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## North Carolina Bee Buzz Winter 2018



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ON THE COVER:

From Honey Sensory Class in Bologna, Italy
Read more in the article in this Issue (Page 19)
Photo Sean Collinsworth

#### 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.

#### **2018 Executive Committee**

**President:** Rick Coor

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**Secretary:** Lynn Wilson **Treasurer:** Libby Mack

**Membership Secretary:** Todd Walker **Education Coordinator:** Dr. David R. Tarpy

**State Apiarist:** Don Hopkins **Past President:** Julian Wooten



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#### **Coastal Region**

Senior: Cheryl Newbold Junior: Kenny Jones Sophomore: Eric Talley Freshman: James Dove

Contact information for the NCSBA Officers and Regional Directors can be found in your Yellow Book Directory and on the NCSBA website **www.ncbeekeepers.org** 

www.ncbeekeepers.org Webmaster Jessica Mjelde

#### From the Bee Buzz Editors:

Bee Buzz Story Submission Deadlines: Summer: Mar 21 - Fall: June 21 - Winter: Sept 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.

Bee Buzz Subscriptions: Please direct subscription questions and address changes to membership@ncbeekeepers.org

Jody Moore, Technical Editor beebuzzeditor@ncbeekeepers.org

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

#### **NCSBA Communications - Stay Informed!**

Beekeepers, please reference the text portions for the following announcements at www.ncbeekeepers.org

**9/21/18** Hurricane Florence Assistance **10/17/18** Hurricane/Storm Assistance Deadline 10/31



#### **Message From The President**

by Rick Coor NCSBA President

#### To the beekeepers of the NCSBA,

It has been an honor and privilege to serve as President of the North Carolina State Beekeepers Association. Upon numerous occasions, I have enjoyed proper introductions and received warm receptions as the NCSBA President, though not necessarily because of anything that I had done but because of everything that the volunteers of our association had done. Please allow me this opportunity to acknowledge the volunteers of our association on all levels and say, well done everyone, well done! The NCSBA is an honorable organization to be a part of and it has been worthy of my time and service.

Before I leave office, there remains some unfinished business to attend to: an upgrade in communication. While the NCSBA leadership has worked to expand its programs it has also worked to expand its means to reach more members with information. No longer must we rely upon a system of sending NCSBA information to a list of chapter email contacts and hoping that the information gets passed along to the members of each respective chapter. Perhaps the biggest flaw in the chapter email contact system has been that it requires each individual chapter to designate a responsible person who is then willing to compile and maintain an email list of the chapter's members; that has proven to be an unrealistic expectation. The result of this system has been that a significant portion of our membership has not been receiving messages from the NCSBA leadership.

The Association is ready to take a step forward and your help is needed. Since 2016, the leadership has diligently compiled individual emails and as of this writing has emails for 4,038 members of the Association. At last we have the means to communicate directly with the members of the Association, but you also have a role. What we are asking is simple: update your email when you join or renew your membership. By doing this simple step, you can stay informed of Association news, spring and summer meeting information, and program information. The NCSBA email communication will not be used for solicitations or frivolous notices. Anyone who does not want to receive NCSBA emails can simply opt out and choose to remain in the dark.

There is another need for email communication. It is the intention of the leadership to use email as a means to conduct official business. The current means is notice by First Class mail. By NC law, emails can be used to send the general information of a corporation but cannot be used to conduct official business without permission. An NCSBA member must specifically grant permission to be notified by electronic means in order to conduct business. Such business would include a notice of a vote to amend the constitution and bylaws. A check box has been added to the membership application in order for members to grant their permission to receive electronic notice of official business. Please read the statement in the box and agree to receive notices of official business.

It has been an honor and a privilege to serve as President of the North Carolina State Beekeepers Association!

Thanks for reading,





#### In the Apiary: Winter in North Carolina

by Nancy Ruppert, Apiary Inspector, NCDA&CS



Winter is by far the most challenging of seasons for honey bees, and is the season during which our NC apiary inspectors tend to find the most death and destruction. Most of the time, colonies that die in NC have perished because they could not get the help they needed in a timely way. Because there are so many challenges these days for honey bee survival, we as beekeepers are obligated when we acquire and keep bees to help them when needed. That starts with knowledge.

Knowledge about how to help honey bee survival should come from reliable sources—beekeeping classes, university-affiliated websites, articles in beekeeping journals, books written by true beekeeping experts—and winter is often the time when beekeepers are less busy out in the apiary and might be more available for learning in the warm indoors. Most local beekeeping schools are held during the winter; for a listing, consult <a href="https://www.ncbeekeepers.org">www.ncbeekeepers.org</a> under the "Chapters" heading on the home page, or check with your local beekeepers/community college.

Size matters when it comes to the winter cluster of honey bees. If you don't have enough adult bees in the hive-minimum three deep frames (or the equivalent) covered with bees-during our cold January/February nights, the colony will likely freeze to death unless they're insulated or warmed. Having a robust population of adult honey bees in January requires proper planning and action during the previous summer and fall, and is impossible to achieve on short notice without combining hives. Key elements to having enough healthy bees in mid-winter include a productive queen during the summer and fall, to help build the colony population; keeping varroa mite populations to a minimum (especially entering fall, when the buildup toward winter bee populations is beginning); and helping bees acquire plenty of good nutrition.

Some common questions often arise about overwintering bees: Do the hives need to be wrapped? Should they be fed, and how? Can I leave them alone through winter, or do I need to check them? It's worth considering hive insulation during outdoor temperatures of <20°F, especially with a



A previously upright hive leaning at a 45° angle after a visit from Florence illustrates the importance of ratchet straps in storm preparations! Thankfully, the bees (including the queen) made it through fine. Photo credit Nancy Ruppert

marginal adult population. Be sure to have a plan to release or absorb the moisture that rises with the cluster's heat. Quilt boxes are another tool to help keep your winter hive warmer and absorb the cluster's rising moisture. Your local beekeepers can give you details on hive insulation and quilt boxes. Also, limit the frequency of opening the hive, so that the insulating propolis seal is not broken. Entrance reducers offer some help in limiting cold drafts but are even more important in preventing mice from moving in (or, alternatively, mouse guards may be used) and should be installed by the end of October.

Nutrition is critical to the health of a honey bee colony. Sometimes the bees have gotten enough quality pollen and nectar on their own to overwinter, but most colonies need help at least some time during the winter, as colder temperatures tend to suppress nectar (and some pollen) production in most of NC. Pollen patties and/or pollen powder during late December and through January are an excellent way to stimulate brood-rearing early. Solid carbohydrates, such as candy boards or fondant, work very well for winter feeding and can help absorb moisture as well as

stimulate brood-rearing. If your apiary is near ½ acre or more of arable land, consider planning for 2019's plantings for your bees that enable them to feed themselves—with the right choices, you can have a succession of forage sources that build strong bee bodies throughout most of the year here in NC. See <a href="www.growingsmallfarms.ces.ncsu.edu">www.growingsmallfarms.ces.ncsu.edu</a> or other reliable sources to learn more about pollinator plantings.

If you have properly managed varroa mites by mid-October, have at least a few frames of healthy brood by late October, and have plenty of healthy food in the hive by mid-November, then your bees will likely cruise through the winter without much further help. This frees up extra time for the beekeeper to more fully enjoy the holiday season, with anticipation for a healthy start to the productive spring beekeeping season. Happy Holidays, and Happy Beekeeping!



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#### **BeeFeeders**

#### **North Carolina Pollinator Plants**

by: Ulana Stuart, NC State Extension Master Gardener

#### The North Carolina State Fair

rules dictate a collection of twelve nectar and pollen-producing plants that are important to honey bees at each County Beekeeper Association booth. For this year's State Fair, the Chatham County booth's theme was *Flower to Table*. This theme led to this column's focus on edible plants that also produce pollen and nectar which you should add to your beefeeder garden.

**Serviceberry** (Amelanchier arborea) is a beautiful flowering native tree that provides pollen and nectar, with delicious and juicy red-purple berries that ripen in early summer. Serviceberry grows best in part to full sun and moist to semi-dry soils that drain fairly well. 'Autumn Brilliance', 'Autumn Sunset' and 'Princess Diana' are the best and fastest growing serviceberry cultivars which grow to 20 feet tall and are selected for disease resistance and fall color.



**Blackberry** (Rubus fruticosa)

**Blackberry** (*Rubus fruticosa*) is a deciduous shrub that produces a large amount of pollen and nectar. Blackberries from your garden always taste better than those brought home from the store. There are a large variety of blackberries from which to choose, and each have specific planting and pruning requirements that are important to know. Fortunately, the NC State Extension has a wonderful publication for everything you need to know about growing blackberries across North Carolina; it is freely available at <a href="https://tinyurl.com/yd59qsrp">https://tinyurl.com/yd59qsrp</a>.

'African Blue' Basil (Ocimum 'African Blue') is an annual herb that needs full sun and well drained soil. 'African Blue' basil plants are typically available at nurseries or wherever you find a good selection of potted herbs. As one of the best herbs I have grown for attracting honey bees and native bees, I have an extensive planting on my front curb. Visitors walking down my street typically see so much pollinator activity they often stop and ask several questions. If you are not growing this tender edible herb for your bees, you should.

Unlike regular basil, 'African Blue' does NOT go to seed but continues flowering throughout the summer because it is a sterile cross between two basil species. In addition to its high quality as a beefeeder, 'African Blue' basil can be used for a pesto that tastes a little different than regular pesto, but still delicious.

As a tender planting that will not overwinter outside, I often take some 'African Blue' cuttings well before frost and root them in water indoors. After they have a healthy root system going, you can pot them up and grow them where they can get as much light as possible.

In addition to 'African Blue' basil, here is a short list of the best culinary herbs that you can grow for kitchen use and for your favorite pollinators. These plants are listed by the amount of nectar and pollen provided:

**Spearmint** (*Mentha* x *spicata*)

**Thyme** (*Thymus vulgaris*)

**Salvia** (Salvia officinalis) 'Berggarten' is a better cultivar for NC

Rosemary (Rosmarinus officianalis)

**Oregano** (Oreganum vulgare)

**Chives** (Allium schoenoprasum)

**Lavender** (*Lavandula angustifolia*) 'Grosso' is a better cultivar for NC

**Borage** (*Borago officinalis*) edible in soups and salads, flowers tastes like honey

Basil (Ocimum basilicum) an annual in NC

Keep in mind that all herbs grow best in full sun and well drained soil.

A final reminder: experienced North Carolina gardeners know the best season to plant trees, shrubs and perennials is the fall into early winter. New plantings will still need supplemental watering if there is a lack of rain. Note that roots will continue to grow even in winter.

#### Bee Hive Thermal Industries, Breaking News, Saving Honey Bees Organically

An organic and noninvasive solution in targeting and killing Varron Mite infestations, that are killing honey bees, was developed by the joined forces of. Bee Hive Thermal Industries (<a href="https://www.beehivethermalindustries.com">https://www.beehivethermalindustries.com</a>) and OVEN Industries (<a href="https://www.ovenind.com">https://www.ovenind.com</a>), experts in temperature control.

Even if you're not in the bee keeping business, commercially or as a Hobbyist, you may have heard that, "honey bees are in trouble". There are a few main reasons that we could list in this dilemma and most experts will most likely agree that the Varroa Mite is near or at the top of that list. Bee Hive Thermal Industries designed this Thermal System utilizing an industrial grade heater blanket and electronic controls which are easily installed and removed from the hive. The end goal of the product is to raise the temperature of the hive to a programmed temperature, killing the mites & hive beetles without harming the bees based on studies done in Europe & US. To see the game changing product in action, click the link and view the video. https://youtu.be/D3I4G2Ws91o

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In the fight against today's Varrou Mites, beekeepers are often, if not always, resorting to pesticides as the solution. Bees have many other predators and hardships to endure, including weather related issues such as cold temperatures, moisture and diseases. The effect of the Mite on the overall colony is paralyzing to both general activity and honey production within the hive. This revolutionary product is showing positive results in killing and controlling mites and hive beetles, with only a few applications annually. For show listings click here <a href="https://www.beehivethermalindustries.com/events/">https://www.beehivethermalindustries.com/events/</a>

Bee Hive Thermal Industries, located in heautiful Pageland South Carolina, is to be recognized as a global leader in the design, development and distribution of organically suitable products for the bee industry globally. The company strives daily to provide unique and safe solutions for bee keepers everywhere, providing them with high quality, value and reliability. Caring for our bees is very important to the mission of Bee Hive Thermal Industries. Visit our website at <a href="https://www.beehivethennalindustries.com">www.beehivethennalindustries.com</a>

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#### Wolfpack's Waggle:

## Honey Bee Veterinary Consortium: The Newest Addition to our Beekeeping Community

by Dr. David Tarpy

Department of Entomology & Plant Pathology, NC State University



**Most of us** in the NC beekeeping community probably don't realize it, but there was a fairly significant regulatory change that went into effect on January 1, 2017. Most in the national apiculture industry, however, have been keenly aware of this transition. I say that because most part-time or hobbyist beekeepers—like most of us—do not use antibiotics in their beehives, whereas most full-time or commercial beekeepers do, when needed. The rule that went into effect was imposed by the FDA to regulate animal use of antibiotics that are also prescribed for human consumption. Since that time, any beekeeper who wishes to purchase and apply antibiotics are required to have a licensed veterinarian physically inspect their colonies and write a prescription for its use.

At issue are three economically important diseases. The first is Nosema disease, caused by an intestinal microsporidian parasite that can result in colony decline and sickness. Up until recently, beekeepers have mixed the antibiotic fumagillin (Fumadil-B®) in sugar syrup and fed it to their colonies for the bees to consume and rid them of the infection. That sole product, however, is no longer manufactured or available for beekeepers, and there are no alternatives currently available that are registered for this disease. Experts have argued as to the efficacy of this antibiotic for the "new" form of Nosema (Nosema ceranae as opposed to *N. apis*), so it is unclear how critical this option has been for beekeepers in the first place. Regardless, discussion of this particular antibiotic and disease treatment is, for the time being, moot.

The other two diseases are the two foulbroods, European (EFB) and American (AFB). These are both bacterial infections that kill developing larvae and are problematic or devastating, respectively. EFB is usually considered a "stress" disease induced by nutritional depravation, something that the beekeepers (and the bees) can overcome if those other stressors are removed. AFB, however, is horribly noxious because the bacteria are spore-forming, which can be spread like wildfire. Traditionally, beekeepers have had the antibiotic oxytetracycline (Terramycin®) available to treat both of these infections, although experts have long been reluctant of its use because (a) it doesn't eradicate foulbrood just prevents its further growth and, (b) prophylactic use can select for antibiotic

resistance. Indeed, AFB has become resistant to oxytetracycline (although not in North Carolina), which prompted a second antibiotic (tylosin, sold as Tylan®) to be registered for AFB infections. These are the two main products that beekeepers now need a prescription in order to buy and use.



In response to this new way of doing things, the veterinary community has responded by forming a new network—the Honey Bee Veterinary Consortium—aimed at facilitating the implementation of these new regulations. North Carolina has led this charge, with many key members at the NC State University College of Veterinary Medicine. The first ever conference of this group convened on September 29-30th with nearly 200 attendees from all across the nation, including speakers such as Don Hopkins, Randy Oliver (CA), Nicolas Vidal-Naguet (France), and Michael Murphy (FDA). The new logistics are somewhat complicated, and below are some important links with additional information, but let me quickly summarize what I've learned about how you can properly order antibiotics if you so wish. There are two processes that willing veterinarians can use: (1) they can write a **prescription** for either of the two antibiotics if fed to the bees in syrup, or (2) they can execute a **Veterinary Feed Directive (VFD)** for tetracycline only if fed to the bees in patties or sugar dusting. The distinction between these two options are not quite as important to the beekeeper, but both require an in-hive inspection to diagnose the problem and verify that antibiotics are a viable solution. Our terrific team of NCDA&CS Apiary Inspectors can be consulted on these visits, but they cannot write the prescriptions on behalf of a veterinarian. In order to locate a knowledgeable and willing veterinarian in your area, please visit: https://www.hbvc.org.

#### **Continued From Previous Page**

All of the above recommendations are provided if you wish to use antibiotics, but it does not address whether or not you *should* use antibiotics. As initially mentioned, most beekeepers in NC neither need nor should use antibiotics, and instead should rely on quarantine or culling. As always, your local inspector is going to be your best resource for advice and instruction on the proper course of action for beekeeping your bees healthy. However, I hope as a state beekeeping community that we will also embrace this new influx of animal-health experts that have been thrust upon us because of these regulatory changes. There is a large number of excellent, well-trained and knowledgeable veterinarians out there, and I believe that they have a lot to offer us as beekeepers about how to best manage animal systems. Most, however, have not have much training about bees but rather mammalian systems, so they need our help to get up to speed on the differences of mammalian husbandry and honey bee husbandry. As such, they are going to rely on us to fill those knowledge gaps and assist them in this process, and I am confident that the NCSBA will respond positively since it can only help our community to keep our bees healthy.

#### Do I need a vet for my bees?

https://www.beeculture.com/do-i-need-a-vet-for-my-bees

#### FDA frequently asked questions:

https://tinyurl.com/y9x565ao

#### **NC Veterinary Medical Board FAQ:**

http://www.ncvmb.org/public.php?section=faq

#### **USDA** definitions:

https://nvap.aphis.usda.gov/BEE/bee0001.php

#### **USDA APHIS information:**

https://nvap.aphis.usda.gov/VFD/index.htm



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#### **Master Beekeeper Program**

by Doug Galloway Master Beekeeper Committee Member

**Close to Home!!** In 2018, we had an opportunity to listen to and learn from remarkable educators about the state of our beloved honey bee very close to home.

It was a banner year for having some of the best educators come to our area and share their experience and knowledge. I thought about listing them, but if I missed one, I would feel bad and perhaps offend someone who might shy away from visiting one of our meetings. If you didn't make it to the NCSBA Spring or Summer Conferences, the EAS annual meeting in Hampton, VA, or spend a morning at the Mountain Horticultural Crops Research and Extension Center the beginning of September, you might feel some remorse for having missed an opportunity.

Not to Worry, 2019 brings more of the same! The American Beekeeping Federation (ABF) Conference and Tradeshow will be held in Myrtle Beach, South Carolina January 8-12. Go to their website to see all that is available for you to enjoy, learn and participate in while your bees are clustered up.

The NC/SC joint Spring Conference will be held in Monroe, NC on March 1 and 2, a two-day meeting allowing you to catch up with beekeepers around the state and in SC, but not take much time away from your spring prep.

Eastern Apiculture Society (EAS) comes to Greenville, SC July 15 – 19, 2019. Again, go to their website and identify what aspects of their conference you wish to participate in. There is a lot to choose from and a remarkable number of beekeepers from diverse locations to learn and share with. EAS represents beekeepers in 22 states along the East Coast. They

move their meeting around to best serve their membership. In 2017, their meeting was in Delaware, in 2020 it will be in Maine, which is the closest it will be for the next few years, so take advantage if you can.

Last and certainly not least, our NCSBA Summer Conference will be held in Hickory, NC from August 1 – 3. All the opportunities of our summer conference to learn, share and compete will make it another excellent investment of your time and energy.

With all these educational opportunities so close to home and so much to learn in the evolving world of beekeeping, I encourage you to schedule some time in 2019 to attend as many of these events as possible. Lastly, a few specifics that I thought worth repeating. The changes you see to the Public Service Credits are an attempt to place in writing the way we have judged the validity of Public Service Credits for a number of years. We have attempted to clarify so you're not disappointed if one is not approved. Regarding the Sub-Specialties, we removed a category from which we were hard pressed to find an acceptable proposed Specialty, thus eliminating confusion for our candidates. Further, we expanded some Specialties to include those elements that were overlooked in the past. Often, a candidate expresses concern for the challenges associated with achieving the required number of Service Credits or Sub-Specialties. Being recognized as a Journeyman or Master Beekeeper is a responsibility that shouldn't be taken lightly. Other beekeepers and the general public will look to you for advice and knowledge, the challenges of the Master Beekeeper Program are intended to prepare you to meet that responsibility.

Remember, no testing at the Spring Conference, but testing will be held on April 27, 2019 at both Morganton and New Bern.

#### NCSBA-MBP Spring Testing, Saturday, April 27, 2019

#### **East Location:**

Craven County Cooperative Extension
300 Industrial Drive
New Bern, NC 28562

#### **West Location:**

Burke County Extension Office 130 Ammons Drive Morganton, NC 28655

Hours: 9:00 AM till 12:00 Noon - No Written Tests Issued After 10:00 AM

Please Notify MBP@ncbeekeepers.org of your plans to be tested (Requested but not mandatory)

No testing at the NCSBA/SCSBA Joint Spring Meeting in Monroe



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#### **Meet the Leadership**



#### Message from 2019 NCSBA President-Elect Paul Newbold

#### Welcome, fellow beekeepers! I look

forward to serving you in 2019. As with beekeeping, the NCSBA is also ever changing. When I first started beekeeping 10 years ago- which seems like much longer- it was all so new and exciting. Now with all those years of experience, it's still exciting and still feels new. As I have stated in past articles, the bees don't read books, so we can always expect to find something new with the bees.

I am originally from North Carolina, born here, but spent 37 years in Pennsylvania as an employee of Allegheny Airlines/ Us Airways and what is now American Airlines. I retired and moved back home and now enjoy the good life of the country farm, golfing, and beekeeping. I was asked several years ago to help with the Master Beekeeper Program in 2014, when it was determined that the program was behind and needed help catching up the Certified program. After the passing of Dr John Ambrose, I was asked to chair the Master Beekeeper Program. With lots of help and making some minor changes, adding a computer program to keep track of new beekeepers, we got the program back on track. In 2017, I was asked to chair and help with the Born & Bred Program. This program hopefully will get us on track to have North Carolina queens available to all of us here and lessen our dependence on getting gueens from elsewhere.

Now nearly five years later, going from not knowing anyone outside of my local chapter, Beekeepers of the Albemarle, I feel I have friends all over the state and in nearly every chapter. I promised back then with the MBP, everyone would be treated equally, and we would have a totally transparent way of doing things. The NCSBA is a predominately volunteer organization, and we work for you. Volunteering is our way of doing business, from serving in the local chapters to volunteering in the State Association. I will need your help in the next year to make the NCSBA continue as a successful organization.

As the newly elected president, I expect to continue the programs that have made the NCSBA the largest and most successful beekeeping association in the country. We are also looking to make changes to bring us up to date as to how we do business now and in the future. The bees haven't entered the computer age, but beekeeping has. Our membership has grown from a few hundred to a thousand to where are now approaching five thousand members. We now have 80 chapters across the state and still growing.

Beekeeping is the now the newest hobby that is faster growing than anything else. Every year the Master Beekeeper Program certifies over 500 new beekeepers that you, the members, are teaching and mentoring.

In order to do business at the state level we need to your help. Our dues, at only \$15 per member, are barely covering the cost of the business and programs we are doing. We are going to ask the Regional Directors to visit every chapter in the first half of 2019 and present you with why being a member is important and what we do with your dues. We are very careful with how we spend your money.

Minor changes are needed to be done with the NCSBA Constitution and Bylaws, but in order to make any changes we need the approval of you, the members. For us to use the US mail at 49 cents per stamp, we are looking at a cost of over two thousand dollars. Some of the changes we need to make are to bring us in compliance as a 501 c 5 organization. Instead of using the USPS, we are looking at using electronic notification. Something as simple of being able to communicate with you via email. We're not looking at sending you constant annoying emails, but only when we are in need of contacting you and explaining the work of your organization. We will need each of you to complete a new membership application for 2019 with an email address for each member and letting you know this is how we will contact you in the future. For those of you that already pay dues online, this will be easy. But at the chapter level, we are asking that whomever is in charge of membership, make sure we get a new application from each member.

I look forward to 2019, and to meeting and seeing each of you. Together, the NCSBA will be successful! Thanks for your support in the past and now in the future.

Paul Newbold NCSBA 2019 President Elect



**Paul and Cheryl Newbold** 

#### **NCSBA Born & Bred Program Update**

by Etienne Nadeau



continues to gain interest, which is exciting to see. In doing so, more and more micro-breeders will become established, offering locally raised queens to beekeepers within the state. If one looks around, he/she may even find a small queen breeder right in their own chapter, thus alleviating the need to ship queens from out-of-state.

During the NCSBA Summer Conference in Flat Rock, NC, the Born & Bred program offered another hands-on grafting workshop. This was a pre-registered event and offered a unique training experience for all involved. Thanks to Carolina Bee Farm for bringing colonies to the conference, which gave us the ability to pull fresh frames of larvae for both workshops. Sixty-six people attended the workshop, and each participant had plenty of time to learn and apply the grafting techniques.

Brushy Mountain Bee Farm was generous in donating the grafting frame bars and grafting tools. Rossman Apiaries had previously donated wax cell cups, all of which offered a realistic grafting experience. Volunteer



mentors were on-hand providing expertise on removing the larvae from the frames and gently placing them into the cell cups. A huge thank you to all who were involved and gave up some of their time at the conference to support this program. We hope to offer something similar again at the next summer conference.

Going forward, in 2019, the Born & Bred program is planning to offer two additional entry level Born & Bred clinics. These will be day-long clinics which will explain the Born & Bred queen rearing process presented by NCSBA queen breeders. The target audience is intended for those who wish to raise queens in the future, gain a better understanding of the queen rearing process and become part of the Born & Bred program. For the eastern part of the state, we will have a clinic in Fayetteville, NC on February 16th. For those in the western part, a clinic will be offered in Statesville, NC on March 16th. Thank you, in advance, to the Cumberland County and Iredell County Chapters for helping support these events. Registration will be limited and available through the NCSBA website.



#### **NCSBA Library Update**

Are you in the archives of the NCSBA video library collection?

We are currently negotiating to get DVDs of video presentations done in the state! For example, the Born & Bred program did a workshop video. Although it was designed to be used with workshop training, it would be good to have a copy of that video as archival documentation in the NCSBA collection.

Here's where you come in! If you or your chapter has made a video about any aspect of bees or beekeeping, please send me a DVD copy for the library archives. If you or your chapter are willing to share it, we can catalog the DVD and make it available to the NCSBA members. Remember, when it's created, it's

copyrighted. So, please include a note saying it's okay to share or that it is just for the archives.

Bottom line... it is important to document what our members are doing, and it is important to share information. That's why we are here.

Please send DVDs to: NCSBA Collection, Clyde A. Erwin, Jr. Library, Wayne Community College, 3000 Wayne Memorial Dr., Goldsboro, NC 27534

Bob Kemper
NCSBA Fred Deer Librarian
kemper27530@gmail.com
919-731-2146

#### www.ncbeekeepers.org - NCSBA Website Rebuild

by: Jessica Mjelde

#### So....we're getting a website

rebuild....here's the skinny:

Todd Walker has most excellently maintained the Membership, Master Beekeeper and Certified Honey Producer databases, Conference Registrations, the online shop *and* the website. Which is a lot. Also, he has kids and deserves a life. So, it became apparent that an extra human would be helpful. So, while Todd is continuing to handle the databases and membership, the content portion of the website will be dealt with by the new Media and Advertising Coordinator, which is me, Jessica Mjelde.



**Homepage Screenshot** 

I was hired in May of this year. My first assignment was to prepare a rebuild for the website, which is looking a bit worn and has almost two decades of accumulated debris. After spending three months showing the proposed rebuild to anyone I could force to sit for a showing, the consensus is that it's not too bad.

The rebuild is planned to occur during November 2018. There may be a few days where the site is a bit, well, *unstable*. Yeah, we'll call it unstable. If the computer gods are favorable, it should only take a day or two. But by this point in your life, you realize the computer gods are an evil bunch, and things seldom work out perfectly. So, we're saying a month.

Now, onto the proposed rebuild.

Once it's live, you'll notice the pages have been severely reshuffled. You may need to give the new menu a bit of a think. But nothing has been removed, just rearranged. Even the official song. Did you know we had an official song? If the new menu is ambiguous, the search box should help you find the right page. There is also a full Sitemap, linked to at the very bottom and also under ncbeekeepers.org/about in the menu bar. That will show you absolutely every page and how the site is ordered.

Here's a few highlights of the new website:

- The home page will highlight the newest information.
- Information will be compressed. For example, all chapter addresses and meeting times are on a single page, just below a map, so 80 pages are replaced with one.
- The menu will be reorganized to eliminate duplicates, hidden pages and empty menu items. Nearly everything is available directly from the menu.
- A calendar of events will let you see what's going on around the state. Local chapters and community groups will be able to send in their bee-related events for posting to the calendar.
- Contact information for individuals will be on a single page.
- Everything will be green with a white background because I like green.
- It should work properly on smart phones and tablets like the iPad.
- No more Members Only section for the present.
   It is not clear if the hassle of administering a password protected section justifies keeping the general public from material.

#### Continued From Previous Page

- RealNCHoney.com is getting its own honey promoting site. This will happen in 2019.
- Our site will continue to host a few bee-related advertisements, so it is self-sufficient.
- We're putting in some practices to keep the information current. Our site is fully archived by North Carolina State University, so, we will let the librarians do their job and try and keep non-current information off the site, or at least obvious that it isn't current. Some of the historical information will be compressed into zip files.
- Legibility will be improved through formatting and reduced word count.
- Backdoor improvements: improved SEO. security features, faster loading graphics, ADA compliance and an easier path for people to get their information published on the site.

And something about me. I'm a member of the Orange County Beekeepers Association and should be a Journeyman Beekeeper next year. I moved to North Carolina about seven years ago. I'd always wanted to keep bees, but never was in a good position to do so until I moved to here. So far, my bees are doing well, although this year one of the hives was composed of really stupid bees and it took three queens before they figured themselves out! I'm originally from near Mt. St.

Helens in Washington State, but have lived in Hawaii, Wyoming, Montana, Uganda and Germany. I share a pre-Revolutionary War log cabin with two excellent cats, a 19-year-old turtle, an overweight goldfish that the turtle declined eating, the aforementioned bees and a rather nice programmer. I am over-educated with degrees in Physics and Atmospheric Sciences, but I escaped before I wouldn't be allowed to go outside anymore. I recently finished a Certificate in Native Plant Studies from UNC, so you might start seeing some more in-depth plant info on the site. I taught science, mathematics and natural history to the public for twenty years or so, which often involved dabbling in website design. I like to embroider and am too fond of German pastries.



Managing ncbeekeepers.org is a peck of fun. I've managed a fair number of websites, but this is the most involved site I've ever been responsible for.

Lastly, feedback is seriously appreciated. Just email jessica@curiousneedleworks.com.



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#### **Attending the Honey Sensory Class in Bologna, Italy**

by: Sean Collinsworth

#### To perfect my understanding of

artisanal honey and how it is made, I attended the Honey Sensory Analysis course at the CNR Research Center (Consiglio Nazionale delle Ricerche) in Bologna, Italy. I was joined by beekeepers, pollenologists, entomologists, bee professors and nutritionists from around the world. I was the only gringo among attendees from New Zealand, France, Canada, Sweden, Belarus and Germany, to name a few countries. As a demonstration to the diversity and talent of the delegate pool, my table-mate was Peter Lewis, Chief Hives & Honey Steward of the Great Yorkshire Show in England, the oldest continuous agricultural and honey show in the world.

Our tutors were some of the best in their respective fields. Biochemists, biologists, researchers, nutritionists; all gave us a better understanding of how honey is made by bees and processed by man. Our lead instructor was Raffaele Dall'Olio, an animal biologist and beekeeper with a master's degree in honey bee research. He is the founder of the Italian Registry of Experts in The Sensory Analysis of Honey.

Raffaele began with what Honey Sensory entails and why it is essential to the beekeeper and buying public. The first half of our nine-hour day began with the general principles and equipment needed for sensory analysis. Example: plastic spoons are used because metal spoons will immediately impart a different taste the moment they touch the tongue. Speaking of the latter, we spent an hour on the anatomy and physiology of the mouth and olfactory senses and how and where the tongue senses bitter, sweet, sour and salty. After lunch, we were lectured on the origin of honey, its composition and physical properties. The rest of the day was spent smelling unifloral honey samples.

We spent the week learning about honey's nutritional properties. We were educated on the causes of crystallization, both natural and induced (Gonnet vs Dyce method). We discussed the causes of honey fermentation and how to prevent this (hint: let the bees completely cap the combs). We became fluent with the European Codex Alimentarius Standard and the EU Directive regarding the quality criteria of hydroxymethylfurfural (HMF) content, diastase activity, honey acidity and melissopalynology analysis. We also learned to cook with honey. How to pair honey with food and cheeses. How to prepare honey with pastries, desserts and dressings for meats, seafood and salads.

Every day, we tested ourselves on unifloral honeys...all 42 of them. "Organoleptic" became the word of the week as we smelled, looked at and tasted honeys from throughout the world. We sampled so much honey, I was surprised no one went into a diabetic coma. On Friday we had our final exam and honey tastings. I did well but could do better with continuous samplings of various European honeys. Having said all this, I passed and am one of a few Americans listed with the Italian Registry in the Sensory Analysis of Honey.



Sean Collinsworth (left) with Peter Lewis, the Chief Hives and Honey Steward of the Great Yorkshire Show, UK

Terroir is a word I have frequently used on this site and during our apiary tours. I believe it captures the character of our artisanal wildflower and sourwood honeys. Like wine, terroir can express the essence of the finest tequila (agave), coffee, tomatoes, maple syrup, chocolate and even cannabis. Terroir captures all the environmental factors affecting a harvest: the land, climate, soil type and even farming practices. Collectively, these elements embody and give character to the nutritious foods we eat and drink. The Honey Sensory class contributed to and enhanced my beekeeping and honey analytic skills. Terroir is no longer just a noun to me. It is part of my journey to becoming a better beekeeper and caretaker to an incredibly complex creature and the amazing gift she gives us, honey.

Sean Collinsworth began raising bees at age 12. He put his passion for Apiculture on hold when he went to college, graduating with degrees in economics and philosophy. For the next 25 years, he worked for a major law enforcement agency. After retirement, Sean began raising bees again. Sean is a certified beekeeper and honey producer with the NCSBA, and recently achieved certification with the Italian Register of Experts in the Sensory Analysis of Honey. Killer Bees Honey is a small, artisanal honey producer located in WNC.



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#### **MEETING A FAVORITE AUTHOR:**

#### A SUMMARY OF THE LECTURES BY DR. TOM SEELEY AT THE NCSBA SUMMER CONFERENCE

by: Lynn S. Wilson

#### I'd already read Honey Bee Democracy and

Following the Wild Bees. I'm in the middle of Honey Bee Ecology. I was delighted to hear Dr. Tom Seeley's lectures at the recent NCSBA Summer Conference this past July. Wisdom of the Hive is an earlier book, also on my reading list!

How can feral bees survive with varroa mites? That question stokes Dr. Tom Seeley's current focus on conservation biology. He teaches in the Department of Neurobiology and Behavioral Sciences at Cornell and he's been keeping bees since he was a teen. At the NCSBA's Summer 2018 Conference in Flat Rock, he shared a lifetime of questions about bees, with short videos that have helped solve some bee behavior mysteries. His carefully-drawn graphs gave the sense that he was showing his audience exactly what each bee, in his research studies, was doing. The following is a summary of Dr. Seeley's lectures:

#### Thursday, July 19, 1-1:50 PM: CAPTURING SWARMS WITH BAIT HIVES

#### "Right box, right place, right time ... and fun!"

Dr. Seeley gets virtually all of his bees from swarms, enjoying a success rate of about 50%, and most are vigorous, increasing the chances of varroa resistance. His research led to this description of the best bait hives and location:

- -40-liter cavity volume (or 1.4 cubic feet)
- -Entrance of about 2 square inches near the hive floor
- -About 15-feet high, although he's experienced success with his favorite, which is 3-feet high.
- -South-facing shade on the woods-edge where it is visible to bees.

He paints bait hives green, so they will be less visible targets for hunters. If it's damp, the bees will fix it, in his experiment, by hauling out damp sawdust. If it's drafty, the bees will plug it with propolis. A swarm lure that lasts all summer and a frame of old comb are helpful.

In Ithaca, Dr. Seeley puts bait hives out by mid-April, a few weeks before swarms start, and checks them frequently. Moving a just-occupied hive is easier than moving a hive after the bees have already filled it with honey. If bees are carrying pollen into the hive that's a sure sign of occupancy. To take down the bait hive, he lights the smoker before climbing the ladder, staples a screen over the entrance and uses a rope to lower it.

#### Friday, July 20, 9-9:50 AM: PLASTIC COMB FOUNDATION: GOOD FOR BEES?

#### "Really this is about the waggle dance."

During the waggle dance, all 6 legs of the recruiting bee are firmly gripping the wax of the cells. In hive darkness, the vibrations on the comb that bees feel in the subgenual organ in each leg help the bees find the dance. Air vibrations picked up by the antennae help bees sense the distance to the flower patch.

Dr. Seeley's skepticism about plastic foundation led him to "ask the bees," by comparing the number of bees that dancers were able to recruit on wax and plastic foundation. He used an observation hive in which all returning bees were shunted to one side, so he could see and capture dances on video camera. He set up a sugar feeding station about 1000 feet away from the hive, painted the recruiters, then counted the number of bees recruited. He found no difference between the number of bees recruited on plastic versus wax foundations.

#### Friday, July 20, 1-1:50 PM: HOW A HONEY BEE SWARM CHOOSES ITS FUTURE HOME SITE

#### "How do swarms pick the best site?"

Of a swarm with one queen and about 10,000 workers, 300 to 500 of the most experienced bees are scouts. The scouts make private evaluations, up to 25 visits, in which the site is explored more and more thoroughly. Dr. Seeley used video to take further Martin Lindauer's conclusion that bees use the waggle dance to communicate about nest sites. For Seeley's research it took 3 days to label 4000 bees whose 149 scout bees "debated" for 16 hours over 11 possible sites.

One question always leads to another. How does the scouts' interest grow for the best site... and decrease for the worst site? How do bees adjust the strength as a function of site quality? How does the group know when a decision has been reached?

The scout dances longer when she judges the site to be of higher quality, then goes back to the site to hang out. When 10-15 bees can be seen in front of the new house, the swarm takes off to the new site. Scout bees were not checking out the alternative sites. When a scout lost interest in her site, she stopped dancing and she stopped visiting. To discourage interest in other sites, a scout butted and beeped other dancers. The best site accumulated sufficient votes by both excitatory and inhibitory signaling.

#### Saturday, July 21, 9:30-10:20 AM: BEE COLONY AS A HONEY FACTORY

#### "How does the colony capitalize on the ever-changing supply of raw material?"

How does the colony mobilize more foragers or more food storers as needed? To mobilize more nectar foragers, the recruiting bees do the waggle dance, but first they may use shaking signals to "wake up" foragers. Foragers sleep at night and during bad weather. Their bodies hang limply. On her first trip back to the hive, the recruiting forager may do only shaking signals, putting her forelegs on the abdomen of another bee and shaking. On later trips she may do both shaking and dance, while later still she will do just the waggle dance.

How do they activate more food processors? Dr. Seeley unexpectedly solved the mystery of the tremble dance in the Summer of 1990 in Adirondack Park. The tremble dance was first described by Karl von Frisch, who thought it was a neurosis.

Dr. Seeley was trying to find out what happened if the foragers' load was not received quickly. After training bees to a dish of food, he labeled food-storer bees all day, and then removed these "un-loaders" at day's end to make it harder for the foragers to get unloaded. Would they be discouraged from dancing?

Yes! The next day the bees stopped waggle dancing and began tremble dancing. If it takes more than 40 seconds to find a food storer bee, the returning forager does a Tremble Dance to activate mid-age bees to store food.

For each resource (resin, water, nectar, pollen), the communications mechanisms are different.

## Saturday, July 21, 1:15-2:15 PM: HONEY BEES OF THE ARNOT FOREST: A SURVIVOR POPULATION OF WILD COLONIES

#### "What can bees do without beekeepers? Natural selection works."

In 1977-78, Dr. Seeley began mapping wild bee colonies in the 4200-acre Arnot Forest, Cornell's teaching and research forest about 15 miles south of Ithaca. In half the forest, he found nine colonies and submitted specimen bees from those colonies to a Cornell museum, providing a baseline of genetic material. In 1992, varroa mites arrived in Ithaca and in 2002, Seeley found that eight wild colonies still survived. In his bait hives that year, he captured 11 swarms and 100% of the swarms had varroa mites. How had the wild colonies persisted? Was it good genes? Or was it a good lifestyle characterized by colony spacing, nest site selection, and nest structure? The nearest

managed apiary (0.7 mile) was destroyed by a bear and the only other managed hive near the Arnot Forest was 5 miles away, giving Seeley some confidence that the Arnot survivors were not from managed stock.

Using DNA sequencing, he compared the preserved specimens from 1977-78 with the present-day (2011) specimens. While racial lines remained about the same, he found 23 maternal lineages in the 1977 bees and only three in the 2011 bees. The 2011 workers were a little smaller than the earlier bees. The survivors were good at biting off the legs of adult mites and at uncapping varroa-infected cells. They spent a lot of time grooming.



Tom Seeley

Seeley wanted to know if dispersal in the Forest gave the bees an advantage over a crowded apiary. He found that in the uncrowded hives, there was less drifting and better colony survival. Smaller nest cavities (about the size of a 10-frame deep) resulted in frequent swarming, fewer varroa and better survival. And in the wild colonies, propolis thickly coats walls, ceiling and floors.

In summary, practices that are good for beekeepers aren't necessarily good for bees. Isolated colonies of European honey bees can survive without chemical treatments for varroa. The wild colonies have experienced strong natural selection. How we keep bees is not how they live in the wild and is not entirely bee-friendly.

Conclusion: Catch swarms in places where wild colonies have been isolated from managed bees, disperse hives, house them in one brood box and allow swarming, install propolis collection material on the inner walls, and rear queens and drones from survivor colonies.

Lynn Wilson is the secretary of NCSBA a member of the Person County Beekeepers Association. She is a Journeyman Beekeeper whose favorite beekeeping volunteer project is the bee forage garden which PCBA installed at the Person County Veterans Memorial Park in Roxboro.

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#### NC BEEKEEPERS MAKE BIG SPLASH AT EAS!

by: Doug Vinson EAS Director



#### The Eastern Apicultural Society's

(EAS) 2018 Conference was held at Hampton VA, Aug. 13-17. About 60 NC beekeepers registered for the event, which did not go unnoticed by the conference planners. The NCSBA is, and should be, proud of the extent of participation by its members. Any one of the NC attendees would be first to give overwhelming approval of the conference and its related programs. Just ask.



Doug Galloway receives EAS Master Beekeeper Award

Praise for NC attendance at EAS is only a small portion of the story. First and foremost, Doug Galloway passed all parts of the EAS Masters examination and was awarded the distinguished EAS Certified Master Beekeeper status. This prestigious award is testament to Doug's beekeeping knowledge and acumen. Congratulations, Doug!



Suzy Spencer and Freddy Proni collect their ribbons

Accolades continue with NC beekeepers winning big time in the honey show. Suzy Spencer received the blue ribbon in the light extracted honey class. Denise Deacon won fourth place for her wonderful photography. Freddy Proni's beautiful ruby colored, Elderberry mead won the blue AND Best of Show in the mead category.

Additionally, and also noteworthy, two of our state officers were invited to present educational programs for the conference. First Vice President Doug Vinson gave a talk on "Overwintering Success" to a large audience, and Second Vice President Freddy Proni shared details of the NCSBA with "Uncapping the Nation's Largest Beekeeping Organization". This was a great promotion of the NCSBA and its successful mission. Thank you, Freddy!

Please note that EAS 2019 will again be held in a border state. South Carolina will host the conference in Greenville, SC in mid-July. Make plans now to attend!

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