees (and not yellow jackets or other species of wasp). A lot of people don't know the difference, and our bees can get blamed from other insects over which we have no control. Second, see exactly how many bees are involved; if only a dozen or so, then perhaps they can be convinced that it's not much of a problem. But if there are hundreds, then something likely needs to be done. Third, verify that they're your bees and not someone else's. Take a queen marking pen or model airplane paint, patiently wait for bees at the pool, and gently mark them on their thorax as they're sucking up water. If done carefully, they won't fly away immediately, and you can go back to your hive entrance to see if any paint-marked bees are coming in and out of the hive entrance. If the problem is indeed with your bees, provide an alternative water source as described as above. Problem is, once the bees get habituated, they remember for a long time, so it can be hard to draw them away from the pool once they're locked in. The last resort would be to take your hives and move the bees away (>2 mi) for ~1 week then move them back. The water foragers will re-orient to water sources upon their return, so providing a closer, more convenient water source in the interim might coax them away from the pool.

It is our responsibility as beekeepers to be good stewards of our bees, which includes being good neighbors. Avoiding potential problems with swimming pools can be an ongoing struggle, but in the end well worth the effort to make sure everyone can enjoy the summer season.









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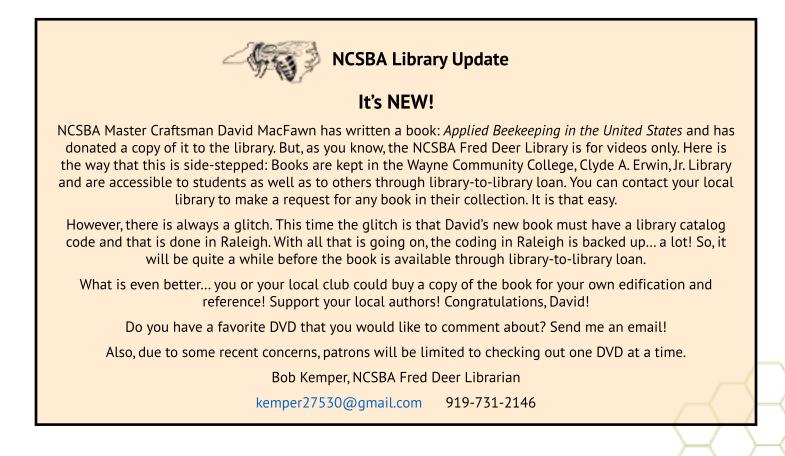
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Telling the Bees



Richard F. Baker



Husband, Father, Beekeeper

A member of the Toe Cane Beekeepers family, whom we recently lost.

Many things can be said about Richard F. Baker, but those who knew him best will say that his greatest loves in life were, in precisely this order: faith, family, friends, and a fanaticism for bees. He was an avid outdoorsman, who was easily able to identify all the surrounding mountains, creeks, trails and was a walking encyclopedia of local flora. He dearly loved his family, in fact, he only became a beekeeper after his wife's uncle introduced him to his hives, and thus began his love for bees. As with most things in his life, he was a fast learner and soon became an avid beekeeper tending his own hives for well over a decade. His long-term goal was to rear his own local queens and sell them to local beekeepers.

In the summer prior to his passing, many treasured hours were spent with his beloved daughters carefully painting hives. Over the years he and his wife Dee enjoyed many hours extracting honey together. Most years, the fruits of his labor were spoken for well before he began processing, and the money was earmarked for his girls' college fund. He was always learning, and it was expected and valued in the Baker household.

To encourage and celebrate beekeeping--and to honor Richard's love for his honeybees--Dee and their two daughters, Loren and Leah, will be setting up a scholarship fund to help beekeepers learn the craft. Classes are held at Mayland Community College. Richard was a member of the Toe Cane Beekeepers Association, the local charter of the North Carolina State Beekeepers Association. TCBA is dedicated to educating the public about bees, their value to the environment and to continue the tradition of producing and enjoying local honey. For more information on the scholarship and to apply, please visit the website

https://toecanebeekeepers.net and look for information on this scholarship in beekeeping.

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At your next county beekeepers' meeting, look around the room. Who attends your meetings? If your association is like mine, there is probably a wide mix of beekeeping knowledge and experience. As Education Director for the Orange County Beekeepers' Association (OCBA), my goal is to nurture a learning environment for all of our members, keeping OCBA useful, relevant and interesting to everyone.

With that in mind, I recently categorized OCBA's growth opportunities into three buckets:



Bucket 1:

Beginners (includes people who are new or never advance beyond basic knowledge)

Annual bee school

• "First Year Beekeeper" small-group mentoring program

- Content of most monthly meetings
- •Google Group e-mail discussion forum



Bucket 2:

Intermediate (typically 3 to 5 years of experience, attend NCSBA conferences, etc.)

•Master Beekeeper Program study group (prepares for advanced NCSBA MBP testing)

• "Beekeeper Collaborative" small-group mentoring/sharing program

- Content of many monthly meetings
- •Google Group e-mail discussion forum



Bucket 3:

Advanced (typically over 5 years of experience, extensive self-study, etc.)

•Leadership within Bucket 1 and 2 initiatives

What's in Your Club's Buckets?

by Randall Austin NC Master Beekeeper

•Leadership for community initiatives, such as overseeing apiaries at public schools and parks

Content of some monthly meetings

As you can see, the learning opportunities for Bucket 3 beekeepers are fairly sparse. We mostly expect them to "give"; we don't have much for them to "receive". Does that sound like a dynamic, intellectually-challenging environment? Is it any wonder that our most experienced beekeepers often drift away from active participation?

In an effort to put some value into Bucket 3, I surveyed OCBA's thirteen Journeyman and eight Master Beekeepers, members who most likely fit that profile. I also included our current executive committee. I described the buckets mentioned above and asked for brainstorming ideas for how to add value to Bucket 3.

I received lots of thoughtful responses. Many said that the benefits they receive from our club include social comradery as well as being able to exchange thought-provoking ideas with people who share a common interest. Brainstorming suggestions for things OCBA could add to Bucket 3 included:

Collaborating on a high-guality research project

Sponsoring seminars that feature noted researchers, separate from regular monthly meetings

Since "highly experienced" is correlated with "not getting any younger" and "aging backs", form a group to investigate, experiment with and make recommendations for elder-friendly hive designs such as Long Langstroth hives

Form a Journal Discussion Group that meets periodically to discuss academic research articles and their implications for beekeepers

Everyone agreed that a variety of options would be ideal, but of the proposals that were made, a Journal Discussion Group was considered "low hanging fruit": it met both the intellectually-challenging and comradery criteria and could be easily and quickly implemented.

We advertised the new proposal to the membership saying that the target participant is someone who:

Has several years' experience in beekeeping

Has an interest in reviewing and discussing scholarly academic articles

• Has pursued continuing education in beekeeping by attending conferences, attending monthly OCBA meetings, reading the popular beekeeping magazines and academic articles, etc.

"Plays well with others" in a group setting

We added that there would be no remedial beekeeping education -- participants were expected to

Continued on Next Page

Continued from Previous Page

already have knowledge and experience beyond a beginner level. However, we would not check credentials so anyone who felt that they would enjoy this group and can make a contribution to it were encouraged to participate.



OCBA's Journal Discussion Group meets monthly to discuss honey bee research articles. Topics have ranged from nerdy things like "the biochemistry behind honey bee memory" to more practical ones such as "how does spirulina measure up as a pollen substitute".

Within five hours of posting the announcement on the OCBA Google Group e-mail list, we had 12 people sign up. Another dozen joined before the first session. Obviously, a Bucket 3 niche exists at OCBA!

Thus far, the monthly Journal Discussion Group sessions have been lively and well attended. Two volunteers, different people for each session, choose a journal article and share it well beforehand. They then lead the discussion. This spreads the work evenly among the group and ensures a wide variety of topics, since different people are interested in different aspects of apiculture.

Our goal is to build on this success by expanding the number and quality of engagement offerings in all of our buckets, not just Bucket 3. But for now, we have added a little bit of balance between them. And by giving our most experienced beekeepers another reason to stick around, we enrich Buckets 1 and 2 with the well-informed leadership that they need.

Randall Austin is a NC Master Beekeeper in Orange County. He is Education Director for the Orange County Beekeepers Association and a Piedmont Regional Director for NCSBA. He can be contacted via the NCSBA Speaker List.





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Celebrating Chatham County Beekeeper and Conservationist Judy Pick

by: Debbie Roos Chatham County Agricultural Extension Agent

Long-time Chatham County beekeeper, conservationist, and volunteer Judy Pick passed away on February 6, 2021, at age 79. Judy left a lasting legacy with her volunteer work and relationship-building and inspired many beekeepers in North Carolina. Judy Pick was one of the first people I met when I started working with the North Carolina Cooperative Extension, Chatham County Center over 20 years ago. My work as an Agriculture Agent meant I worked not only with farmers but also beekeepers.

I first encountered Judy at one of the monthly meetings of the Chatham County Beekeepers' Association (CCBA). Judy was one of the founding members of the CCBA back in 1980 and served as its Treasurer for many years. Judy made quite an impression on me when I met her and slowly got to know her. She was the same age as my mom, and I just thought it was so cool that she was a beekeeper! She started keeping bees in the late 1970s and there were not that many women beekeepers back then. She was soft-spoken yet loved teaching others and sharing her passion and enthusiasm for beekeeping with folks of all ages. She was also great at inspiring and recruiting others to help with beekeeping outreach activities. These activities included the 8-week Beekeeping Schools and annual Pollinator Day Celebrations that Extension and the CCBA teamed up to conduct, both of which involved lots of planning meetings and preparation in addition to the event. It also included CCBA activities like bottling honey to sell at the state fair to raise money for the state association and other outreach activities.

From Peggy Wilson, Chatham County beekeeper: *I* have many fond memories of Judy. She was truly a gentle but strong spirit and contributed so much to beekeeping, both county- and state-wide. She was a long-time treasurer of CCBA and was one of our founding members. Sometimes we would have lively discussions at our beekeeper meetings and generally, Judy was pretty quiet but when she did speak up, people listened because they really valued her opinion. We've all lost a good friend and beekeeper.

In addition to all her volunteer activities with the Chatham County Beekeepers, Judy also worked with the North Carolina State Beekeepers Association (NCSBA) to create the Honey Bee Exhibit at the North Carolina Zoo in 2009. She helped manage the volunteer calendar for the Honey Bee Exhibit for years – not a small feat given that NCSBA beekeepers volunteer over 2,500 hours annually for the exhibit! The NCSBA awarded Judy the McIver-Haas Lifetime Achievement Award in 2015 for her years of service.



Judy and Jim Pick at a Pollinator Day display in Chatham Marketplace in 2012. I created the display and Judy brought the observation hive which was a big hit with customers!

From Ray Wise, Chatham County beekeeper: Judy was truly an inspiration to me. When I was a new beekeeper many years ago, Judy became a quick friend, and I had the pleasure of working on many projects at CCBA with this wonderful lady. She encouraged me and many others to support the Honey Bee Exhibit at the North Carolina Zoo. I completed 10 years in the Zoo program, and I owe it all to Judy. I will miss her smile and always positive attitude as will many beekeepers throughout North Carolina.

From Toy Lambeth, Volunteer Services Coordinator at the North Carolina Zoo: Judy poured her heart and soul into the Honey Bee Exhibit at the North Carolina Zoo. From the planning phases to recruiting and training beekeepers – she wanted everything done right and didn't mind putting in the work. She took a lot of pride in the investment the North Carolina State Beekeepers

Association made in the Zoo. It was a joy and a pleasure working with Judy and learning from her. I'm thankful for the friendship we developed over the years. She was a delightful lady with so much passion, energy, enthusiasm, and a precious smile. Judy leaves a legacy that will follow her for years to come and will be greatly missed.

From Linda Hardison, Honey Bee Exhibit Volunteer at the North Carolina Zoo: She was indomitable and dedicated to the Honey Bee Exhibit at the Zoo. For years she helped manage the volunteer calendar for the exhibit. Judy really wanted the public to learn about the honey bee through the exhibit, but it was also extremely *important that the volunteers felt connected and* comfortable with what they were doing and how they did it. She felt strongly about that connection and worked hard to make it happen. The foundation that she built there enabled the NCSBA and the NC Zoo to develop and maintain a good working relationship. She really put her heart and hands into this project. She was small but mighty. It was a privilege to work with her on the Honey Bee Exhibit Committee for NCSBA, but even more, it was my privilege to know her as a friend.

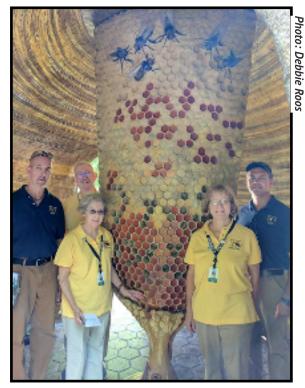
From Janno Lewis, Honey Bee Exhibit Volunteer at the North Carolina Zoo: Judy was great at coming up with new ideas about how to educate the visitors to the Honey Bee Exhibit at the Zoo. She always managed to make a special connection with them which helped them learn about honey bees and pollination.

Not only was Judy a champion of the honey bee, but she cared about all creatures. Judy and her husband Jim were dedicated to conservation stewardship and native grass restoration to attract wildlife at their land outside Pittsboro. They were regular attendees at Cooperative Extension forestry workshops and any educational program devoted to conservation or the natural world. Judy was also one of the founding members of the Chatham Conservation Partnership and I always enjoyed seeing her and Jim at the quarterly meetings. I had the good fortune to work quite a bit with Judy over the years. I have many fond memories of working with Judy for our 8-week Beekeeping School, Pollinator Day, 4-H Camp, and other outreach presentations we did together in the community. I also worked with her to help provide photos for the Honey Bee Exhibit at the NC Zoo over the years. In 2009, the Chatham County Center of N.C. Cooperative Extension awarded her Outstanding Friend of Extension in recognition of her many years of volunteer service. Judy was also a valued member of my Beekeeping Advisory Committee for years.

From Dr. David Tarpy, NC State University Apiculture Specialist: Judy was a real inspiration and valued member to the Chatham and greater North Carolina beekeeping communities. Her spirit will live on in our beekeeping culture, but she will be surely be missed.

From Jennifer Keller, NC State University Apiculture **Technician:** *My memories of Judy qo back to when I was* starting as a grad student. I remember feeling rather out of place because back then, female beekeepers were definitely the minority (except for the spouses of the beekeepers). Judy was one of the few, and seeing this petite woman, full of enthusiasm about bees, fitting in with the rest of the beekeepers made a big impression on me. She was always smiling, enthusiastic, and eager to pass along her passion of bees and beekeeping to others. She was always very supportive to me and the whole NC *State University program. And she made the best pound* cake!!!!! Judy would always pack me up an extra piece of her pound cake after Chatham County beekeeper meetings because she knew that I enjoyed a piece with coffee in the morning for breakfast.

I wanted to share some of the many photos I have taken of Judy over the years. It is a bit bittersweet looking at them, but I am grateful for the many memories I have of this wonderful woman and will continue to be inspired by her passion, dedication, and service! Read more at: https://tinyurl.com/judypick



In 2017 the folks at the NC Zoo asked for my advice in revamping the bee garden at the Honey Bee Exhibit. Since Judy was a long-time volunteer for the exhibit at the Zoo, I invited her to accompany me. I offered suggestions for increasing the diversity of plants, lengthening the bloom season, increasing the number of plants attractive to honey bees, and adding more native plants. Pictured left to right are Horticulture Supervisor Steve Thornburg, Volunteers Robert Smith, Judy Pick, and Linda Hardison, and Horticulture Technician Stacy Garnett.

How to Introduce a Mated Queen

by: Darryl Gabritsch NC Master Beekeeper

Why would you want to introduce a

mated queen into a colony? You would introduce a mated queen into a queenless colony for one of several reasons:

• You are making splits and want a mated queen that lays eggs immediately instead of waiting up to a month for an unmated queen to mate then begin laying eggs.

• You want to replace an older queen and don't want to use an emergency queen or queen cell. A lot of honey producers will replace their queens every year, so they have a well-mated queen for the nectar season to increase the number of workers in the colonies since a young, mated queen will typically lay more worker (fertilized) eggs than drone (unfertilized) eggs.

• You have an aggressive colony and want to introduce a queen with a milder temperament.

• You want to introduce a wider genetic variety into your apiary.

There are many methods on the Internet on how to introduce a mated queen into a queenless colony. NEVER attempt to introduce a mated queen into a queenright colony. The workers will likely reject the new queen and kill her. If you search the Internet, you will find various techniques, methods, and gadgets ranging from JZ-BZ plastic queen cages, traditional Benton gueen cages, gueen introduction frames, to a simple piece of 1/8" wire mesh formed into an open-sided box and inserted with the open side of the screen placed over a block of empty cells (open side toward the comb to create a space under the screen for the gueen to move around under the screen). For the purposes of simplicity, I will only cover two methods in this lesson. Most of the steps are the same for both methods.

Traditional method using either a JZ-BZ plastic queen cage or a wooden Benton queen cage. Equipment consists of only the queen cage.

Imrie Shim method. Equipment consists of the queen cage and two Imrie shims.

Procedure:

a. Ensure the colony receiving a mated queen is queenless for at least 24 hours before inserting a mated queen.

b. Open the hive, inspect for and destroy any emergency queen cells you find.

c. Traditional method: Remove one frame from the queenless colony.

Imrie shim method: Place two Imrie shims on top of the brood chamber in the queenless colony. You do not need to remove a frame from the colony with this method.

d. Remove the plug covering the candy block (slow-release plug).

• On a JZ-BZ plastic queen cage it may have a plastic plug over the candy block – not all JZ-BZ cages have the additional plastic plug. DO NOT remove the direct-release plug; otherwise, the workers may enter the cage and kill the queen.

• The Benton cage will have a cork covering the candy plug. Ensure you remove it.

• Some people will then use a needle or nail to create a tiny hole in the candy plug to give the bees a head-start in the candy.

e. Traditional Method: Place the cage between two drawn combs ensuring:

• The candy block is in the UP position. If the candy block is on the DOWN side, then a dead worker could block the escape hole created when the bees eat through the candy block.

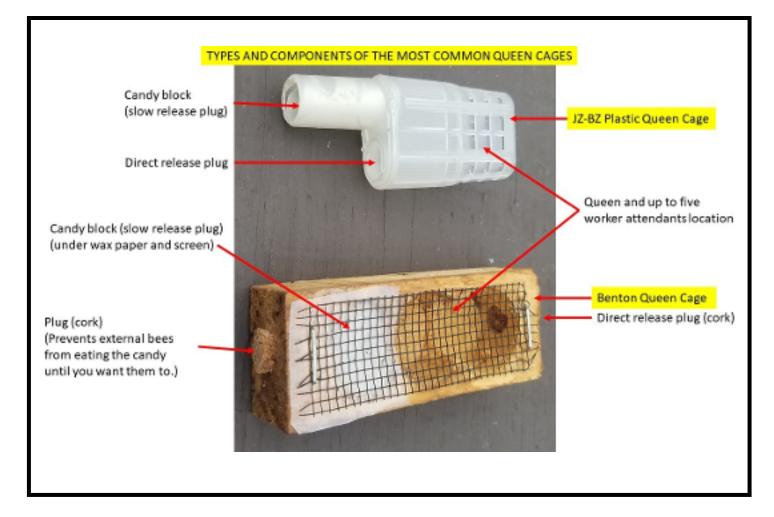
• The large surface area of the queen cage is positioned so that bees can get access to the screened area, thereby getting slow-release access to the queen pheromones.

Imrie Shim Method: Place the cage flat on top of the brood chamber drawn combs ensuring the screen is in the UP position. This ensures the workers can get access to the queen area to get access to the pheromones. Using two Imrie shims ensures that the workers have enough room to walk on top of the queen cage.

f. Replace the top cover and wait three days without opening the hive.

g. Remove the top cover after three days and check on the queen.

• Have the workers released and accepted her? If so, remove the queen cage, then replace the frame you removed to make room for the cage (if using the Traditional method), close the hive and inspect it for eggs in a week.



• Have the workers not released the queen yet?

Accepted the queen: Are there only a few workers on the cage and licking the queen through cage, but still haven't finished making a hole through the candy block? If so, close the hive and wait an additional three days to let them continue their work.

Rejected the queen: Are many bees biting the cage trying to ball and kill the queen? If so, close the hive and wait an additional three days to let them continue. The queen pheromones will still get to the colony.

Close the hive and wait an additional three days (six days total).

h. Open the hive on the sixth day and inspect the hive again.

• Have the bees accepted the queen, but still haven't eaten through the candy block? You will see a few, calm bees on the cage trying to lick, groom, and feed the queen. If this is what you see, then you can remove the direct-release plug on the queen cage and directly release her into the colony.

• Have the bees still rejected the queen? You will see a lot of bees biting at the cage, balling the cage, and attempting to kill the queen.

1. Remove the queen cage.

2. Inspect the colony for a mated queen (perhaps you missed a queen or queen cell in your initial inspections when you made the colony queenless).You will see either a mated queen or eggs. Remember it takes about three weeks for worker ovaries to start producing drone eggs once a colony becomes queenless.

3. Inspect the colony for queen cells. Perhaps the workers created emergency queen cells when you made the colony queenless. If you find queen cells destroy them, wait 24 hours and attempt to introduce the queen again. Ensure you moisten your finger with a drop of water and rub it on the queen cage to give her water.

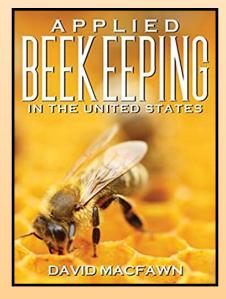
4. Repeat the installation process if the colony is queenless. If they still reject the queen, then replace the queen with another queen or combine the colony with a queenright colony using the newspaper method of combining colonies.

Introducing a mated queen is a simple process and keeps the colony productive making workers and gathering nectar and resources. It is a basic skill all beekeepers should know.

In the Spotlight

Beekeeper and Published Author David MacFawn

David Elgie MacFawn has kept bees in Maryland (Dark German bees), Virginia (Italian), North Carolina (Italian), Colorado (Russian), and South Carolina (Italian and Russian Hybrid). He is a North Carolina Master Craftsman Beekeeper (October 16, 1997), Co-Founded the South Carolina Master Beekeeping Program, awarded 1996 and 2020 South Carolina Beekeeper of the Year, assisted Dr. Fell at Virginia Tech in the Virginia Master Beekeeping Program, Incorporated the South Carolina Beekeepers Association as a 501 C 3 Non-Profit Corporation, and published several (over 40) articles in the American Bee Journal, Bee Culture, and Beekeeping: The First Three Years. He currently publishes in Bee Culture.



David has published three books: Applied Beekeeping in the United States by David MacFawn, 2020, Outskirts Press; Beekeeping Tips and Techniques for the Southeast United States, Beekeeping Finance by David MacFawn, 2017, Outskirts Press; Getting The Best From Your Bees, David MacFawn / Chris Slade, 2011, Outskirts Press.

During the Eastern Apicultural Society meeting in Greenville, SC, July 15-19, 2019 (where he served as Co-Program Chair) he received his Eastern Apiculture Society Master Beekeeper certification. From July, 2020 to January, 2021 he was a consultant to Bee-Downtown where he identified honeybee to Six Leadership Domains correlations and colony management enhancements.

He also developed, marketed, and supported spreadsheets analyzing financial aspects of the honey and pollination businesses, and beeswax candle production and sales. David has a BS in Electrical Engineering and a Master's in Business Administration with concentrations in Finance and Operations Research. David was in the computer business for over 30 years and was a Customer Service Program Manager responsible for worldwide support planning, training/education, logistics, call-center support, and professional services at Sun Microsystems and a subset of this at NCR. David was also a Federal Systems Product Manager responsible for new DOD system definition and development at Data General. David resides in the Columbia, South Carolina, USA area and is an active sideline beekeeper.



David MacFawn

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Being a Better Beekeeper

by: Phil Uptmor NC Journeyman Beekeeper

Beekeepers want to better themselves for various reasons and have different methods for pursuing this goal. There are monthly chapter meetings, NCSBA meetings, and other organization meetings through groups such as the Eastern Apiculture Society (EAS). There are also books, magazines, and online resources from which it is easy to glean information. But what does it take to be a good or even better beekeeper? Experience? That certainly helps and everyone will get experience over time, good or bad. How is experience defined? Is it defined by having a certain number of colonies or a successful honey crop? This is a moving target and it depends on the environmental conditions. Bees and honey crops come and go with time. There is more to beekeeping than just being skilled at working with honey bees; sharing knowledge and creating that spark of interest in others is just as important in your journey to being a better beekeeper. One way to share your knowledge of beekeeping is by volunteering your time. Listed below are a few ways we can volunteer to promote beekeeping in North Carolina.

State and Local Associations: The North Carolina State Beekeepers Association (NCSBA) and your local chapter association are both volunteer organizations, meaning that they need people to make things run. Local associations need board members elected on a yearly basis and welcome new people getting involved; it is helpful to have new ideas and new blood on board. There are many other opportunities to get involved in your local association, such as participating in community events or speaking to the public about honey bees. This is very rewarding. Anyone that has attended bee school or has been a beekeeper for a few years would be qualified to do this. Does your association have a bee yard? If so, it takes volunteers to manage these colonies and this team of people will gladly accept your assistance to care for these bees.

Mentoring: Being a mentor for a new beekeeper is rewarding for the mentor and is extremely valuable for the mentee. Mentor programs can be a big drain of time, which prevents good mentors from returning. We (Chatham County Beekeepers) ran into this problem and while we realized offering a mentor program to new beekeepers was critical to their success, we did not have positive past experiences where the mentor program could be sustainable. After hearing David Eckert's presentation in New Bern a couple years ago, we realized what Orange County had created could be a sustainable program that would enlist new mentors each year. We found that the time investment for the mentors was only a couple hours a month, so there was not a large time commitment for the mentors. There were certainly some hiccups starting out, but the mentors felt the program was a good investment in a new generation of beekeepers.

North Carolina Zoo: The NC Zoo Honey Bee Habitat is a magical place where children and adults alike get to see the workings inside an active honey bee colony. Volunteering at the Zoo provides many opportunities throughout the day to speak to guests and share information about honey bees. It is amazing to hear children spout off all of the facts they know about honey bees and to help them find the queen in the observation hive. It is funny to see quests' reactions to the roles of worker bees versus drones. When explaining to a little girl one time that the worker bees were all girls and they did all of the work in the colony, and that the drones did not do anything in the colony itself, she replied, "Just like my daddy!" Her mother almost passed out at this statement, but we had a good laugh in the end. These are the kinds of exchanges that happen frequently at the Honey Bee Habitat. There are also the more serious questions from adults about the current state of the honey bee and we are able to share how homeowners can help. A bigger advantage I have found is serving with other beekeeper Zoo volunteers from all over North Carolina, sharing our experiences and learning from each other.

However, there needs to be a benefit to beekeepers in order for them to invest their time and energy in volunteering. Like Pavlov's dog, we are looking for a reward of some sort and this may be as simple as talking to an individual about what is going on currently with honey bees, imparting knowledge to new beekeepers, or serving in your local association. NCSBA adds a nice bonus for those in the Master Beekeeper Program; there are service credits you can receive for advanced certification levels.

We all have many commitments: responsibilities with work, our families, and of course our honey bees. However, sharing some of your time will have an impact that might not be quantifiable at the moment, but the payoff will occur later on. Take the time to share your experiences and knowledge; it will leave a lasting mark on future beekeepers and this is the key to being a better beekeeper!



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Our Virtual Bee School Story

by: Robin DeMark Beekeepers of the Neuse

The idea to create a Virtual Bee School emerged from not being able to host a traditional, in class, bee school due to the Covid-19 pandemic this year. For Beekeepers of the Neuse, education remained a top priority for March 2021.

The project team included teachers, retirees, medical and veterinary professionals - all were local and state certified beekeepers.

"Initially the virtual concept was like a large puzzle of finding the right technology and the education platform to create a beginners bee school in two months," said Robin DeMark, Education Coordinator. "Once our team began collaborating within our area of expertise, the project took on its own evolution. Our group spent a lot of time on the project before our bee school was ready to launch."

Determining the best teaching platform was the responsibility of two high school science teachers.

"The best choice to ensure easy access and a user-friendly format was to use Google Classroom," said Lana Beamon, science teacher. "This platform is accessible to everyone who has or creates a Google account. It is a flexible format that can accommodate each student's individual learning style."

A variety of educational tools were used that included a comprehensive textbook for each student.



Barry Cuthbertson (photo left) and Kim Guillemette (right) record a welcome video for Beekeepers of the Neuse Virtual Bee School

"By using video, slide shows, web links and live sessions with instructors, the content was easily digestible and allowed students to teach themselves at their own pace," said Joe Beamon, science teacher. "We knew beekeeping students would be motivated



learners versus our high school students needing additional guidance."

Technical challenges and budget limitations led to personal resource sharing within the project team.

"It was a bit of a learning curve for us to adapt to the virtual school," said Barry Cuthbertson, Red Cross volunteer. "We had a limited budget, so we found a way to 'blue screen' instructors and then made sure they didn't wear black, gray or blue shirts so their head would not become disembodied on the video. We shot instructor videos over several days, and for the most part, they did it on the first take with minimal editing. Our next challenge was bandwidth, as most of our home internet was painfully slow. We quickly found it was faster to drive to the Agricultural Center and use high-speed broadband to uploaded videos in just minutes."



Rebecca Jones, (photo left), interviews Bruce Petway, Wilson County Chapter President, (photo right) to engage student discussion during Zoom. Barry Cuthbertson, (seated in middle), monitors AV recording. Robin DeMark, (not in photo), hosts Zoom and monitors student questions in chat on the laptop.

Nineteen of 31 enrollees took the state exam, and all passed! Following the exam, students participated in an education event to meet members, look at bee displays, speak with vendors, and enjoy refreshments.

"The challenges this year did not stop you from teaching beekeeping to many eager families and individuals," said James Dove, NCSBA Coastal Region Director. Beekeepers of the Neuse is two of nine Chapters in my region to host a bee school, and you were the only to host a virtual school. Your perseverance enabled students from the mountains to the coast to begin their journey into the fabulous world of beekeeping. I lift my veil to all of you - great job!"



Bee Buzz Word Search

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