## North Carolina

0

The Official Magazine of the NCSBA

Lessons From A First Year Beekeeper 2020 Spring Meeting Speakers Announced Maybe We Shouldn't Keep Honey Bees After All! And Much, Much More...

Spring 2020



Knowledgeable customer support Beekeeping tools and accessories Queen rearing tools and supplies Woodenware/pine and cypress

Bee Su

Free educational newsletter Extraction equipment Varroa treatments Protective gear

> Reserve your 3 lb spring packages TOI

## baileybeesupply.com 919-241-4236

147 Boone Square Street Hillsborough, NC 27278 Monday - Friday sam - 5:30pm Saturday 9am - 2pm

We Have All Your Glass and Plastic Needs



## North Carolina Bee Buzz Spring 2020



## North Carolina State Beekeepers Association

~ Since 1917 ~

Message from the President	5
BeeFeeders	7
In the Apiary	10
Master Beekeeper Program	11
NC Born & Bred Update	14
EAS 2020	17
Wolfpack's Waggle	18
NCSBA Library Update	25



ON THE COVER: "The Lost Colony" NC State Fair Blue Ribbon 2018 *Photo: Jody Moore* 

## <u>Features</u>



12

21

24

Spring Meeting Speakers Announced



Volunteer at the NC Zoo



Maybe We Shouldn't Keep Bees After All!



Lessons From a First Year Beekeeper

## 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.

#### **2019 Executive Committee**

President: Paul Newbold 1st Vice President: Doug Vinson 2nd Vice President: Freddy Proni Secretary: Dawn Rogers Treasurer: Libby Mack Membership Secretary: Todd Walker Education Coordinator: Dr. David R. Tarpy State Apiarist: Don Hopkins Past President: Rick Coor

#### **Regional Directors**

#### **Mountain Region**

Senior: Robert Smith Junior: David Massengill Sophomore: Doug Galloway Freshman: Johnny Thompson

#### **Piedmont Region**

Senior: Chris Mendenhall Junior: Randall Austin Sophomore: Chris Apple Freshman: Colleen Baucom

#### **Coastal Region**

Senior: Kenny Jones Junior: Eric Talley Sophomore: James Dove Freshman: Stacey Mariner

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** 

Webmaster Jessica Mjelde webmaster@ncbeekeepers.org

## From the Bee Buzz Editors:

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

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

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

12/3/19	NCSBA Logo Merchandise Now Available
12/18/19	NCSBA Golden Acheivement Program (GAP) Updates
12/19/19	UNCW Production "Keepers of Bees" to be screened at 2020 NCSBA Spring Meeting
1/2/20	NC Bee Guide Available
1/6/20	2020 Spring Meeting Speakers Announced



Message From The President

by Paul Newbold NCSBA President

## Hello Beekeepers,

Hopefully winter is mild wherever you are, and signs of spring are in the air. If the timing is right, our spring conference is only a few days away and we are in high gear getting ready for you. Our guest speakers Dr. Dewey Caron and Dr. Judy Wu-Smart, along with Dr Tarpy, Leigh-Kathryn Bonner, Founder and CEO of Bee Downtown, and some of our regular NCSBA members will be there also. We'll be taking pictures for you to see in the summer issue, so be sure to smile at the camera!

At the conference, we will have a T-shirt table. There will be some short and long sleeve shirts along with a few hats. Other items are available online at https://ncsba.qbstores.com along with special deals for ordering.

Where do our future beekeepers come from? Chapters have always relied on spring bee schools as a means of recruiting additional members. We also recruit friends and neighbors when we invite them over to watch us work our bees. They see how much we enjoy it. Soon those interested are at club meetings, signing up for bee school and starting their own apiaries. This is great for recruiting adults, but the future of our organization resides with our ability to recruit young beekeepers.

I believe these future beekeepers are closer than we may realize. I believe the future lies with our agricultural extension services through their 4-H program. Many of our clubs actually meet in extension offices and already have a great relationship with these folks. We can enlist this resource to recruit new beekeepers. NCSBA is partnering with the 4-H program through the extension agents to work with OUR chapters in developing a program to introduce beekeeping to these young 4-Hers. We are offering grants to 4-H groups interested in developing a beekeeping program. NCSBA has set up a grant program to fund these programs. To apply for this grant money, your chapter and 4-H extension services need only submit an explanation of the proposed program, along with an itemized list of expected expenses you would like reimbursed. We will ask for follow-up information regarding the use of funds and results from the project. Hopefully we will be hearing from lots of chapters about being involved with 4-H. Check the NCSBA website for more information.

Put it on your schedule now. The summer conference will be July 16, 17 & 18 at Blue Ridge Community College in Flat Rock, NC. Plan now to be there.

- Paul Newbold, President NCSBA



NCSBA celebrated its 100th Year in 2017. We are now in full swing with our second century and beginning a new decade with a remarkable set of achievements under our belt, ambitious and exciting goals, and a thriving membership. In the last issue (Winter 2019), "Rescuing an Old Friend" reminisced about the past, with a tribute to a 16-foot, bee-themed mural that was painted at the old NCSU apiary field lab in 1979 by North Carolina artist Susan Van Gieson. It wasn't until we had already wrapped up the story that Susan came to remember that she is actually the artist behind our logo! She had not seen the logo until she received a copy of the issue upon publication of the mural article. When she saw it, she immediately felt a flood of familiarity and suspected she had drawn it. But forty years is a long time. After digging through old papers, she was able to confirm that she is indeed the artist behind our logo. It was a serendipitous and delightful discovery. On behalf of NCSBA, we would like to thank Susan for her enduring artwork that has defined our organization for over 40 years.



STILL FAMILY OWNED AND OPERATED SINCE 1976 MANUFACTURER OF QUALITY WOODENWARE

# EVERYTHING YOU NEED!

- WOODENWARE
- COMPONENTS
- TOOLS & SMOKERS BOTTLING
- EXTRACTING EQUIPMENT
- NUTRITION & TREATMENTS
- PROTECTIVE CLOTHING



WE ARE PROUD TO ANNOUNCE WE WILL DISTRIBUTING SAF EXTRACTORS IN 2020! GIVE US A CALL TO LEARN MORE OR CHECK OUT OUR WEBSITE.

> VISIT US AT OUR NEW WEBSITE AND ENJOY FREE SHIPPING ON MOST ORDERS OVER \$150

> > 888-848-5184 · WWW.MILLERBEESUPPLY.COM

496 YELLOW BANKS ROAD NORTH WILKESBORO, NC 28659

MARCH-MAY: OPEN MONDAY-FRIDAY, 8 AM-5 PM, SATURDAYS 8AM-12 PM JUNE-FEBRUARY: OPEN MONDAY-FRIDAY, 8 AM-4:30 PM, CLOSED SATURDAYS,

## BeeFeeders North Carolina Pollinator Plants

by: Ulana Stuart, NC State Extension Master Gardener Volunteer

**The foundation plantings** in front of my house have become somewhat overgrown after 25 years and are blocking many window views. Many older neighborhoods and/or homes have this landscape problem. A landscape designer and beekeeping friend recently suggested that beekeepers should take advantage of renewing their overgrown foundation plantings with shrubs that bees will also feed on. Also, newer cultivars have been developed that don't get as tall. Here are some suggestions for renovating your overgrown foundation shrubs:

Inkberry Holly or Gallberry (Ilex glabra) is an evergreen native shrub that blooms in the spring and produces a large amount of nectar, plus a good amount of pollen from mid to late April into June, depending on your location in the state. Gallberry is also somewhat deer resistant. It prefers moist, acid soil and is somewhat shade tolerant but will do better with more sun. Any shaping you intend to do should be in late winter or very early spring before new growth begins. It is easy to grow, has attractive white flowers and dark green foliage with a mounded habit. Gallberry is somewhat drought tolerant once established and is resistant to pests and winter burn. Unlike the inkberries of the past. these three cultivars will not look bare-legged. The last two cultivars listed below have only recently become available in nurseries as of Spring 2019 so be sure to ask at your favorite nursery if you don't see them.



*llex glabra* 'Shamrock' Form

1) The 'Shamrock' cultivar has a height of 3-5 feet and a spread of 3-5 feet. This cultivar is more commonly available.

2) The 'Gem Box' cultivar has a height of 24-36 inches and a spread of 24-36 inches. Each shrub should be planted 24-36 inches apart. It has a lush dense look with small dainty dark green leaves all the way down.

3) The 'Strongbox' cultivar also has a height of 24-36 inches and a spread of 24-36 inches. It is broader and less rounded than the 'Gem Box' but it can also be used in place of boxwood.



Prunus laurocerasus 'Otto Luyken'

**Cherry Laurel (***Prunus laurocerasus***)** is a large evergreen shrub that blooms in the spring and will often rebloom in late summer. It prefers moist, well-drained soil in part to full shade. It is drought resistant once established. Here are two cultivars that provide a compact form which works well for foundation plantings:

1) 'Otto Luyken' has a height 3-4 feet and will spread up to 6 feet. This cultivar is ideal due to its limited height. It has handsome dark green leaves that are 4" long and about 1" wide. The white spikes flower freely for 10 to 14 days in fragrant clusters and will even flower well in heavy shade. It frequently blooms again in early fall. "Otto Luyken' is an excellent beefeeder providing lots of pollen and some nectar.

#### **Continued from Previous Page**

2) 'Schipkaensis' (often called "Skipperkey") grows to a height of 4-5 feet. It is similar to the 'Otto Luyken' in all aspects but is taller.



Linnaea × grandiflora 'Kaleidoscope'

**Glossy Abelia (***Abelia x grandiflora***)** is a semi-evergreen shrub that can be interplanted with the smaller evergreen shrubs mentioned above or in front of the taller ones. It is an excellent beefeeder providing large amounts of nectar and a good supply of pollen. Glossy Abelia blooms from spring through fall in North Carolina and thrives in our climate. It prefers full sun but tolerates part shade and has white-flushed pink funnel-shaped flowers. It is best to plant in acidic, well-drained, moist soil. Once established, it can be drought tolerant.

1) 'Little Richard' has a height of 30 to 36 inches and a spread of 20 to 36 inches.

2) 'Kaleidoscope' has a height of 24 to 30 inches and a spread of 36 to 42 inches.

3) 'Radiance' has a height of 24 to 36 inches and a spread of 4 to 5 feet.

The last two cultivars have variegated leaves which could lighten up an evergreen border. I'm really looking forward to a new beefeeders look for the front of my home.

For more information on these plants or others please visit the North Carolina State Extension service "plant toolbox" website, plants.ces.ncsu.edu.

## Honey & the Hive

Western North Carolina's premier bee supply and gift store!

- Complete beekeepers supply
- Nucs, packages, & queens available for local pickup

. . . .

- Local Wildflower, Sourwood, and infused Honeys
- Beeswax Candles
- Books
- Housewares & Gifts!
- Beekeeping & DIY Classes

23 Merrimon Ave, Weaverville 828-484-9466 info@honeyandthehivenc.com honeyandthehivenc.com





Beekeeping & Honey Bees - Our Business Since 1863



dadant.com

• 51 S. SECOND STREET, HAMILTON IL 62341 • PHONE (217) 847-3324 • FAX (217) 847-3660 • TOLL FREE 1-888-922-1293 • • CHICO, CA (877) 332-3268 • FRESNO, CA (877) 432-3268 • PARIS, TX (877) 632-3268 • SIOUX CITY, IA (877) 732-3268 • • WATERTOWN, WI (877) 232-3268 • ALBION, MI (877) 932-3268 • WILLIAMSPORT, PA (877) 532-3268 • • CHATHAM, VA (800) 220-8325 • FRANKFORT, KY (888) 932-3268 • HIGH SPRINGS, FL (877) 832-3268 •





## In the Apiary: Winter 2019-20 in North Carolina by Nancy Ruppert, Apiary Inspector, NCDA&CS



As I write this, winter is not yet half over but is already looking dismal regarding survival of our honey bee colonies. Past experience tells me that when many calls or e-mails come in during early January about colonies having left or died out, the follow-up statistics reveal higher-than-acceptable losses, averaging 30-40% of managed colonies here in North Carolina. This is not sustainable, and we should not accept it as "okav" or the new normal. Most of the investigations done so far on these losses point to food shortages, queen failure, and/or varroa mite damage, with the latter being by far the most common culprit. Rather than belabor the point about poor management, I'll just say that if you notice that your bees have died out or left home and you don't know why, please contact an experienced beekeeper or your area apiary inspector ASAP-this not only helps know regional trends but also is a valuable learning opportunity for you, and can be the first indication that we have a new pest or disease to contend with if/when that happens.

Thankfully, the spring season usually brings warmer weather and robust population growth in healthy honey bee colonies. Maple and redbud nectar tend to be widespread throughout much of NC and contribute greatly to brood-rearing during March. Beekeepers can help enhance brood-rearing by supplementing their bees with carbohydrates such as fondant, candy boards. sugar water or honey water since nectar availability may be sporadic during early spring. Pollen supplementation is NOT normally needed during late winter-early spring, as a wide variety of pollens are naturally available in most areas, but sometimes we have a wet early spring and the bees therefore may not be able to gather all of the pollen that they need, in which case supplementing with pollen substitute is certainly helpful.

Another common and notable feature of spring beekeeping involves hive splits—either those split by the beekeeper, or those in which the bees make splits themselves (aka swarming). In our state, swarming typically begins in late February (especially in the southeastern region of NC) and remains heavy through the end of May. Beekeepers who want to harvest honey do not usually want swarming of their colonies, as the surplus honey usually is lost when a hive swarms. Adding more room to the colony during late February and/or making splits by or before late March can help limit swarming. For more details on swarms and splits, consult your area's experienced beekeepers.

Late winter and the entire spring season are the best time to replace old or defective wax in the hive, and also the best time to begin raising healthy new queens. While the details for these are beyond the space here, general rules of thumb include replacing <u>no more than</u> four frames of old wax at a time, and having plenty of good nutrition and young nurse bees in those colonies that you designate as your gueen-rearing colonies. Experienced beekeepers can give you tips on replacing old wax, and the NCSBA has developed a "Born and Bred" program to specifically help NC beekeepers raise more <u>locally-adapted</u> and productive queen bees. If you were successful in overwintering your honey bees, be prepared that a healthy colony in April might fill up four or more supers of honey before July, depending on nectar sources in the area. The nectar flow often becomes suddenly heavy in April, and many of us get caught off guard by not having enough supers ready with wax in time. We know the consequences too well: swarming and/or burr combs full of honey.... Wishing you a productive spring!





## Master Beekeeper Program Another Season to Grow

by Doug Galloway Master Beekeeper Committee Chairman

**This glorious volume** of the *Bee Buzz* should grace your mailbox/inbox about the middle of February. You will of course have already registered for any Master Beekeeper Program (MBP) testing that you want to take at the Spring Conference in New Bern. Testing is from 9:00 AM till Noon on Friday, March 6 and Saturday March 7. All test candidates must pre-register no later than Thursday, February 27, 2020. Pre-registration is henceforth required to avoid unnecessary printing expense, last minute procrastinators, and to save the sanity of your MBP committee staff.



Starting with this past October's testing, the Journeyman/Master Practical has been transformed from a proctored exam to a lab style self-guided exam. The curriculum has not changed, but the new format levels the field for all test takers.

The Spring Conference and workshops is shaping up to be another excellent educational opportunity for North Carolina beekeepers. Please look at the Conference schedule and consider making the trip to New Bern to further your beekeeping knowledge while renewing supportive relationships with your fellow beekeepers.

Many chapters scheduled beginning beekeeping classes this past fall, and many more have scheduled them for this winter and spring. Beginning beekeeping classes are an important part of our NCSBA's mission, supporting the education and development of new beekeepers. The continuing growth in both quality and substance that our chapters have made in these classes is impressive. Thank you all for your efforts.

The MBP Committee is often asked if there is an advanced beekeeping class available for those who want to take their beekeeping skills to the next level. Whether planning to support your bees more effectively or because they wish to pursue the next level of the Master Beekeeper Program, growing your beekeeping knowledge is a good idea. Dr Tarpy and NCSU offered their first BEES Academy program this past year at three locations around the state, focused on providing this next level of education. Incorporating his staff along with a variety of multi-media presentations, the course was well attended and gave participants lots of opportunity to grow their knowledge and confidence. More BEES Academy programs are in the works, so take advantage of the opportunity this provides.

Another tool available from Dr. Tarpy and NCSU is the Beekeeper Education and Engagement System (BEES), available on the NC State Extension Apiculture website (https://entomology.ces.ncsu.edu/apiculture/bees/). This is another source of additional high-quality information for a rather nominal fee. If you would like to organize a presentation of one of the BEES presentations as a program for your chapter, contact Dr. Tarpy for assistance. A presentation outlining the telecommunications equipment/skills needed to provide these types of Chapter program opportunities, will be offered as a workshop at the Spring Conference by Caldwell County NC Extension Director Seth Nagy, who hosted the first of the three BEES Academy presentations this past year.



As you move into 2020 managing your bees remember that we are so fortunate to have the support of our NCDA&CS Apiary Inspectors. These folks offer insights and advice based upon years of experience and endless exposure to our fellow beekeepers in the state. Taking advantage of this wisdom is something I encourage every beekeeper to do, as it will make your management decisions better informed.

Winter is a good time to clean up equipment left suddenly unused due to honey bee losses or departure. Caramelizing wooden-ware, scrubbing wooden bottom boards, replacing old or poorly built comb, and other sanitizing processes all contribute to the healthy

#### **Continued from Previous Page**

growth of new colonies installed in this recycled woodenware. Winter is also a great time to organize and prepare your future apiary plans. Whether you are going to grow, shrink or sustain your apiary, planning makes life a lot less stressful. Now is a great time to pick up a pencil and paper to organize an apiary plan.

Beekeeping supply store catalogs for 2020 have already started to arrive at the writing of this article in December 2019. This is a great time of year to relax and see what equipment suppliers have to offer, from colony housing to products of the hive, to presentations and marketing. Beekeepers are an industrious lot, and you can rest assured that there is some tool or appliance you and your bees just won't be able to do without in 2020.

Beekeepers are a special bunch of folks. Regardless of personalities, goals and backgrounds, we all share the



need to be kind and supportive stewards to a stinging insect that is so resilient and supportive of our environment that without her, life as we know it would change dramatically. The Master Beekeeper Program Committee has the privilege of interacting with many of the most dedicated and learned of this group. It is with a real sense of loss that I acknowledge the passing of Frank Frisby, NCSBA

Journeyman Beekeeper, Past President and Vice President of the Madison County Beekeepers. Thank you, Frank, for the legacy of professionalism and kindness you shared with all who had the privilege of knowing you.

## 2020 Spring Meeting Speakers Announced by: Freddy Proni

The spring meeting in New Bern will offer us a unique opportunity to hear what speakers have to say about the world of apiculture. Dr. Judy Wu-Smart joins us from the University of Nebraska – Lincoln. Dr. Wu-Smart is well known in the industry and speaks on various topics including the effects of pesticides, hive health, and pollinators in general. She is a force in beekeeping education and has worked with all the pillars of the beekeeping community. For our traditionalists, we have America's beekeeping professor, Dr. Dewey Caron. Dr. Caron has been working with bees, education, and research for over 50 years and is the author of "Beekeeping Biology" – a book all those working toward their master beekeeping certification will recognize. He will mainstage speak and offer a workshop, plus be available to sign and personalize his book, and discuss bees with you in person. We also have Leigh Kathryn Bonner, who founded Bee Downtown to save the dwindling honey bee population while simultaneously providing corporations with a novel approach to sustainability. Her focus installs and maintains beehives on corporate campuses, and working with industry such as Delta Airlines, Chick-Fil-A and IBM as clients. Main stage talks will also include an update from our state Apiary Inspectors, Dr. David Tarpy of NSCU, a full session of the NC Born & Bred Program, NSCBA updates and a plethora of other learning opportunities.

Our workshops, as always, will host a variety of information. We are focused on our region and will have talks on varroa, treatments, bear fences, the business of bees, beekeeping husbandry, queen rearing, and many other interesting opportunities. Finally, we are going to try something new – workshops from a distance, where we will video conference in speakers live to teach and share vital information helping us keep our bees healthy. Stay tuned for a complete schedule, to be published very shortly. Thanks!









Dr. Judy Wu-Smart

**Dr. Dewey Caron** 

Leigh Kathyrn Bonner

**Dr. David Tarpy** 

# PRE-ORDER PACKAGE BEES North Carolina Pick-Up

Our supplier consistently produces strong and healthy bees year after year to ensure you're getting productive packages with gentle queens.



## CALL OR VISIT US ONLINE TO ORDER TODAY!

Package bees will be available for pick-up in Currie, NC late March or early April.



Hackensack, MN • Wilkes-Barre, PA • Woodland, CA • Marshall, TX • Winter Haven, FL \*Free shipping applies to most orders over \$100 sent standard ground service within the lower 48 states. Prices are subject to change without notice.



## Winter is the slow season in the bee

yards, but it's time to plan for the upcoming year. The NCSBA Born and Bred Program (B&B) will again offer Chapter Level Queen Yard Grants in 2020. A local chapter queen yard will increase the production of in-state, selective stock queens and will reduce our dependency on out-of-state queens. In addition, chapters can invest some of their own resources and time to become self-supportive and have queens available for their members as needed.



If your chapter would like to establish a queen yard for its members using the techniques presented by the B&B Program, it is encouraged that you apply as early as January 2020 for early approval. Doing so allows chapters the opportunity to get their proposal approved, obtain their equipment and be prepared to raise queens as early as April 2020. The guidelines for the grant include the following:

Chapters can receive reimbursement from the B&B Program for half of their investment, not to exceed \$500. (i.e., a chapter that spends \$600 can be reimbursed \$300 / chapter spends \$1500 can be reimbursed \$500).

Applications must be submitted to the B&B review board for approval. Applications will be evaluated based upon the following criteria:

- A statement of understanding and agreement to follow the methods of the B&B Program
- A detailed description of how the chapter plans to implement their queen yard project
- An outline for expenditures (budget)
- A list of B&B trained individuals and their experience in raising queens
- A plan for how other chapter members will be

included for education and training

The B&B Program will only reimburse the chapter for queen rearing specific equipment, lumber, material and/or supplies. Chapters may wish to purchase all their equipment commercially, have a chapter member build it or a combination of both. A list of suggested equipment will be provided in the project guidelines and should be outlined in the chapter's application.

The B&B Program will not reimburse chapters for labor performed (building mating nucs), for the purchase of live bees, for the purchase of drawn comb / brood frames, for the purchase of feed (sugar, corn syrup), supplements (Honey B Healthy, AP23 Patties), medication, and/or non-queen related equipment.

The next Born and Bred Clinic will be held on May 9th in Pittsboro, NC. Thank you to the Chatham County Beekeeper's willingness to help host the event. Registration will begin after the Spring 2020 Conference. Chapters who are awarded a B&B Chapter Queen Yard Grant will receive a scholarship for sending four selected individuals to the clinic at a reduced price.



Chapter Presidents and/or B&B Chapter Leads who are interested in applying for the grant can email me at nadeaufarmsnc@gmail.com to receive an application and project guidelines.



## **TRIAD BEE SUPPLY** (336) 475-5137

## 3lb Italian Bee Packages \$120

# Beekeeping Supplies • Package Bees & Queens

## Sapony Creek Apiaries



6154 West Mount Drive Rocky Mount, NC 27803

## Phone: (252) 904-1446

www.SaponyCreekApiaries.com

New Store Hours!

Tues - Sat 10 am to 6 pm SaponyCreekApiaries@yahoo.com



## Experience the Zoo like never before... VOLUNTEER!



## June 2020 will mark the twelfth

anniversary of the **Honey Bee Garden** grand opening at the North Carolina Zoo in Asheboro. Many NC beekeepers served on planning committees, assisted with building and exhibit designs, and raised money to off-set the costs of construction. NCSBA is very proud of our involvement and support of this wonderful learning space.



The North Carolina State Beekeepers Association partners with the Zoo to provide Volunteers who engage with guests at the Honey Bee Garden. Beekeepers who volunteer have shared very positive experiences from interacting with school children about the importance of pollinators, to explaining bee biology with adults who express amazement at the complexity of honey bees. Finding the queen bee is a favorite of the young, and the young at heart!

Volunteering at the Zoo requires a commitment of time with a request of two scheduled shifts each month, April-October. Many Beekeepers find themselves volunteering more often because they enjoy it so much! Beekeeper Volunteers are also invited to sell their honey and other honey related products. Weekends are vey busy at the Zoo and guests enjoy honey tasting and shopping local honey.

Beekeepers who are volunteering primarily to receive credits toward their Master Beekeeper Certification can commit to a time-limited opportunity as noted, with approval in advance.

One shift per week for a minimum of eight weeks **OR** Four weekend shifts, Saturday & Sunday to be completed April-June or September-October.

#### Requirements

•Attend orientation, and then complete subsequent training specific to volunteering at the Honey Bee Garden. (Training is offered in March & May.)

·Be available to serve two shifts each month, April – October

•Pay \$10 Processing Fee and purchase Zoo Volunteer Uniform. (Average costs, \$30)

Although you are volunteering as a member of the NCSBA, you are a North Carolina Zoo Volunteer! This means you receive all the perks and benefits of Volunteers, as well as follow their policies and procedures. Benefits include discounts at restaurants and gift shops, monthly Zoo Volunteer Newsletter, invitation to attend monthly Lunch & Learn programs (that often include behind the scene tours & special offerings), earn service awards, and have the opportunity to receive complimentary Zoo tickets and a Zoo membership, and more.*Some benefits are based on hours of service*.



Interested in volunteering at the North Carolina Zoo, or want to learn more? Complete an online application at www.nczoo.org/volunteer and you will be contacted regarding orientation and training dates.

## **Mark Your Calendars**

Plan to attend the Birds, Blooms, Bees and Butterflies event at the North Carolina Zoo on Saturday, May 9, 2020. Activities are from 10:00 – 2:00 unless otherwise listed. The event is included with Zoo admission. Visit www.nczoo.org for more information.



## Eastern Apicultural 🖨 Society



www.easternapiculture.org

## 65th SHORT COURSE & CONFERENCE August 3-7, 2020 University of Maine in Orono

#### Short Course Tracks

Beginner • Intermediate • Advanced • Beyond Honey Microscopy • Queen Rearing

#### Workshops

Pollen ID • Beeswax • Photography • Mead Making Cooking with Honey • Recipe to Market • demos and handson time in the apiary • and more!

Kids & Bees Children's Program - Sarah Red Laird, "Ree Girl"

#### EAS Master Beekeeper Certification

#### **Special Events**

Maine Lobster Bake & BBO Dinner • Story Concert • Honey Bee Buzz-In • Honey Exchange • Bee Olympics • Field Trips to Swan's Honey Commerical Apiary & Humble Abodes Woodenware Manufacturer • Author Book Signings • Live & Silent Auctions • and much more!



#### CONFERENCE SPEAKERS

- · Dr. Emesto Guzman, University of Guelph, ON
- · Sue Cobey, New World Carniolan Breeding Program, WA
- · Dr. Sam Ramsey, USDA-ARS, Bee Research Lab, Beltsville, MD
- Dr. Tom Seeley, Cornell University
- Dr. Dewey Caron, U. of Delaware, Oregon State U.
- . C. Bee, Master Beekeeper, Appalachian Beekeeping Collective, WV
- · Sam Abban, USDA-ARS, Bee Research Lab, Beltsville, MD
- · Phil Craft, Veto-pharma, ABJ contributor
- Jennifer Lund, Maine State Apiarist
- Kim Skrym, Massachusetts State Apiarist
- Andrea Nurse, Climate Change Institute, University of Maine
- · Eric Venturini, Pollinator Conservationist, Xerces Society & NRCS
- Tucka Saville, Queen Rearing
- Michael Young, MBE
- Maggie Wachter, Second Nature Honey, Urbana, IL
- · Lincoln Sennett, Swan's Honey
- Allen Hayes, "The Gadget Guy"

## Come for bees and stay for vacation!

Acadia National Park and many other major sights in New England and the Canadian Provinces of Quebec, New Brunswick and the Maritimes are within easy reach of Orono

www.mainetourism.com

## Wolfpack's Waggle: 5 PROBLEMS TO AVOID IN EARLY SPRING BEEKEEPING

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

**Beware late winter** and the ides of March! Right now—as you're reading this—is one of the most tenuous times of the year for honey bee colonies. Here are some of the major pitfalls, and ways that you might avoid them to improve colony survival.

**#1: Light hives lack honey**. Bees consume their stored honey all winter long, so this time of year they risk running out before nectar foraging fully resumes in the spring. Until the daytime <u>and nighttime</u> temperatures are regularly above 55 degrees, they will be consuming more stored honey than they will collect it. They will particularly dip into their pantry as they start brooding up, both to feed the larvae as well as to generate the heat to kee

Heft your colonies—without opening them—to feel how many stores your colonies have left. As a means of comparison, take an empty hive, put 8 or 10 5-pound bags of sugar in it, then lift it up from the back by the bottom board to feel it feels. A colony with sufficient stores this time of year should easily feel heavier than that. If not, give them sugar syrup as soon as possible so that they don't risk starving to death.

**#2: Broody bees need protein**. Most colonies in NC never truly go broodless, but they don't really start kicking it into high gear until January and February. That's still much earlier, however, than the main pollen flows in most areas. Sure, there are some early important pollen sources out there (e.g., red maple), but colonies often don't have sufficient pollen foragers to take full advantage. Colonies only store so much pollen as beebread through the winter, so they're really limited in how much protein they have access to, which limits how much brood they can rear early on.

Most beekeepers regularly feed their colonies syrup (and many do so even when it's not needed), but most don't consider supplementing protein. Unlike sugar, bees can't store supplemental pollen that they're provided, so you can't have them stock up in advance. Instead, bees are really good at converting pollen patties directly into brood, so if you want them to start building up then provide them with some additional protein.

**#3: Beware the low bees-to-brood ratio**. If your beekeeping goals are for your colonies to rapidly build



up (i.e., for maximum honey production or making splits in the spring), then promoting early and heightened brood rearing can introduce some additional problems. While the nights are still cold and the bees need to cluster (below 55 degrees), the periphery of the brood nest might not be as well incubated. This can lead to larvae dying (chilled brood'), promote certain brood pathogens (most notably 'chalkbrood'), or just contribute to overall colony stress that can make them more vulnerable.

The key to keeping the <u>colony</u> warm is to keep the <u>hive</u> small. Too much extra space can make it harder for the bees to incubate the brood through the night. Beekeepers can sometimes put on extra brood boxes to allow for growth, but only do so when the first box is almost completely full. You'll have plenty of time to add more space for swarm control and additional brood rearing, just let the bees build up sufficiently before you do so.

**#4:** Queens are the key. Overwintered queens are, by definition, no longer spring chickens. Sometimes, queens might not be able to come back from protracted periods of reduced egg-laying, like during the winter. Others just lose their luster over time, so they don't lay in a nice tight pattern, have a slower laying rate, or just otherwise can't keep up.

It can be really hard to secure queens regardless, let alone early in the spring. That's because the demand is <u>way</u> higher than the supply, and <u>everyone</u> wants newly mated queens in early spring for splits, swarm control, and making up for winter losses. Learning how to raise your own queens later in the spring is ideal and gives you a lot of options for overcoming old or failing queens. Even if you don't know how to raise your own, planning ahead for replacing queens that are sub-par can really go a long way.

**#5: Ounce of prevention, pound of cure**. Most winter losses aren't a result of unexpected weather, lack of nutrition, or improper management—it's a lack of winter preparation. Winter bees are physiologically different than summer bees, where they have higher protein and fat stores, survive for many months, and have to start rearing brood even at a ripe old age. That's a lot to ask, so anything that adds to their stress in the late fall when they're being reared can

significantly reduce their lifespan (which then leads to colony mortality over winter and early spring). Of course, the number one stressor during the late fall is varroa parasitism, so keeping them under control is paramount.

You don't need to use chemical treatments, but you have to keep varroa under control by whatever means you prefer when the winter bees are being reared. Research has shown that having less than 2.0% varroa prevalence (that is, fewer than 6 mites from a sugar shake of half of cup of 300 bees) going into winter is necessary to minimize their impact. Critically, there isn't much room for error; mite levels of more than 3.0% is highly problematic, and levels above 5.0% means that your bees are very unlikely to make it to March. If you don't know your mite levels down to the decimal point, then you need to be more attentive to monitoring for them. If you checked for mites but don't remember the exact number, you need to do a better job at your record-keeping. If you don't know what a sugar shake is, for shame.

Beekeeping in the spring is most rewarding when everything goes well, and it reminds us why we do it in the first place. Knowing about some of the more common pitfalls is the first and necessary step in making that a regular occurrence.



Craven County Extension Center 300 Industrial Dr, New Bern, NC 28562 https://www.ncsuapiculture.net/bees-academy-home



(980) 999-0233 • ncbeexchange@gmail.com



# Now Supplying All Of Your Beekeeping Needs As The One-Stop Source For Beginners To Professionals! Visit our exciting new gift shop stocked with a wide variety of premium gift items for those special friends and family.



From our own handcrafted woodenware to tools, extraction equipment, protective clothing, foundation, glassware and more ... if you need it for your beekeeping, we have it! Dedicated to serving our customers and saving our bees.

ITALIAN QUEENS, PACKAGE BEES & NUC'S



FAMILY OWNED AND OPERATED

3662 Edgar Road | Sophia, NC 27350 | 336.431.2339 beezneedz.com | facebook.com/beezneedz/

## Maybe We Shouldn't Keep Honey Bees After All!

by Randall Austin NC Master Beekeeper



"[W]e recognize beekeeping in this State as a specialty which offers no encouragement to those whose practice is deficient, but does offer good average returns to those persons who are themselves temperamentally adapted to beekeeping, and who will keep abreast of modern practice in equipment and management of their bees."

— NCSBA, 1917

Have you ever come across people who seem to want the joys of having kids without the drudgery of parenting? These folks show up in the newspaper all the time - Junior sets fire to his crib because Mother stepped out for a few hours to party with friends. Father yells at Teacher because Susie is in third grade but can't read... but nobody at home has ever read anything with her beyond lottery scratch-off instructions and television schedules. Little Billy disrespectfully smarts off to teachers, store clerks, parents and anybody else he chooses because nobody has ever set a firm expectation of how to behave. (Just so there is no confusion, this doesn't apply to you and me – we are right-thinking citizens that all others should use as examples of how to be. Otherwise we wouldn't be reading this!)

How about this then... have you ever come across people who seem to want the joys of having honey bees without the drudgery of beekeeping? Just close your eyes and dream for a moment... wouldn't that be *GREAT*??? To be honest, keeping honey bees, like keeping kids, can at times be a real challenge, a burden, even a pain (both figuratively and literally). Why don't we just leave those bits out?

Over 100 years ago, North Carolina beekeepers thought about this issue and issued eight formal recommendations:

#### **RECOMMENDATIONS** {footnote1}\*

#### (Unanimously adopted as our "Creed.")

We, the members of the North Carolina State Beekeepers Association, assembled in our first annual meeting, do most earnestly recommend the following to our members and to all other beekeepers of the State:

1. We believe that the use of any kind or type of hive which does not provide movable frames to allow for free examination and manipulation of the bees is a disadvantage -- we recognize the movable frame hive as superior and more profitable, and most earnestly recommend its adoption by all our beekeepers as rapidly as their circumstances will permit, and we express our conviction that the standard size 10-frame hive is preferable. We furthermore call attention to the fact that such frame hives are not patented, and that anyone sufficiently skilled in the use of tools may make such hives, but we emphasize the advantage of having at least one good standard frame-hive which shall serve as a model in building others, to the end that all parts of all hives in the apiary shall be freely interchangeable.

2. We recognize that what is known as the Italian bee (or strains of it) is generally the most satisfactory, and we regret the presence of what is known as the "Black" or "Mixed" bees in so many apiaries of the State. While we are aware of the difficulty of keeping Italian stock pure, owing to the presence of wild black bees, yet we are convinced that our best interests call on us to replace the black or mixed bees in our apiaries with Italians as rapidly as circumstances will permit.

3. We endorse the Extension Work in Beekeeping as now begun, and bespeak the helpful cooperation of all our members in making it successful, whether by attending called meetings and demonstrations, by sending in names and addresses of beekeepers known to us, or in working reforms in our own practices where these may be shown to be at fault.

4. We note with interest that North Carolina stands among the leading States of the Union in number of bees kept, but takes a decidedly lower rank in the value of bee products. We believe that this indicates a need for more careful attention to our bees, to the end that the yield of honey per hive be increased. We believe, further, that it should rightfully discourage the careless, the indifferent, and the incompetent from

#### **Continued from Previous Page**

attempting to engage in beekeeping, while at the same time it is entirely feasible for those who have a fondness for this work and are proficient in it to increase the number of their colonies and increase the yield per hive at the same time.

5. We declare our conviction that the best development of the beekeeping industry in this State will be secured, not so much by having one or two hives of bees on every farm, in which case many will of necessity be neglected and deteriorate, but rather by those persons who are efficient in the management of bees increasing their apiaries while at the same time studiously searching for every practicable means of improvement.

6. We appreciate the bee-club movement among boys and girls as an aid in showing who is, and who is not, adapted to the keeping of bees, and if they learn this while young, it will save the unadapted ones from later loss and will at the same time point the way to success for those who are adapted to beekeeping.

7. We recommend that our members select for themselves certain subjects or topics in beekeeping to which they will give special attention and study during each year, or over a period of years, seeking information by careful reading, correspondence and experience, so that in our annual meetings we may have papers by our own members which shall be suggestive of better things, and which shall be an advance beyond the methods which are already familiar.

8. Finally, and as a summary of the foregoing declarations, we recognize beekeeping in this State as a specialty which offers no encouragement to those whose practice is deficient, but does offer good average returns to those persons who are themselves temperamentally adapted to beekeeping, and who will keep abreast of modern practice in equipment and management of their bees.

Wow, that's somber stuff. I don't think I score very high on every single one of those points, but hopefully you'll agree with me that the sentiment is worth striving for. There isn't anything in the list that a clear-headed, right-thinking beekeeper should dispute. A few of the specific items are outdated (for example, we don't have German Black Bees [*Apis mellifera mellifera*] anymore) but their modern equivalents do exist (for example, Varroa-resistant stock is the new, albeit elusive, ideal). Other items are timeless: for example, who can rationally dispute the value of standardized equipment? And what sort of idiot wouldn't gladly take advantage of freely-offered Cooperative Extension knowledge, especially in the internet age?



Franklin Sherman was the first President of the NCSBA as well as State Entomologist for the NC Department of Agriculture. He left us a stern set of guidelines that warrant attention 100 years later. Photo: Journal of Economic Entomology, Volume 40, Issue 4, 1 August 1947, Pages 610–611, https://doi.org/10.1093/jee/40.4.610

But to return to our original question... what if we want the joys of having honey bees without the drudgery of beekeeping? Well, looking at the kid-keeping analogy again, it can be done! Yes, we can have the joys of kids without the accompanying drudgery: it is called being an aunt/uncle or grandparent! With respect to honey bees, we can do the same sort of thing by befriending a beekeeper and inviting them to put bees on our property, or even paying a beekeeper to do so. In those arrangements, the beekeeper does the beekeeping while we do the enjoying! The important thing is that somebody acts like a grown-up and is ultimately responsible for the living beings under their care, drudgery included. I think our predecessors in 1917 would have been very content with that solution.

\*{footnote 1} <u>First Manual of the North Carolina State</u> <u>Beekeepers Association</u>, pp 8-10 (December 1917) Raleigh, NC: NCSBA

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. This article originally appeared in the Bailey Bee Supply monthly newsletter

(https://baileybeesupply.com/educational\_resources/)



www.beeclubsales.com mike@beeclubsales.com 1-833-233-2338 Lessons From a First Year Beekeeper

by: Brian Carlton

**One winter day** while driving through a downtown neighborhood I spotted a beehive in someone's backyard. With my interest piqued I started to research beekeeping. I studied long and hard and thought, *if I had some bees around, those cucumber blooms would finally produce*. Game on! I purchased my first two hives on eBay and eagerly awaited their arrival. It was exciting to open up the box and smell the new wood and beeswax frames waiting to be assembled. I built and painted everything with pride. I even ordered everyone in the family a beekeeper suit!

Next, I purchased a couple of packages of bees from Craigslist from a fellow who was driving down to Georgia to pick them up in April. The packages contained three pounds of bees in a box, with a brand new mated queen in a cage but with no frames of comb, brood or honey included. I enrolled in a bee school an hour away and attended every Saturday for six weeks.

When April came, I drove over to the fellow's house and picked out my two packages of buzzing bees. When I got them home and installed them into the brand new hives, I received the first of fifty stings, but thought it nothing more than a mosquito bite. What a rush to shake ten thousand bees out of a box! I was hooked right then and there. I installed the first queen cage incorrectly, with the screen side sandwiched in between the frames, accidentally reducing the airflow. I discovered that the hive went queenless a few days later so with the advice of my bee school teacher I combined it with the other hive. *Lesson 1: When installing a queen, make sure the wire side of the cage is perpendicular to the frames so that the air flow is not cut off!* 

It only took fifteen minutes a week to work on one hive, so I ordered two nucleus colonies, which are basically one half of a fully functioning hive, complete with comb, honey, and brood. I had to drive over an hour to get them and got them home not long before dark. I marveled at the weight of the honey-laden frames, and the large number of bees. The new additions raised my weekly bee time to about thirty minutes, and that simply would not do! Bee fever had ahold of me now so I called all over town but could not find any more bees for sale. I ran across an ad on Craigslist and got my hands on the last nuc within a hundred miles. When I got it home and inspected it, I discovered that it was basically just a package thrown in on some empty drawn comb, with an old queen. Lesson 2: only buy from reputable dealers that are sanctioned by the NCDA&CS and NCSBA.

I'm at five hives now, and that still wasn't enough. It's time the gloves come off, and the jacket too! It was just too hot, and I was becoming immune to the stings. I ordered three Saskatraz (Russian) queens from Olivarez honey bees in California and a helmet/veil from Mann Lake. I had read about the different kinds of bees available and decided upon Saskatraz. It's supposed to be a "super bee" that overwinters well, is known to be gentle, and is resistant to the deadly varroa mite. I had read that the hardest part of beekeeping is getting them through the winter. Surely if a Saskatraz bee can make it in Canada, it can make through North Carolina's mild winters. I made splits with those three queens, increasing my apiary to eight hives.



Brian Carlton inspecting hives in his apiary

Sometime after that, I was called upon to cut out a colony that had moved into the walls of a house, and boy oh boy was I in it now! I built a homemade bee vac and proceeded to capture those bees. I rubber banded the combs onto the frames as I'd seen on YouTube and read about on Beesource.com and brought the colony home. At first, I thought it was queenless but later learned that a gueen will only lay eggs if there are enough resources and bees to rear the brood. I discovered eggs a week later, but she was an old queen and never laid many eggs. I ended up combining the bees with the nuc I purchased from the less-than-reputable source and gave them a new Saskatraz gueen. After nursing it all summer, the colony finally took off. As an experiment, I left the old queen with the returning foragers in the old location, and she swarmed away. This became the first swarm that I captured, but I couldn't get them to stay. They swarmed away again for good. Lesson 3: Caging the queen for a week and adding open brood may increase the chances of a hived swarm staying put.

As the summer rolled on, I bought three more Saskatraz queens and started new colonies with them. I experimented with queen cells and mating nucs but didn't have much luck during the summer nectar dearth. I think I'll have better luck next spring when the honey flow is on, and the bees are less prone to robbing. I captured my first queen and marked it, and I saw a virgin queen hatch. I learned that a hive of Italians usually tries to supersede a Russian (Saskatraz) queen. You just have to keep culling the queen cells, but a few got away from me and produced some nice solid black hybrid Saskatraz /NC queens. *Lesson 4: It is best to start new colonies in the spring, when resources are abundant*.

In the late summer, I ordered three more Saskatraz queens and made three more splits. I fed all my bees heavily all summer with 1:1 sugar syrup, and they rewarded me with fourteen boxes of drawn comb, which can be placed on the hives next year for honey collection. *Lesson 5: drawn comb is a valuable resource that gives the bees a head-start with honey collection in the spring.* 

Most new beekeepers fail to realize the dangers of the

varroa mite. It's a challenge to keep the population in check. If you don't, they will overrun the bees and cause viruses that will kill the whole colony. Most bees do not make it in the wild, meaning most of the feral bees you see probably came from a beekeeper. *Lesson 6: Managing varroa mites is one of the most important things to do as a beekeeper.* 

I hope my colonies make it through winter and that the bees will make loads of honey this spring. I understand the challenges overwintering, so I'm keeping my fingers crossed. If all goes well, my goal is to expand my apiary to around 25 hives. I would call this first year a success. I became an NCSBA Certified Beekeeper and can't wait till spring. Until then, I'll be working on my YouTube channel and building new equipment.

See the story unfold at Backyard Bees NC. The world needs more Beekeepers!

Brian Carlton is a Certified 2nd-year beekeeper. He is a member of The Davidson County Beekeepers and aspires to build a sideline beekeeping business. You can follow Brian at <u>https://www.youtube.com/c/BackyardBeesNC</u>



"The Bees of North Carolina: An Identification Guide" by Hannah Levenson and Elsa Youngsteadt is now available!

A free PDF of the guide may be downloaded at: https://tinyurl.com/beesofnc

Bound copies may be purchased at: https://go.ncsu.edu/beeidguide



NCSBA Library Update

SPRING has sprung! Everyone is thinking about swarms! Free bees!

The NCSBA library has videos that can help you prepare for what the honey bees do in the spring. Check them out!

The two new videos about honey production and beekeeping methods should be processed by the time you read this- the DVD's must go to Raleigh to get their ID numbers and Raleigh is very, very slow. Once they have IDs, they can be added to the library's bibliography and will be ready for check-out.

If there are beekeeping videos you think should be added to the collection, let me know. My contact information is right here.

Bob Kemper, NCSBA Fred Deer Librarian

kemper27530@gmail.com 919-731-2146

Rossman Apiaries... where you are our business!!



## Cypress Woodenware

We are famous for our "Long-Life" Cypress woodenware. Cypress is a long lasting wood that will weather well and last for years to give your bees the most comfortable home possible.



Frames, Foundation, Parts

All of our frames are made from #1 white pine and extra strong 3/4" top bar to hold together during extracting. We offer many types of foundation, wax and plastic. Also, replacement parts for repairs. ROSSMAN APIARIES is here for all of your beekeeping needs!! Call us today!!



Stop in or call Toll-Free to speak with knowledgeable sales staff. 1-800-333-7677 Or shop our online store!





Various containers for bottling are in stock. Glass & plastic, any size you wish. Choose from several styles of closure. Other packing supplies available.



## Medications Pest/Mite Control

Chemicals and drugs to treat many various pests and diseases that will destroy your hive. Protect your colony and treat to prevent loss.

## PO Box 909 Moultrie, GA 31776~800-333-7677~www.gabees.com



We carry all of your beekeeping essentials: woodenware, tools, protective gear, queen rearing supplies & everything needed to extract & bottle your own honey. We also sell bees!

## 737 Irish Potato Road Concord, NC 28025 (704) 784-0101

Email Us at: BeeSupply@carolinanc.com

Serving Cabarrus and the surrounding counties since 2002

## HONESTY \* INTEGRITY \* QUALITY





North Carolina State Beekeepers Association 329 Laurel Street Mount Airy, NC 27030-2911 Non-Profit Org. US POSTAGE PAID ABERDEEN, SD PERMIT NO. 200

## North Carolina State Beekeepers Association

## Spring 2020 Meeting March 5-7

In Historic New Bern

## **Speakers**

-Dr Judy Wu-Smart Univ of Nebraska - Lincoln

-Dr Dewey Caron Honey Bee Biology & Beekeeping

-Leigh Kathryn Bonner Bee Downtown

> -Dr David Tarpy NC State University

& Many More!



### **Workshops**

-Mite Treatments -Bear Fences -Beekeeping Husbandry -The Business of Bees -Queen Rearing -Video Workshops & Much More!

## Black Jar Honey Contest - Silent Auction MASTER BEEKEEPER PROGRAM TESTING Screening of UNCW Documentary "Keepers of the Bees"

Get the Latest Updates and **REGISTER NOW** at **www.ncbeekeepers.org**