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The Official Magazine of the NCSBA

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And Much, Much More...**

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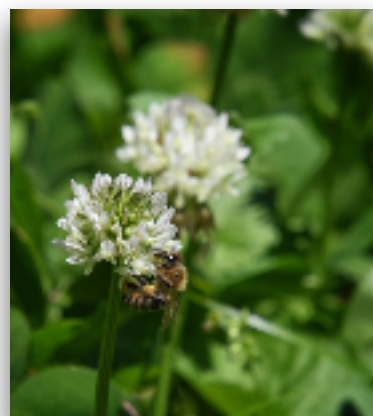
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North Carolina State Beekeepers Association

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Karen Lauterbach

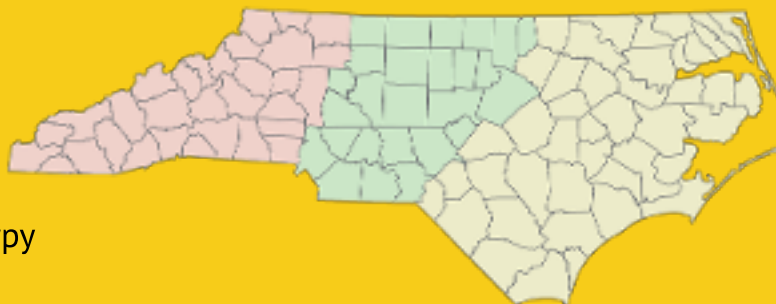
North Carolina State Beekeepers Association



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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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Jody Moore, *Technical Editor*
beebuzzeditor@ncbeekeepers.org

Dr. Lane Kreitlow, *Content Editor*
beebuzzcontent@ncbeekeepers.org



Message From The President

by: Doug Vinson, NCSBA President

Our President for 2020

A few words of introduction: My name is Doug Vinson (also seen as James D. Vinson). As a second-generation beekeeper, I have been involved with honey bees for many years with some breaks for education, family, military service and career. The past 25 years have been without breaks. I reside in Catawba County as a semi-retired dentist with my wife Kellie and the bees.

I manage (better said, *they manage me*) about 40-50 colonies in Catawba and Avery counties, mainly for honey production. My management practices revolve around colony loss replacement and increase from my own survivor stock.

I have served the NCSBA as Regional Director, 2nd VP and 1st VP. Additionally, I have been an officer in my local chapter, Catawba Valley Beekeepers Association. For the past four years I have been the EAS Director for North Carolina as well as the ABF Delegate for North Carolina.

Election of NCSBA officers by absentee ballot is unprecedented and the circumstances that dictated such action are very troubling. Hopefully our state and nation can recover to the point that future officer balloting can be done by a live membership assembly.

That said, I am deeply honored to have been elected your 2020 president. I will be forever grateful to the nominating committee and the general membership's vote for allowing me the opportunity to serve this great association as president.



To all my Friends at the NCSBA

My Fellow Beekeepers, it has been several years now that I have been contributing articles in the BEE BUZZ, starting in 2015 as Chairman of the Master Beekeeper Program and recently as your President of the NCSBA.

We have just had our first Electronic Process election and Doug Vinson is taking over as your new President. Please give him the support that you have given me through the years. Our organization is strong. We've worked hard to stay within our means. Although Covid-19 has resulted in the cancellation of our statewide summer meeting we are moving forward and planning for the future. Difficult decisions will be required, but our new Board of Directors is ready for the task.

Our membership today is around four thousand seven hundred and we have eighty-three chapters across the state. We are still growing. Tomorrow and the future of the NCSBA will be better than ever. Thanks again for your support in the past. I look forward to seeing you again in March at New Bern!

- Paul Newbold, Past President, NCSBA



NCSBA Library Update

First: Yes, the NCSBA library collection at Wayne Community College is OPEN. A reminder that the library is operating on their summer schedule of Monday-Thursday from 7am-8pm through August 7th. You can continue to check out materials as usual by going to the NCSBA website, Resources tab, NCSBA library tab, and following the instructions. Please return the borrowed DVD's on or before their due date. Other beekeepers may be waiting to view them.

Second: We are currently working on getting a copy of the video shown at the spring meeting for the library's archive. The video is Keepers of the Bees, a documentary production by members of the UNC-W Beekeeping Club. By the way, if you or your club have made a beekeeping video(s) we would like to have a copy for the NCSBA library archive.

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BeeFeeders

North Carolina Pollinator Plants

by: Ulana Stuart, NC State Extension Master Gardener Volunteer

I have visited many gardens looking for which BeeFeeder plants to use and which to avoid. Vines appear to be one of the more underutilized perennials, probably due to the frequent pruning required to keep them in place. We have all seen gardens where English ivy or Japanese honeysuckle are taking over an entire yard. However, the biggest advantage of planting vines is growing a very large number of bee-attracting flowers with a single planting.

This article discusses two beautiful vines for you to consider feeding to your favorite honey bees and native pollinators. Vines typically flower best in plenty of sunlight and with a sturdy support. You can use an existing fence, brick or concrete wall, arbor or any other garden structure that can take some weight. One of my favorite vine supports is a dead tree snag that is well away from any structure. Some vines can also be grown as groundcover or even over shrubs as a support. Vines can also be used to meet a quick need for screening or privacy.

groundcover for a slope or bank. It has glossy green leaves, yellow fall color and striking exfoliating bark in winter (which can be used as a paper substitute) making it a four-season plant. It has no real pest problems and is rabbit and drought resistant after establishment of at least one to two years. Finally, hydrangea is a well-behaved vine that should not require much pruning or maintenance.



Photo: Worldoffloweringplants.com

***Campsis radicans* 'Trumpet Creeper'**

Trumpet-creeper (*Campsis radicans*) is a long-flowering native beauty that attracts bees and hummingbirds. This deciduous southeastern climber grows throughout USDA zones 5-9 and all of North Carolina. It grows up to 30-40 feet in height or length in all types of soil, including clay or sand, and tolerates compaction. This woody vine attaches itself with aerial rootlets and does best in full sun but tolerates some shade. Trumpet-creeper has compound leaves and bright red-orange tubular blooms. These blooms grow in three-inch long clusters at the end of the branches. It is somewhat deer resistant.

Since trumpet-creeper blooms on new growth you can prune it hard in early spring and still get plenty of blooms. You can also prune it after flowering finishes to keep seeds from forming. Most importantly, the blooms appear from June through September and have a good amount of medium-sized creamy white pollen, and some nectar.

It needs a heavy support structure since a mature plant can get fairly heavy. Plant trumpet-creeper in a location where you can mow down the suckers or restrain them (with concrete borders?) because it can be an aggressive spreader.



Photo: Wikipedia

***Hydrangea anomala* 'Japanese Climbing Hydrangea'**

Japanese climbing hydrangea (*Hydrangea anomala*) is a deciduous, clinging vine that climbs by root-like holdfasts. It can grow up to 30-40 feet in length or height and 5-6 feet in width in USDA zone 4a-8a. The sweet fragrant 6-10 inch diameter flat cluster of 1-inch white blooms appear in mid-summer and include both fertile and sterile flowers. They last for about two weeks or longer, producing yellowish-green pollen and nectar.

Hydrangea prefers well-drained soil and tolerates some shade, making it useful as a mounding

Continued from Previous Page

I have to admit that I have avoided planting trumpet-creeper as I have seen how it can run amok in a garden if not properly managed. Two cultivars that are described as more compact, manageable and less invasive are 'Indian Summer' and 'Apricot'.

Photo: Thompson and Morgan



Campsis x tagliabuana 'Chastity'

In addition to these selections, North Carolina State University has recently announced a sterile hybrid cultivar named *Campsis x tagliabuana* 'Chastity' that produces NO seeds and has even bigger flowers. For details see <https://youtu.be/rmeNLKdFGD4?t=150>. I will soon trial this cultivar myself as I'm curious how a sterile hybrid will affect the pollen and nectar available for honey bees.

This is my annual reminder that fall is the best time to plant all perennials, shrubs and trees in North Carolina. If you have plans to plant one of these, autumn is the BEST time to do it.



NCSU Cooperative Extension disclaimer for *Campsis radicans*: "This plant has an extreme flammability rating and should not be planted within the defensible space of your home. Select plants with a low flammability rating for the sites nearest your home."

<https://plants.ces.ncsu.edu/plants/campsis-radicans/>



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In the Apiary: What to Worry About

by Lewis Cauble, Apiary Inspector, NCDA&CS



As an Apiary Inspector, I get to hear and see what everyone is worried about regarding their bees. Whether it is at a local or state association meeting, the NCSBA group on Facebook, via phone calls or emails, or in person...I get to listen to your concerns and offer advice on how to overcome. It is always interesting to hear what folks are worried about with their bees.

Over the last five years I have been doing this work, I have seen three things that account for between 90 to 95% of the problems that beekeepers contact me about. While beekeepers are losing sleep about a myriad of beekeeping challenges, I believe that working diligently to solve the following three problems or challenges will have a dramatic impact on the success of the beekeeper. The problems that beekeepers need to really focus on are mites and the associated viruses, properly managing queen events, and feeding.

By far the greatest challenge to bee health is the varroa mite and the associated viruses. Beekeepers who ignore mites will continually struggle. It is important to have a good mite management plan that includes plenty of monitoring with either sugar shakes or alcohol washes. Remember that it is really the viruses that are transmitted, activated, and amplified by the mites that cause most of the damage. We do not have a remedy for viruses other than to keep the mite pressure as low as possible at all times. A high mite load in July will negatively impact a colony's chances of surviving the winter, even if the beekeeper knocks the mites down in August or September, as the high mite load has allowed the virus to get a foothold in the colony. Getting rid of the mites does not get rid of the virus. The issues surrounding the mites and viruses are complicated and absolutely worth worrying about. Visit the Michigan Pollinator Initiative at www.keepbeesalive.org for some great resources that can help you as you consider your varroa monitoring and management plan.

The next thing that I see that gives beekeepers a fair amount of trouble is managing queen events. Any time a colony swarms, supersedes, or otherwise replaces a queen, that parent colony has to do a fair amount of work and have a bit of luck as they work toward getting a new queen up and running to head the colony. She has to emerge, mature, head out on a mating flight, successfully return to her colony, and begin to lay. This process can take between three to five weeks and there is plenty that can go wrong in that time period. Being able to recognize when a queen event is happening, about to happen, or has happened is a critical skill that beekeepers must learn. Recognizing a queen event is only half of the challenge. The other half is knowing

when, how, or if to respond to the queen event. Knowing when to take action and when to sit on your hands is important, and this is certainly something that beekeepers who are striving for success should be studying and worrying about.

The last thing is feeding. Knowing when to feed and when not to feed can be a real challenge for new beekeepers. Just because your colony is taking two gallons of syrup every day does not mean that you need to be feeding them two gallons every day! The idea that I hear taught in bee schools so often is, "Feed until your bees quit taking it". This is terrible advice and almost always leads to other problems, including queen events. Here is my quick take on feeding: Feed when you need to! So, when do you need to feed?

1. If you have foundation that they need to draw. This is energy-intensive work for the bees. Make sure they have the calories required to do it. If they are getting it done without feeding, then no need to feed. If the nectar dries up and they need some help, be sure and give them the help they need.
2. If your bees are about to starve to death, you need to feed them! I see too many colonies perish because the beekeeper was not paying attention.
3. If the colony needs to build stores for the winter, feed them. As we prepare for winter, we need to be working toward having a box full of healthy bees (see the bit about mites and viruses above) in the bottom box and a box full of honey above. Start working toward this in late July and finish this work in early October.
4. If you need to stimulate the queen to lay for whatever reason, you may need to feed. Late splits will likely require feeding to get them up and running.
5. If you are introducing a new queen, feeding can ease the transition and improve the chances of her being accepted.

These are the things that I worry about and concentrate on in my own bee yard and it brings up another thing that I worry about: What in the world am I going to do with all of these bees? If you handle these three issues you will have more bees than you know what to do with. I spend zero time worrying about hive beetles, wax moths, are my bees too hot, are my bees too cold, should I use a screened this or a screened that, is there too much ventilation, is there not enough ventilation, which direction should my bees face, do I need to insulate, blah blah blah. None of these things seem to matter but what does matter is that I keep my mites under control at all times, I properly manage my queen events, and I feed when needed. These are the things that beekeepers need to worry about and concentrate on.



Master Beekeeper Program

Challenging Times: Master Beekeeper Program Testing Cancelled

Online programs to grow your knowledge

by Doug Galloway Master Beekeeper Program Chair

Your Master Beekeeper Program

Committee had scheduled MBP testing for Saturday, October 24, 2020 to be held from 9:00 AM till noon at the Alamance County Center in Burlington, NC. With Covid-19 still raging, there is no predictable schedule as to when that facility will open for public meetings. As an NC Extension facility, it is subject to state guidelines, as are all Extension offices.

In an attempt to locate a viable venue in which to hold testing, the committee sought out alternatives, arriving at an acceptable facility in Cary, NC, available to hold testing on Saturday, October 17, 2020. This facility agreed to provide space enough to meet CDC guidelines of social distancing, use of CDC-approved cleaning agents and further agreed to clean each workstation between testing candidates. The committee consulted with medical personnel and determined that a temporal thermometer would be acquired to screen candidates before entering the facility to further reduce risk. There was an expense for the venue and services involved, but it was manageable within the MBP's 2020 budget.

The NCSBA Board of Directors met via Zoom on July 8, 2020. At that time, the MBP's proposed testing was presented to the board. Following a discussion, the board voted to cancel any NCSBA event MBP testing until the Spring Conference in March 2021. Reasons for the decision were based on a concern for the health and well-being of candidates in attendance and the prospect of liability to the NCSBA should someone contract Covid-19.

Some questions were raised that the committee was not prepared to answer, and your help is needed to supply that information to the Board.

1. If an NCSBA-sponsored MBP testing event were held in 2020, would you attend?
2. If you chose to attend, would you be willing to sign a Waiver/Assumption of Liability, indemnifying the NCSBA should you contract Covid-19?

Both questions presume that all of the aforementioned preventative measures would be taken to provide a healthy environment for a gathering of test candidates.

If we receive a significant number of replies, we will gladly approach the Board and ask that they re-visit the question of testing this fall. This is not to suggest that the Board's position will change, as their only concern is the well-being of our membership and the risk

associated with any gathering during these challenging times. Nonetheless, we regret not offering an opportunity for testing to those who have worked so hard to learn beekeeping and at the least hope to allow you to share your perspective on this subject.



On the bright side, there are so many quality Zoom/teleconference programs being offered at this time! It is often difficult to take time off to attend meetings, especially those that are out of town. Our beekeeping community, both practical and academic, is offering an opportunity to listen to speakers from across our area and in some cases across the USA, while safely staying in our homes. Besides the terrific Zoom meetings being offered by NCSU and Dr. Tarpy, there is so much available online. The Georgia Beekeepers Association (GBA) is having a Fall Virtual Conference, Sept. 25-26. The University of Florida/IFAS Honey Bee Lab and Dr. Jamie Ellis offer "Two Bees in a Podcast" with a host of topics and speakers. *Bee Culture* offers "Beekeeping Today Podcast" with a variety of subjects and speakers. Northern Bee Books has a newsletter titled "The Bee Book Paper" which offers a wealth of information along with offering the most comprehensive selection of bee book titles I have found. Staying in touch with what is going on in our honey bee community through virtual media, reading periodicals like *American Bee Journal* and *Bee Culture* and reading the many books on beekeeping, will allow you to continue your growth as a beekeeper.

Any comments or feedback about this article or its content are welcomed at mbp@ncbeekeepers.org.

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Wolfpack's Waggle:

Fall semester goes online: Beekeeping and distance education

by Dr. David Tarpy

Department of Entomology & Plant Pathology, NC State University



With all of the uncertainty

surrounding the fall semester at NC State, we made the decision quite early in the summer to move our large beekeeping course entirely online. With ~200 students every year in a room with a max capacity of 210, it was fairly obvious that we weren't going to be able to socially distance, and I didn't want to have to scramble to make a distance education (DE) section. So, we've spent much of the summer recording, editing, and crafting the course for the online environment.

ENT 203 is titled "An Introduction to the Honey Bee and Beekeeping," and it has been offered at least once a year for over 40 years, initially by my predecessor Dr. John Ambrose then me starting in 2006. Importantly, it is not a traditional beekeeping course—it is geared toward non-science majors as an appreciation course for science and biology using honey bees as a vehicle. As such, the intent is not to teach students how to keep bees but give them an appreciation about them, what beekeepers do, and how important bees are to our society in general. I offer it each fall semester, and up until now it has been an in-person lecture course only.

This isn't the first time we've had a DE beekeeping course, however. Dr. Ambrose has a DE version of his section of ENT 203 for several years, but that version is no longer available. Moreover, about 10 years ago I created ENT 401 "Honey Bee Biology and Management" to provide an online option for our "advanced" beekeeping course. ENT 401 was developed as a "one-stop-shop" for an entire semester's worth of fairly detailed information about honey bee biology and hands-on beekeeping. While the lectures and tests were all online, we held three separate field days at our Lake Wheeler Honey Bee Research Facility on consecutive Saturdays for each student to build a hive, install a package of bees, and maintain it for the semester. Because it was an advanced biology course it was fairly demanding for some students, but we were amenable to students of all backgrounds and levels of experience. The original idea was that the course could serve both NC State students as well as beekeepers from NC and beyond, so we were disappointed when only on-campus students ended up taking the course and enrollment never really took off. We've therefore discontinued it after four offerings over 6 years, and it remains on hiatus.

I suspect that ENT 401 didn't get rolling because many beekeepers were not interested in official NCSU credit or want to take a whole semester's worth of material (not to mention don't wish to pay ~\$600 for tuition). As a result, we developed the BEES network (Beekeeper Education & Engagement System) in an effort to provide many (but certainly not all) of the similar content that was provided in ENT 401 but as individual mini-courses (~1-2 hours each) that could be taken à la carte. That way, beekeepers can pick and choose exactly what they want at the level that they want without any time constraints because the courses are **asynchronous** (that is, there is no interaction with the instructor). Since 2013, the BEES network has slowly been gaining enrollment, adding new courses, and updating content. At the time of writing this column, the Beekeeper Education & Engagement System (BEES) has served 2,399 students who have collectively taken 12,656 lectures for a total of 4,696 hours of instruction.

We have had several offerings of online BEES courses where we have offered them in a **blended** format (that is, students **asynchronously** watch recorded lectures but then **synchronously** convene online for live interaction with course instruction in real-time). For example, once the coronavirus hit this past spring, we offered an online 'Beginner' BEES School for anyone who had their local short course cancelled. Each week for 3 consecutive weeks, the students' "homework" was to learn the content from one of the mini-courses, then we would meet using the Zoom webinar platform to discuss, answer questions, and talk about bees and beekeeping.

Last year (2019), we took the BEES network to the next level by offering several 'Intermediate' BEES Academies. These were intensive, 2-day trainings held in collaboration with local extension agents across the state. The idea was to hold in-person workshops but incorporating recorded BEES content, so that we could take advantage of both live and recorded content. Because it was all in-person, the content was all **synchronous** and in real-time even if some of it was streamed from online. The response was overwhelmingly positive, and we plan to continue and expand these going forward.

Since COVID hit with a vengeance, we're also offering

| | BEES network | BEES school | Apiculture Online | BEES Academy |
|---------------------|--------------|-------------|---|--------------|
| Format | Asynchronous | Blended | Synchronous (live webinar) and Asynchronous (recording) | Synchronous |
| Environment | Online | Online | Online | In-person |
| Duration per course | ~1-2 hours | Variable | 1 hour | 2 days |
| Cost per student | \$35/course | Variable | Free | \$150 |

bi-weekly live webinars called Apiculture Online—Hive Chat with NC State. Each is roughly broken into four segments: “Bees in Season” (what bees are doing right now and what beekeepers need to do); the “Timely Topic,” a presentation from someone in the lab on the work we’re doing; a “Guest Interview” of a prominent figure in the beekeeping world; and an open Q&A where we select some of the typed questions from the audience. These are **synchronous** webinars, but we also post the recordings on our YouTube channel for **asynchronous** viewing.

*All of this is a long way of saying... Now that we’ve all been forced to interact online way more than we ever imaged, there are a lot more options for beekeeper education available to us. **Distance Education will never be a perfect substitute for in-person learning, but the flexibility and diversity of these offerings afford us an increased number of options available.** The more options we have, the more we can learn about bees and beekeeping, and the ultimate consequence is that the bees will be better off with better beekeepers.*



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Master Craftsman Project Summary

An Attempt to Eliminate Viruses From Bees Using Heat

by Suzy Spencer NC Master Craftsman

A new requirement for the NC Master Craftsman is to have his or her project report published in the NC Bee Buzz or a bee journal. Here is a summary of mine. I hope it will encourage some Masters to develop a project proposal and continue working toward this next level of the NC Master Beekeeper Program. Due to limited-space considerations, I've left out many details as well as other interesting reviews, observations, and discussion that round out the story. If you would like to discuss this further or want more detailed instructions for constructing the cages, feel free to contact me.

INTRODUCTION

Heat (either as heated air, water, or steam) has been used to eliminate viruses and other plant pathogens from living plant material without killing or adversely affecting the plant. I wondered if I could similarly expose honey bees to a high-enough air temperature to inactivate viruses inside their bodies without killing the bees. I wanted to try doing this under controlled conditions in a laboratory using bees in cages and at a temperature/duration combination that would be reasonable to apply to a bee colony in an apiary if it worked.

METHODS AND MATERIALS

Cage construction: Cages were made from easily-cleanable, 11.3 oz Folgers coffee containers (~5.5" h x 4" diameter). I cut out a 3" diameter area from the bottom and two opposite 3" w x 3" h areas from the sides, then lined the containers with #8 hardware cloth (1/8" square holes). This allowed for air movement and gave the bees something on which to cling. The container's top (with lid) became the cage's bottom. The snap-on lid was easily-removable to allow for quick addition or removal of bees. A 2.5" diameter hole was cut into the lid and fitted with #8 screen so that Varroa mites (VM) could fall through and stick onto a white yogurt container (32 oz) lid (4.5" diameter) coated with petroleum jelly. To provide 1:1 sugar syrup or water to bees during transport or overnight when collected the day before the test, I used a 35 mm film canister with snap-seal lid (available free from many photography stores) with at least 2 dozen very small holes (1/16") drilled into the bottom. This was placed externally on the top screen of the cage. In a preliminary study, over half the bees were still alive after 10 days when maintained like this (although I did not plan to keep them alive that long).

Heat treatments: To find a combination of temperature, % relative humidity (RH), and duration



Cage side view, top feeder, and cage bottom view

that would not immediately kill bees, I reviewed published studies that attempted to control VM, tracheal mites, nosema, or pathogens in bees using heat. I chose 42-43°C (107.6-109.4°F) for 2.5 hrs and 5 hrs at RH 60-70%. A laboratory tabletop incubator (Fisher Isotemp Incubator 630D) was used to control the temperature and keep the RH stable. Temperature was monitored with two standard stick thermometers and a temperature/ humidity datalogger (Ecowitt model D5-102). The datalogger stored the data, and graphs could be generated and examined later for any spikes or other deviations. RH dropped when the incubator door was opened and moisture-laden air escaped, but RH could be increased again to the target level by spraying the insides of the incubator with distilled water and waiting a few minutes.

Bee samples from ten colonies from several different apiaries were collected over a 3-week period in October 2018. The viruses present and their levels were not pre-determined as a basis for selection. It is generally agreed that nearly all colonies in NC have some level of at least one virus and levels can change within a short period of time. Bees were collected by shaking them from a brood frame into a plastic dish pan, mixing well, and scooping a scant ¼ cup (~125 bees) into each of three cages. The cages were labeled C for the control (0 hr of heat), H (heat for 2.5 hrs), and X (extended heat for 5 hrs except only 3.5 hrs in tests 2 and 3 due to logistical issues). Except for the first 3 tests in which bees were collected the same day, bees were collected the day before and held at room temperature with 1:1 (sugar: water) syrup and water provided. Almost no bees died during this 15-18 hrs holding-period.

Any dead bees were noted in all 3 cages at the beginning of the test (0 hr). At 0 hr, H and X were placed into the pre-heated incubator at the target RH. C was left at room temperature. At 2.5 hr, H and X were

taken out of the incubator, and VM-drop and any dead bees were again noted in C, H, and X. When the temperature and RH returned to target values, X was returned to the incubator for an additional 2.5 hr. At 5 hr, X was removed from the incubator and mite drop and any dead bees were again noted in C, H, and X. Dead bees were removed from the cages before delivering the live bees (still in cages) to the North Carolina State University Queen & Disease Clinic in Raleigh within 1-2 hours.

Erin McDermott (lab supervisor) placed the caged bees in a freezer at -80°C to quickly euthanize them. Approximately 50 dead, frozen bees were transferred to a snap-lid tube for further storage at -80°C, and the remaining bees in the cage were discarded. Bees can be stored like this indefinitely without virus degradation. The virus assays were conducted on 5g samples of whole bees (around 50 bees). The assay involved grinding bees to a powder, sampling 1g for RNA extraction, and testing by Real Time PCR for nosema and 8 viruses: Acute Bee Paralysis Virus (ABPV), Black Queen Cell Virus (BQCV), Chronic Bee Paralysis Virus (CBPV), Deformed Wing Virus A (DWVA), Deformed Wing Virus B (DWVB), Israeli Acute Paralysis Virus (IAPV), Lake Sinai Virus (LSV), and Kashmir Bee Virus (KBV).

RESULTS

Very few bees died during the treatment period (0 hr to 5 hrs), with no differences between C, H and X. The virus results were reported as the total number of virus copies in the 1g sample (approximately 10 bees). The colonies varied not only in the type of viruses present but also the virus levels (from 0 to near 91,000). The following were detected in one or more of the 10 colonies: DWVA (in 9), DWVB (6), BQCV (4), LSV (4), IAPV (3), and nosema (1). ABPV, CBPV and KBV were absent from all. There were no obvious impacts of the heat treatments on virus levels as compared to the controls for any of the viruses when observed across all 10 colonies. This non-effect was confirmed by statistical analyses of the data performed by Dr. David Tarp, NCSU. Sometimes the virus levels in H or X were lower than in C but sometimes they were higher with no pattern or trends. The results for DWVA are shown here (Fig. 1) because it was the most commonly-detected virus and illustrates the variability that was also seen in the others. Similar charts for all viruses are in my full report.

The only statistically-significant differences in the data analyses were for mite drop between C and X. Because mites were trapped on the greased lid after they dropped, it was unknown if they were killed by the heat or dropped, got stuck, and died due a consequence of that. Studying mite-drop was not a goal of this study

Figure 1: Deformed Wing Virus A (DWVA) assay results
(total virus copies)

| Hive: | Control | H (2.5 hr) | X (3.5-5 hr) |
|-------|---------|------------|--------------|
| 1 | 20287 | 756 | 163 |
| 2 | 50319 | 65608 | 63627 |
| 3 | 65488 | 32075 | 80291 |
| 4 | 208 | 0 | 0 |
| 5 | 1868 | 4070 | 110 |
| 6 | 0 | 1839 | 0 |
| 7 | 0 | 237 | 0 |
| 8 | 0 | 0 | 0 |
| 9 | 0 | 8780 | 45410 |
| 10 | 0 | 19864 | No sample |

but it was interesting to observe.

DISCUSSION

I was unable to demonstrate a “silver bullet”, one-time, heat treatment to eliminate viruses from bees. In order to detect slighter decreases (or increases) in virus levels, replications by treatment by colony would be needed to address the variability issues. Accurate sampling for viruses can be problematic because one highly-infected bee is enough to skew-upwards by several orders of magnitude the total virus copies in a sample that otherwise contains no or only a few slightly infected bees. I also wondered if I could have pre-selected the colonies in some way, or if keeping bees alive for a few days after heat-treatment before virus-testing might have resulted in a subtle, delayed effect. All of this was beyond the scope of my study and limited resources. These and other questions that arose are a natural part of scientific inquiry, and results often lead to more questions than answers. The most significant contribution of this study may be the bee exposure cages I designed and constructed which could be used in a variety of other types of bee studies.

Before I started this research project, I was unable to find any studies on the effects of temperature on bee viruses with the goal of using heat as a control method. Then in January 2019, Dalmon *et al* published a study with a broader intent but which listed virus control as a possible benefit that might result (<https://doi.org/10.1016/j.jip.2018.12.005>). They concluded that although high temperature limits viral multiplication and could contribute to seasonal variations in virus levels, it did not reduce DWV below damaging levels under the conditions of their study (the initial virus titers were high). Also, the effect of heat on bee survival was too detrimental for it to be used as a tool to eliminate viruses. They discussed the possible ways that heat could affect bee viruses: either directly by inhibiting the virus itself or possibly indirectly by effects on heat-shock proteins or other ways that have not been fully studied. All this further illustrated how complicated virus research can be.

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Effective Varroa Management Must Begin with Monitoring

by: Randall Austin NC Master Beekeeper

It is a rare beekeeper these days who fails to acknowledge that Varroa mites are the foremost threat to honey bees in our generation, but the response to that acknowledgement seems to be hit-or-miss. Even the most novice beekeeper will inspect his or her colonies periodically, often once a week in the beginning, but does that inspection include assessment of the level of Varroa mite infestation? Why not? If it is Varroa mites that are most likely going to kill our colonies, shouldn't monitoring the Varroa status be the number one goal in any inspection routine? But I don't see that as an actual priority among most hobby beekeepers. Why not?

Perhaps the most common excuse that I hear from folks who don't take the time to monitor mite levels is, "I'm going to treat anyway, so why bother monitoring?" That excuse may, or may not, have been valid twenty years ago but unfortunately it isn't adequate today for three important reasons:

1. It assumes that you know when treatment is needed. We all know that the best time to treat is in the "fall", which for a beekeeper begins in August. That way we can have clean and healthy nurse bees raising our winter bees. I completely agree with this goal of an effective treatment strategy. We need our winter bees to be healthy and Varroa-free, and fall treatment is part of that plan. But – it does no good to treat in August if your bees all died in July!

2. It assumes that only one treatment is needed. Years ago, I was able to treat my colonies in August and they would sail through winter and into spring just fine. By the next August, they needed treating again. However, with the increase in popularity of beekeeping in my area, I get inundated with late-season "mite bombs", the phenomenon where bees loaded with mites drift into my hives, like rats fleeing a sinking ship, as neighboring colonies collapse. In recent years I've been required to apply miticides three or four times per year: once in early spring, before honey supers go on; once in early summer, after honey supers come off; in early fall (August), to get healthy nurse bees raising healthy winter bees; and again in late fall (late September/October) to combat the influx of Varroa-laden "mite bomb" bees. I would love to be able to scale back the number of times that I must apply miticides but I won't know if I can do that without monitoring Varroa mite levels.

3. It assumes that the treatment works. Without post-treatment assessment, we don't know if the

treatment we applied was sufficiently effective. We don't even know all of the many factors that are involved in allowing our miticides to work as intended, but common sense suggests that things like strict adherence to label directions, colony size, colony composition, Varroa infestation level, Varroa population composition (phoretic versus reproductive), temperature, humidity, amount of honey bee drift, hygienic characteristics of the bees, level of control among neighboring colonies and who-knows-what-else must come into play. So even something that "should work" may not work as well as expected during any particular application. In addition, a treatment may cause a significant reduction in infestation but the infestation level was so great to begin with that the end result still isn't good enough. In these cases, another round of treatment, perhaps with a different substance, is necessary.

The corollary to "why monitor if I'm going to treat?" is "why monitor if I'm not going to treat?" I don't see nearly as many so-called "treatment free" beekeepers these days as I did ten or fifteen years ago, but some are still around, and a few new ones pop up every year. This type of beekeeping falls into two different camps:

1. Sincere, dedicated beekeepers who are desperately trying to avoid the miticide treadmill, or at least reduce our dependence on it

2. Lazy, ignorant beekeepers who have no understanding of, or respect for, the living creatures that have been entrusted to their care

If you are in the second group... well, you probably don't read *Bee Buzz* so there is no need for us to comment further. But if you are in the first group, you face an immense challenge. It would be wonderful if your colony genetics and bottom-tier Integrated Pest Management practices actually keep Varroa infestations in check. ***But is it working?*** For these beekeepers, monitoring is perhaps even more critical than for their more conventional colleagues. If their high-dollar Varroa Sensitive Hygiene (VSH) queens' workers aren't keeping mites under control, then they've wasted their money. They need to clean up their infestations and then requeen immediately with a different genetic line. Likewise, if their passive Varroa management strategies aren't making a significant impact, they must find effective alternatives.

Let me be perfectly clear: a "live and let die" approach, whereby beekeepers do nothing with respect to Varroa management, replacing their dead-out colonies every

spring and allowing Varroa mites to breed unencumbered and spread to all other colonies in the vicinity is not only irresponsible but reprehensible. It directly thwarts the goal of developing a state of co-existence between bees and mites. By substantially increasing the Varroa mite load in a region, these people are undermining the efforts of those who are trying to nurture bees who can, hopefully, deal with mild infestations without assistance.

So, unless you want to be the source of death and doom for your neighborhood, beekeepers who don't intend to apply miticides as a first line of defense must engage in a frequent monitoring program and use effective means to address the issues that are discovered. All responsible beekeepers must control their Varroa mites; the strategy you use is your choice as long as it is effective. And the only way to know that is by monitoring. If you aren't going to employ an effective Varroa control strategy, then please give up beekeeping and try a different hobby. (See [Spring 2020's Bee Buzz](#) article "Maybe We Shouldn't Keep Honey Bees After All!" for more on this topic.)



The sugar shake test is easy to perform and the results are reasonably comparable to the gold-standard alcohol wash method. In this photo, the test shows that Varroa mites have gotten out of control and corrective action is needed as soon as possible. Photo by the author.

The third common obstacle to conducting periodic Varroa mite sampling is that for some people, it just seems too difficult or time consuming. However, those people aren't doing it right! There is no reason whatsoever for proper mite sampling to be unduly

burdensome. It is far easier than many of the chores we do as beekeepers.

If you are under the misconception that Varroa sampling is difficult, then please review the Honey Bee Health Coalition's free handbook, "[Tools for Varroa Management: A Guide for Effective Varroa Sampling and Control](#)" and especially watch their video (<https://www.youtube.com/watch?v=lgPft9FOxLc>) showing several techniques that make sampling simple.

Still not easy enough for you? NCDA&CS Apiary Inspector Lewis Cauble collects samples in the bee yard but doesn't process them on site. He stores the samples in Zip-Lock baggies, then does his counting procedure at home, in air-conditioned comfort, whenever he has free time. Watch his video on how he collects samples (<https://youtu.be/cBfkFdul1BY>) and how he does the actual mite counts (<https://youtu.be/Bc6-WzBFLO4>). Note that the equipment he uses is just about as simple as you can get.

There is a big difference between blindly treating for Varroa mites and actually controlling them. The question for each of us is whether we will step up to the plate and bee-KEEP rather than just bee-HAVE. In 2020, being a bee-KEEPER requires effective management of Varroa mites – they are an integral component of modern colony dynamics and are here to stay. Monitoring to understand what actions are needed, and when, is essential for effective management. Are there any good excuses for not doing that?

Randall Austin is a NC Master Beekeeper in Orange County. He is Education Director for Orange County Beekeepers Association and a Piedmont Regional Director for NCSBA. A version of this article originally appeared in the Bailey Bee Supply monthly newsletter (https://baileybeesupply.com/educational_resources/)

Master Craftsman Project Summary

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NCSBA Born & Bred Program Update

by Rick Coor NCSBA Past President

If the queen is the most important bee in the hive then regardless of how a beekeeper manages honey bees, success hinges upon queen viability; the genesis of everything lies with her. The goal of the Born and Bred Queen Rearing Program is to improve honey bee stocks through queen rearing education for beekeepers on both the individual and chapter level. The Beekeepers of the Neuse (BKON) enjoyed a successful 2020 season with the operation of a chapter level Born and Bred Program.

Participants in the program had the opportunity to observe the queen rearing process from start to finish (cell building to laying queen); however, the BKON program was not intended nor structured to teach each participant the entire process. Instead, the focus was for participants to 1) understand how the virgin queen emerges from a cell and successfully completes the mating process and 2) add new colonies to their own bee yards.

Cell building can be better accomplished with a small number of individuals whereas the setup and maintenance of a mating yard can involve the participation of any number of beekeepers. The BKON established a cell building team that would produce cells for the rest of the group. Cells were grafted on a Wednesday evening which allowed for cell placement in the mating colonies on the Saturday of the week following the graft, ten days later.

In order for a queen rearing program to be productive, an adequate number of mating colonies is required. A site that offered plenty of shade and access to a natural source of water was designated for the location of the

club mating yard. To be a participant, club members were required use their own resources and set up one or more mating colonies in the club mating yard. Sixteen club members participated and produced over forty mating colonies during the course of the program.

After the cell building team placed the cells, the colonies were monitored to determine if the virgin had emerged, mated and had begun to lay eggs. With favorable weather, nine to ten days were required for the mating process to occur. The initial success rate averaged 80%. The colonies that failed to produce a queen on the first try received another cell. The participants retained ownership of the colonies and once a laying queen was established, they could move the colonies back to their own yards.

Everyone who participated had at least one laying queen to show for their effort. A majority benefitted with one or more new colonies, over forty in all. The BKON received a \$500 matching grant from the NCSBA and plans to continue the Born and Bred chapter level program in 2021. Thanks to the BKON President and NCSBA Coastal Regional Director James Dove and the beekeepers of the BKON for making the program a success. Please contact James at 919-223-4755 with questions about the chapter level program.

Note: The NCSBA offers a \$500 matching grant to chapters that follow the guidelines of the Born and Bred Program and operate a chapter level queen rearing program. Please contact Etienne Nadeau at nadeaufarmsnc@gmail.com for copies of the Born and Bred Manual and more information.



Learning to graft cells is very interesting; it does not yield success without adequate facilities in which to place the cells for mating. The Beekeepers of the Neuse set up a mating yard with over forty colonies in order to produce locally mated queens.



Peyto Knows

by: Lane Kreitlow NC Master Craftsman

How do you hit a curveball?

Let the good ones go and swing at the bad ones.

Donna M. Devanney is a Keeper.

When life threw her a couple of curveballs, she did what she had to do: she swung at them. Her positive attitude in the face of adversity would result in two of her passions, bees and dogs, converging in an unexpected and meaningful way. A longtime beekeeper, Donna has always been at the top of her beekeeping game. She understands the challenges, big and small, of modern-day beekeeping, and faces them like a bold warrior walking onto the battleground, suited up and ready to conquer. Like all good beekeepers, she has fought many battles alongside her bees, winning most but unfortunately losing some, too.

Because some battles *can't* be won. American foulbrood (AFB) is one such battle. AFB is a deadly, highly contagious brood disease for which there is no cure. It is caused by the spore-forming bacterium, *Paenibacillus larvae*, and characterized by a distinct foul odor produced in the brood nest of infected colonies. The putrid odor may not be obvious in the early stages of the disease, thereby remaining undetected by beekeepers until the disease has progressed. Preventative antibiotics have been routinely used throughout the commercial beekeeping industry to manage the symptoms of AFB, but they are ineffective against the long-living, nearly indestructible spores that are characteristic of this disease. Spores can remain latent in contaminated equipment or honey for decades, until they reach the gut of young larvae through contaminated food where they germinate into the infective stage of the disease. The spores are spread by adult bees that drift from other hives, or by beekeepers themselves, who may unknowingly transfer the spores from an infected colony to a healthy one. If an infected colony is not attended to promptly, AFB can become widespread throughout the affected apiary, and beyond.

NC law requires that AFB-infected bees *and* the frames from the infected hive be destroyed, and the rest of the hive equipment destroyed or fumigated due to the nearly indestructible nature of the spores. It is the only honey bee disease that requires such drastic

measures. Even with varroa mites, the bees have a fighting chance. But AFB is a different beast. Without swift diagnosis and subsequent disposal and sanitation methods of the bees and hive components, AFB can devastate a beekeeping operation. Fortunately, the incidence of AFB is extremely low these days, with under 1% of managed colonies in NC testing positive for the disease. However, when it happens to your bees, statistics are irrelevant.



Photo: Durham Master Gardeners

Donna Devanney

Donna understands first-hand the cruel outcome of AFB to a beekeeper who loves her bees. Around ten years ago, she lost over 60% of her hives to the disease in what was a distressing yet eye-opening experience. In her many years of beekeeping, she had never before given AFB much thought, as it was virtually unheard of in her beekeeping circles. AFB was something that happened a long, long time ago, far away in somebody else's apiary, not in Durham, NC in 2010, and certainly not in *her* apiary. But when she began to notice ominous symptoms in one of her hives, along with an unusually high number of unexplained dead outs, she became alarmed. She reached out to former Regional Apiary Inspector Will Hicks, who confirmed her fears: the suspect colony- and thirteen others- tested positive for AFB. It was the big "A". The beekeeper's Scarlet Letter. Donna's bees had beaten the wrong odds.

To err is human—to forgive, canine

Donna was blindsided. AFB was not a curveball she saw coming. The heart-wrenching reality was that almost three quarters of a million of her beloved bees were either already dead or would have to be destroyed, along with hundreds of frames of drawn

comb filled with valuable resources, due to the relentless nature of AFB. The rest of the equipment would also have to be destroyed or fumigated in one of the state's ETO chambers. The financial loss was staggering, but the hit to her morale was almost worse. Donna would spend the next several years poring over what she had done wrong, beating herself up with the fallacy that she had not paid enough attention to her bees. But deep down, she knew she had. This could have happened to anybody.

AFB can be insidious because it starts in the larval stage but is usually not diagnosed until infected brood reach the pupal stage. Signs and symptoms can therefore simmer within a hive before they become overt, leading even experienced beekeepers to miss it until the disease has ravaged an apiary. The field tests that a beekeeper can use for detecting AFB early are inconvenient, time-consuming or expensive, rendering them somewhat impractical for use in routine screening. That, coupled with a very low incidence rate, means AFB testing is usually only executed after a hive is suspected of having the disease rather than prophylactically. At this point, the disease could have already spread to neighboring colonies.

Note: Honey from an AFB colony is safe for human consumption but if the diagnosis of AFB is made before the honey harvest, it is advisable to not harvest it, as doing so could contaminate extracting equipment. However, honey from an AFB colony is NOT safe to feed to other bees.

In Donna's case, it wasn't until there were other specific symptoms of AFB that the tell-tale odor became obvious in her infected hives. By then, the disease had already become pervasive in her apiary. The ideal scenario (aside from never having AFB in the first place) would be to catch it very early, so that an infected colony can be destroyed immediately, before the disease spreads. But our limited human sniffers simply aren't sensitive enough to detect the odor of this lethal disease when it is present in minute quantities, before other overt symptoms appear. So, what's a beekeeper to do?

Meet Peyto, a 6-year-old Shetland sheepdog, whom I can best describe as a furry bundle of brains, beauty, and charisma. She is a *big-dog-in-a-small-body*, with a personality that is much larger than her 13 lbs. Her strikingly gorgeous mismatched eyes twinkle like gemstones while reminding us that perfection is overrated. She is highly intelligent and eager to please,

a dog with a purpose. Peyto is Donna's fourth Sheltie but the first dog with whom she planned to funnel her tenacity into dog sporting competitions. The spunky little dynamo is one of two dogs belonging to Donna and her partner Michele Barr. Peyto's "all-American" dog-sibling Dakota spends his time chasing squirrels rather than training but is Peyto's biggest fan.

A lifelong athlete, Donna competed at the collegiate and professional levels. She continued an active lifestyle until a second curveball in the form of unexplained physical symptoms began making it difficult for her to keep up with her usual activities. It would take years of suffering with unexplained joint and muscle pain before doctors finally determined the cause: Lyme disease. By then the disease had taken its toll. Though Donna was relieved to finally have an explanation for the mysterious physical distress that she had been experiencing, it was nonetheless a gut punch to someone as active as she. But Donna always looks for silver linings.



Peyto is as stunning as her namesake, Peyto Lake in the Canadian Rockies

With the unfortunate physical limitations that manifested with the Lyme disease, Donna's desire to find a competitive sport she could do with Peyto led her to nose work, a less physical activity that harnesses a dog's ability to detect scent and determine its source. It is an excellent sport that gives dogs a sense of purpose while increasing the bond between the dog and its human. With the jarring memory of her AFB experience still fresh, Donna came to an obvious decision: she would train Peyto to identify the odor of

AFB so that any future infection could be stamped out before an outbreak could ever take hold in her apiary again. Further, she hoped Peyto would become the first certified apiary dog in North Carolina so that other beekeepers could benefit, too.

Nose work channels a dog's natural instinct to hunt and determine its source. Nose work mimics the official scent training of professional police and rescue dogs as a sport that is fun for the dog and its human. The National Association for Canine Scent Work (NACSWTM) is the founding organization and official sanctioning and governing body for the sport of K9 Nose Work®. The organization officiates activities related to nose work, including training and certification of instructors, Odor Recognition Tests and K9 Nose Work® Trials. Donna and Peyto have worked with NACSWTM-certified trainer Sue McKinney for over four years in weekly training sessions.

Nose work training begins with the dog learning to find one of three scents, usually something strong and distinct such as birch, anise, or clove. Containers of the target scent are hidden in various locations in a training area for the dog to sniff out. The dog is rewarded for finding the containers with something delicious, such as hot dog, meatball or Peyto's favorite, homemade dog cookies. The positive reinforcement solidifies the dog's understanding that searching for and finding a target scent results in a reward.

Teams can train with other scents. For Donna, the goal was to train Peyto to sniff out AFB, but it would take two years before she was able to obtain an AFB sample to use in training. Eventually, working with NCDA&CS Apiary Inspection Supervisor Don Hopkins, she obtained a sample that was first sterilized in the state's ETO chamber in order to deactivate the spores, eliminating the risk of inadvertently spreading the disease during training.



Sterilized AFB sample used in training

Odor Recognition Tests as part of competitions require that a dog find the hidden location of the target odor. To pass, the dog must find the odor and the handler must correctly call an 'alert' within a three-minute test period. Successful execution of the odor test requires skill by the dog and its handler. The team must work in harmony so that false alerts or incorrect interpretation of the dog's behavior don't result in disqualification.

Donna and Peyto have achieved the second of four levels of NACSW, NW2. They have under their belts a 1st Place win in Containers and a 4th overall in one of their competitions. They were entered in a competition this spring for advancing to NW3, but it was canceled due to the coronavirus pandemic. Donna aspires to achieve NW3 in the near future. She also competes in AKC Scent Work (American Kennel Club®) where she has achieved her SWA (Scent Work Advanced) title working toward Detective Dog.

As NACSWTM is a sporting organization, achieving the highest level of certification will earn you much-deserved bragging rights, but there is currently no official certification for apiary nose work that is sanctioned by any regulatory agency in North Carolina. Donna plans to pioneer efforts to change that in the future. For now, Peyto will continue to help safeguard Donna's apiary until she can become an official asset to beekeepers in North Carolina.

The use of dogs in apiary inspections is not new. The Maryland Department of Agriculture has kept a "bee dog" on its staff since 1982. The agency is currently on its fifth dog, a four-year-old yellow lab named Mack. Mack is trained and owned by Maryland Apiary Inspector Cybil Preston, who rescued him when he was one-and-a-half. Mack is currently the only certified dog in the U.S. that can sniff out American foulbrood. Donna and Peyto hope to change that.

What makes dogs good at nose work? Most dogs can be trained in nose work but dogs like Peyto who are highly intelligent and eager to please make ideal competitors. Nose work takes advantage of a dog's natural instinct to hunt using their keen sense of smell. Dogs perceive the world using sight *and* smell to gather information from their environment. To a dog, the surrounding environment is a buffet of smells that must be investigated. Any dog owner knows how strong the sniffing impulse is. In contrast, humans rely more on visual cues than olfactory cues when interpreting information.

Dogs have up to 300 million scent receptors in their noses, compared with about 6 million in humans. Though difficult to quantify, a dog's sense of smell may

be as much as 100,000 times greater than the sense of smell in humans. To visualize how sensitive that is, a dog's nose can detect the equivalent of ½-teaspoon of sugar in an Olympic-sized swimming pool! Since it only takes about 10 AFB spores to become infective, harnessing a dog's ability to home in on scents that are present in minuscule quantities is a game-changer for apiary inspections. A well-trained dog can sniff out AFB in minutes, saving valuable time and effort. It can also spare a beekeeper a lot of heartache in the bee yard when the presence of AFB is identified early.

Nose work in apiaries has special considerations, namely, how to train or execute sniffing services while minimizing the risk of the dog getting stung. Donna circumvents some of the risk by training late in the day, during acclimate weather, or in winter, when the bees are not flying. However, getting stung comes with the territory so Donna keeps a sting kit appropriate for dogs nearby. Luckily, Peyto's thick fur prevents many stings, but her sensitive nose has been on the wrong end of a few bees over the years. But that does not dampen her enthusiasm for continuing her mission of detecting AFB in beehives. Fortunately, the only AFB that Peyto has sniffed out so far is the training decoy. Still, it's peace of mind that allows Donna to sleep better at night.



A training session at Lee's Bees in Mebane. (Note: Lee's Bees was totally clear of AFB. The only alert was on the training hive.)

Donna is a *beekeeper*, not a *beaver*, in the truest sense. She has kept bees for over 17 years and has been a leading authority on beekeeping ever since. She is one of two founders of the Durham County Beekeepers Association and has often served as the lead instructor for the club's introductory beekeeping class. In 2009, she lobbied successfully for the approval of beekeeping in Durham by ordinance, lifting the prior restrictions on beekeeping within the city limits.

Donna is a proponent of human health as well as bee health. She has been a licensed Massage and BodyWork therapist since 2002. As a lifelong athlete, she understands the importance of massage therapy in everyday life, as well as in athletic performance. She and Michele run NC Healthworx (nchealthworx.com), a Durham-based company that offers a variety of health and wellness services, including CORE myofascial and sports massage, health coaching, HeartMath, hypnotherapy, canine massage and much more.

When she is not working to improve the lives of human and canine athletes, Donna is working to improve the lives of honey bees and beekeepers. Her other company, The Bee Charmer, is a regular fixture at NCSBA state conferences alongside other vendors. Her popular "I'm a Keeper" clothing line features embroidered shirts and jackets. She also produces instructional videos for non-beekeepers through her informative YouTube channel, thebeecharmernc@gmail.com. She sells her honey under The Bee Charmer label- the perfect name for her company, as Donna truly *is* a bee charmer. And yet, AFB found its way into her apiary anyway. It goes to show that even the most experienced beekeepers are vulnerable to AFB and the dire consequences of having it.

A dog is the only thing on Earth that loves you more than he loves himself.

It's true that the odds are overwhelmingly in your favor to never have even a single incidence of AFB in your apiary. But when you do, *you do* so it never hurts to be prepared. Donna reflects on her loss with the hope that in sharing her story, other beekeepers may be spared the ugly wrath of AFB. Look for updates as Donna and Peyto work toward establishing and achieving an official certification of apiary nose work in North Carolina. Once accomplished, Donna hopes to provide AFB sniffing services to beekeepers in North Carolina.

OCBA Uses GAP Award to Create a New Website

by Celeste Mayer, Carrie Donley, Maribeth Hamilton, Karen Lauterbach, Amy Stern, Erika Wittchen, and Rob Zelt

The Orange County Beekeepers

Association (OCBA) was proud to receive the 2019 Golden Achievement Award (GAP) for advancing the practice, science and community of beekeeping. We used the \$700 grant to redesign our OCBA website to enhance communication and engagement both within the chapter and the community.



2018-19 GAP Award Winners

To begin, we invited volunteers from the OCBA membership to create a Website Redesign Workgroup. We were very lucky that those who volunteered had the skills we needed.

Our next step was to get feedback on the existing OCBA website. Sixty-six members (~30%) participated in the survey. We collected data about frequency of website use, reasons for use, and satisfaction with content and ease of use.

We learned the top three reasons for accessing the website: association news, next month's speaker and topic, and membership renewal. Respondents generally reported being able to find what they needed on the website. The top three desired new website content requests were: a What's Blooming in Orange County section, a 12-month calendar of events including outreach activities, and an electronic way to make rental extraction equipment requests. Free text comments were some of the most useful, including this one: "A static welcome page as the front page...something that conveys to the user "welcome - you have reached your destination - please come inside."

Our first meeting, and as it turns out our only in-person meeting, was in late February 2020. We got to know each other's backgrounds, interest in being part of the workgroup, reviewed the survey results, and talked about strategies for approaching the project. We determined that our existing website had much of the

content we needed, but it could be dramatically improved by a complete reorganization and update.

To be sure we understood not only member perceptions, but also website administrator observations, our next step was to interview three OCBA members who had recent website administrative responsibilities. They emphasized that easy-to-use signup forms were important for membership engagement. Their wish list also included the calendars for events and extractor equipment reservations.

We took what we had learned from the survey and interviews, and began the reorganization of the content, page and menu layout, and website navigation. The team worked through two versions of content reorganization on paper.

Logo redesign happened in parallel to the website redesign. Just as we wanted the website to represent our club, we spent time considering what the club means to us and how that should be reflected in a logo. We talked with four different artists with logo design experience and selected one who happened to be a beekeeper and club member!

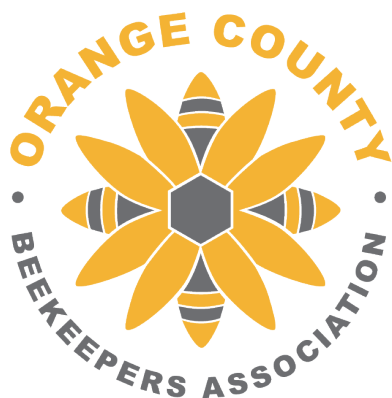


OCBA Website Redesign Team

With eight Zoom meetings between March and June, we developed more content, solicited photographs from the membership, added an event calendar, and an extraction equipment booking calendar. Additionally, we added several new features for both club members and the community, including an online club merchandise portal and a listing of club members selling local hive and honey products. In response to member feedback, we also added a What's in Bloom feature, which will provide links to detailed plant information, bloom time, and value of a given

pollen/nectar source in the context of honey bee forage plants commonly found in our county.

The OCBA website now looks very different with high impact photos contributed by members on the home page and throughout the website. The reorganization using a menu bar, as well as home page boxes of linkable key features improves navigation and organization. We also have a beautiful new and unique logo.



OCBA leadership and the former website administrators previewed the new website and completed a survey. All were very pleased, for example: "It is hands-down a vast improvement over the current website which looks old and feels clunky and is just

plain uninteresting... I love the many gorgeous photos in the new website. The descriptions are well-written and inviting." Fifteen volunteer club members also previewed the website, and all reported that the organization allowed them to find information of interest and that the website included everything they would like it to have.

We were lucky to have member volunteers with a special set of talents, personal integrity, and respect for one another, along with a strong sense of commitment and pride in the Orange County Beekeepers Association. We had to adapt quickly to working together via virtual meetings, and along the way we formed new friendships. Isn't that one of the best parts of beekeeping and an extra special benefit of membership in a bee club?!

We hope everyone will enjoy exploring the new OCBA Website that can be found at www.theocba.org.

Acknowledgements: All authors were the Website Redesign Workgroup members, and each contributed significantly to the final website and logo design. We also appreciate the beautiful logo artwork and graphic design provided by Loren Pease (OCBA member) <https://sweetpease.com/about> and Melissa Hudgens <https://www.leafygreensdesign.com>.



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Do You Need a Speaker For a Chapter Meeting?

by Suzy Spencer NC Master Craftsman

To help Chapters find Speakers for their monthly meetings, the NCSBA has created a list of people that are willing to give presentations by either Zoom (video-conferencing) or in-person (pending Covid-19 virus restrictions and recommendations). NCSBA President Paul Newbold sent an email directly to the NCSBA members on June 30 and to the Chapters on July 14 requesting names and titles. The responses were compiled and became the first version of the "Speakers List" which was posted on the NCSBA website under "Chapters". It will be updated periodically as other Speakers come forward. Success of this project will depend on how many Speakers join in the effort and if the information is kept updated by the Speaker.

Being on the list is not necessarily an NCSBA endorsement of the Speaker. When contacting the Speaker, the Chapter can ask for a reference or the name of a Chapter that has heard the presentation. The Chapter should determine if the Speaker charges for gas or other expenses, how far they are willing to drive, the length of the presentation, and other relevant information. Compiling and updating details like that are beyond the scope of the project.

NOTE: Chapters and members should already be aware that Dr. David Tarpy (NCSU Apiculture Sciences professor) and his team have a wide range of high-quality presentations available. Some can be presented in real-time (via Zoom or in-person). Others are recorded and can be streamed during an in-person or Zoom meeting. See the NCSBA "Speakers List" posted on the NCSBA website under "Chapters" to see more about Dr. Tarpy's offerings and instructions on how to request these.

Please help the NCSBA create an extensive list with many topics. If you would like to be added to the "Speakers List", email the following information to Suzy Spencer at presentations@ncbeekeepers.org. It will remain the responsibility of the Speaker to provide updates later or ask to be removed from the list.

Speaker's name

Presentation topic or title (you may list up to 10)

Contact information (email address / phone number)

Local Chapter

Format (by Zoom, in-person, or both)

Reference / Additional Information (optional)



Bee Buzz Photo Contest

Do you have an outstanding bee-themed photo you would like to share?

We are pleased to announce the first annual Bee Buzz Photo Contest open to all current members of NCSBA. Photos will be accepted by email only, in .jpg or .png formats during the period of Sept. 1-October 21, 2020. A caption must be included in the text of the email, along with photo credit, county and location, and the date the photo was taken. Please send the uncropped, full resolution photo along with the submission.

The winning photo will be featured on the front or back cover of the Bee Buzz issue for the season in which it is most relevant. Photos will be judged based on quality, relevance, originality, educational value, and caption. Email entries to: Beebuzzcontent@ncbeekeepers.org

Rules:

- Must be a current member of NCSBA
- Only one photo per entrant
- Must submit during the period of Sept. 1-October 21, 2020. Late entries will not be accepted
- A separate Youth category is open for NCSBA members age 16 and under
- Submission allows photos to be used in the Bee Buzz or by NCSBA at the discretion of the Editors
- Participants retain all copyright to their photos

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"Working Goldenrod"

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