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The Official Magazine of the NCSBA



Summer 2025



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# North Carolina Bee Buzz Summer 2025



## North Carolina State Beekeepers Association

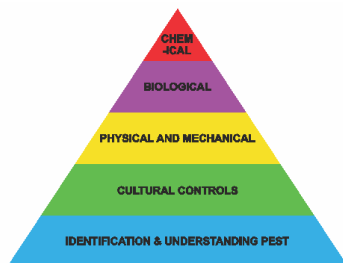
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## Features



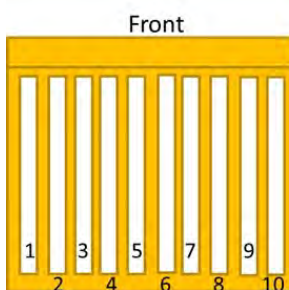
Extended Release Oxalic Acid Pads  
Master Craftsman Research

13



Hygienic Queens & IPM

20



Bee Engaged

24



Toe Cane Beekeepers

28

NCSBA Information	4
Master Beekeeper Program	5
Alamance County WNC Relief	7
In the Apiary	8
Wolfpack's Waggle	10
Prepare for the State Fair	11
Honey Trade Bill	12
Microbreeding Initiative	18
Does Your Chapter Need a Speaker?	19
NCSBA Library Update	31
NCSBA Summer Meeting	32



## On the Cover:

Photo: Skip Story,  
Chatham County Beekeepers  
Praying Mantis & Prey

# North Carolina State Beekeepers Association



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

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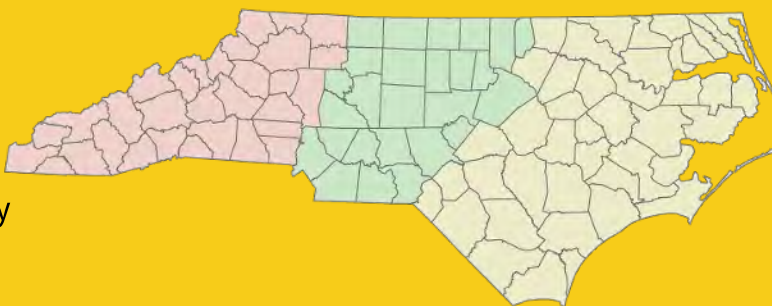
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Contact information for the NCSBA Officers and Regional Directors can be found in your Yellow Book Directory and on the NCSBA website [www.ncbeekeepers.org](http://www.ncbeekeepers.org)

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

## From the *Bee Buzz* Editors:

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

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

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# Master Beekeeper Program

## Teamwork Makes it all Happen

by: Eric Talley, MBP Coordinator

**Achieving success** doesn't always come easy, and most of the time is measurable to some degree. Sometimes success is hard to measure because the results of the program are not measurable for a long period. Some success is hidden and never revealed.

What does it take to make any program successful? How do we measure success in the long term?

It takes not only those who administer any program, teach bee schools, mentor new beekeepers, speak at monthly meetings, but those who participate in the program as well. Education is the key to being more qualified in any endeavor, to include beekeeping.

Written exams and practical testing can show measurable success. Participating in public service events, to meet the requirements to advance in the Master Beekeeper Program, are measurable as well. But what is the long-term success of the Program that is not necessarily measurable?

Those beekeepers who study, get involved in the Journeyman Prep course or Dr. Tarp's BEES Academy are learning valuable information to make them better beekeepers. Some of these folks take and pass the written exam and the practical exam, complete the public service and subspecialty requirements and become Journeyman and/or Master Beekeepers. Few work to advance to the Master Craftsman Beekeeper level.



What about those beekeepers who attend the Journeyman Prep or BEES Academy and don't ultimately advance to the next level in the MBP?

These beekeepers are better educated, better

spokesmen for the beekeeping community, better able to educate new beekeepers, better mentors and better beekeepers all around for the education they gained in the classes.

This education is not measurable in the short-term but in the long-term better educated beekeepers make success measurable because these beekeepers continue to stay involved in the community and the NCSBA.

The MBP needs everybody in the NCSBA to participate to be successful. Any program, no matter what the subject, cannot exist if there are no participants involved. Each participant, from the new beekeeper, to the Master Beekeeper working on the Master Craftsman level, are in the process of gaining more education concerning the honey bee.

During the calendar year 2024, 594 beekeepers completed the Certified level, up from 389 in 2023. Forty-six beekeepers advanced to the Journeyman level, up from twelve in 2023, and twelve beekeepers completed the Master Beekeeper level, up from three during 2023.

2025 is turning out to be a great year for the Program as well. Beekeepers are testing, completing public service credits and are advancing to the next level in the program. The testing event at the Spring conference had a total of 57 who took a written exam.

Getting involved only strengthens the Program and the NCSBA gains better educated beekeepers. Better educated beekeepers tend to stay in the community longer and are more successful. A win-win situation all around.

Be part of the team that makes this Program, and yourself, better in the long-term. Let's measure success not only in the number of beekeepers who advance in the Program, but in the numbers of beekeepers who get involved in the advanced education provided by the NCSBA and Dr. Tarp's BEES academy.

I look forward to seeing you at a testing event in the future.





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**Alamance County** Beekeeper members Ira Poston, Paul Jollay, Jennifer Welsh, Jay Rimmer, Jeff Telander, Jane Ulicny, Mike Ross, Carol Morris, Eric Allshouse, Jeff Webster and Dawnn Saul contributed to the Disaster Recovery for the Beekeepers in Western North Carolina (WNC). They are sending nucleus colonies (nucs) of bees to support WNC beekeepers who experienced losses during Hurricane Helene.

Mr. B. Boggs highlighted the commitment of Beekeepers helping Beekeepers by donating (4) double deep eight-frame hives; these hives, along with donated nucs from the members mentioned above, will make the 20+ nucs to be delivered in May, 2025. *Photo submitted by Jennifer Welsh.*

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# In the Apiary: Summer 2025

by: Shirley Harris, Apiary Inspector, NCDA&CS



## As warmer temperatures arrive

and the height of the summer is here, it is not only the weather that is changing, but also the temperament of our honey bees. The reason for the change in behavior is usually a combination of things: it is hot, not many flowers or trees are blooming, less pollen and nectar is coming in the door, most likely the beekeeper has already taken their honey, and the bees are often struggling. There is the realization that the nectar flow has come to a halt and the dearth has arrived. Did I mention, *it is hot?*

Our personal safety is something we forget about all too often, or maybe we take it for granted. Early in the bee season managing the colonies seems easy as the bees tend to ignore us because their food is plentiful, and they are very busy collecting nectar and pollen. When the nectar is not flowing, we need to take more precautions and think about our safety. We may go out to the apiary and forget to bring our veils or gloves. A month ago, this might not have seemed too important, but now it is. Also, remember to take some water or an electrolyte drink. It gets extremely hot this time of the year, so don't forget to take measures to prevent dehydration, heat exhaustion or heat stroke. You can't take care of your bees from an ambulance or the Emergency Room!

Bees need water, too. Summer is the time of year where there are complaints about bees bothering people that have swimming pools. As beekeepers, we know this is because bees need a water source, and they seem to prefer the chlorinated or salt water of swimming pools. To prevent this from happening, beekeepers should provide a water source closer to their hives. Once the bees start collecting from a given source, they tend to remain loyal to that source. It is very hard to train them to a new location, so it is better to provide a close water source from the beginning.

Hopefully at this point your supers are heavy and ready to extract if you haven't already done so. The spring nectar flow came early, so the bees should have been able to make a good crop of honey this year. When taking supers, remember that it is important to leave enough honey for the bees. What is enough might range from 50-75 lbs or more, depending on the size of the colony, whether your area has a fall nectar flow, regional climate, and other factors. If unsure, consult with local experienced beekeepers to get an idea of how much honey to leave colonies for overwintering. It is a fine line we toggle, but the bees will be better off if you leave enough honey for them.

Beekeepers can feed their bees syrup, but it doesn't provide the same nutrients as honey made from natural forage.

Once the supers are off it will be much easier to check for varroa mites. This is the time of year that the bees begin preparing for winter and they will need to remain strong and healthy to survive. This is also the time of year where mite levels increase rapidly, so it is important to catch a mite problem **early**. If too much time passes and mite levels get too high, the health of the colony will be negatively affected, and the population may be too small to make it through winter. Monitoring for mites now throughout the fall should become routine. Learn about the options available for controlling mite populations. Consult the Honey Bee Health Coalition's (HBHC) - Tools for Varroa Management guide found at <https://honeybeehealthcoalition.org> for the latest information about varroa mite management.

IPM methods, chemical controls and organic methods are all available, but some may be more effective than others under the conditions of your apiary. Read the labels and follow the directions of any product used in or around the beehive.

May you stay in tune with your honey bees so you will be able to enjoy a vacation or a relaxing break this summer!



Photo: Shirley Harris





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# Wolfpack's Waggle: BUILDING A BUILDING: Step 10 - Competitive Bids

by Dr. David Tarpy NC State Extension Apiculturist



**The timeline** for the new Apiculture Research & Extension Facility on the Lake Wheeler Experimental Research Farm just hit a major inflection point. Everything up until now has really been leading to this moment—where the architectural renditions are put out to bid, different firms have an opportunity to make an offer, and the final contractor is chosen for the construction project.

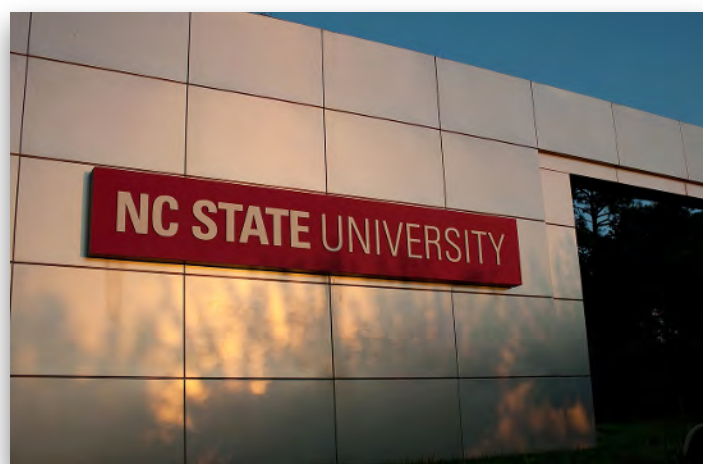
For me, as a biologist and egg-headed university professor, I had never been through anything like this before, so it was a real learning experience for me. The structural renderings were sent out weeks if not months ago, since different contractors need time to pour over them, determine how much they think it will cost them to do, and compile all the numbers together. With so many details, so many different aspects of design, and so many elements to the structure, clearly this is not a simple matter.

Moreover, the bidding process has the main building on which to make a bid, but then there are also several 'alternate' projects that they can bid on as well. These are "optional" for the overall project, but they can be included if a given firm so chooses, and there were seven alternates in total. For example, one of the alternates was to have a retractable glass wall between the conference room and entry lobby, just so that we could open things up to have a larger space if needed, but obviously we can make do with a normal solid wall. Some contractors could decide to make a bid on a given alternate, whereas others might not. So, some of the bids might have been low on the main project but included some of the alternates (for a higher total bid), whereas others might have been higher on the main project but included none of the alternates (for a lower total bid).

The bidding process was held on February 26th, the week before the highly successful joint NCSBA and SCSBA spring conference. The meeting was an unusual one, to say the least, since every construction firm that had put in a bid had a representative in the room. Then,

one by one, Ian Patrick of biloba Architecture opened their envelope as part of the big reveal, where he would read off their bid for the main project as well as any alternates. There was a total of nine bids, and we went through them all in succession before all the contractors then left the meeting.

The design team at NC State, along with biloba Architecture, then went through the respective bids to weigh the overall cost estimates. By North Carolina law, we are compelled to accept the lowest overall bid, but because some included alternate projects it depended on which of them were major priorities and which were not as necessary. It was also important to remain within the budget, since our funds were limited to the original state appropriated funds of \$3M (note that the state legislature allotted \$4M in the budget, but the way the building process works is that NC State takes 25% overhead of those funds to pay for the architects, the design team, and everyone else who works on the project).



One very real possibility was that none of the nine bids would come under budget. Given the looming tariffs and supply chain uncertainty, it was possible that all the bids would have been conservative in their estimates and priced everything so that if the markets would go up, they would still be able to comfortably complete the construction. Indeed, many of the bids were far over budget, in some cases doubling the funds on hand. However, we were exceedingly fortunate to



have at least two bids come under budget, and the lowest was selected to move forward (I'm afraid I cannot disclose that information here but will hopefully be able to do so in our next column).

I should note that one of the alternates was to demolish the old, condemned structure. This was important, not just because we don't want an eye sore of a building to be in the back yard of our new facility, but also because our plan is to use the footprint as the overflow parking lot when we hold large training events. But because that alternate of the project wasn't part of the winning bid, we're left with a problem of how to knock down the old place without the funds to do so. Our CALS administration is currently looking into options, so I hope to report back some good news on that aspect of the project.

Again, and as always, we thank the NCSBA and everyone who have worked so hard behind the scenes to make this happen, and we will all be excited to see the final structure up and running.



## PREPARE ENTRIES NOW FOR THE NC STATE FAIR

### October 16-26th, 2025

The NC State Fair may seem a long way off, but now is the time to start preparing. Soon it will be time to harvest honey, so be sure to save some of your best honey and the cleanest wax cappings to make an entry for this year's State Fair. There are thousands of dollars' worth of prizes up for grabs and categories for everyone to enter. Aside from the obvious honey entries, there are also opportunities to enter candles, blocks of pure beeswax, jewelry, paintings, mead, cosmetics, crafts, photography and more.



Cooking with Honey is also a part of the competition that has not had as many entries since the pandemic, and we would like to build that competition back up. There are numerous categories, including breads, cakes, pies, snacks, salad dressings, just to name a few. Start testing honey recipes now and choose your favorites to enter. Get the whole family involved! Those under 15 can enter the Junior division for each of the cooking categories as well as the honey competitions.

The deadline to enter online is September 15, but entries do not need to be at the fairgrounds until the weekend before the fair.

For more information, read the full description and rules for the Bees and Honey Competition in the State Fair Premium Book online. If there are any questions, contact Adolphus Leonard, [Adolphus.Leonard@ncagr.gov](mailto:Adolphus.Leonard@ncagr.gov), or the NC State Fair (919) 839-4513.

Even if you don't enter, please stop by to admire the beekeepers' hard work. It is quite impressive once it all comes together. If you have plans to attend the Fair, you may also consider volunteering at the education booth where the highlight is finding the queen in the demonstration hive. Discussing bees with the general public is always a fun and rewarding experience.





# Honey Trade Bill

by: Etienne Nadeau, NCSBA 2nd Vice President

## Kicked off by ABF member

Kevin Rader, for over a year, ABF past-presidents Dave Hackenberg and Dave Mendes, along with ABF Board Member, Bret Adey, have been working with Congressman Steube and others on a Honey Trade Bill. On Friday, their hard work paid off as the Honey Integrity Act was introduced in the House.

Here is the press release for Steube and Panetta's version joined by Rep. Ezell:

<https://tinyurl.com/HoneyTradeBill>

You can read the full bill text at:  
<https://tinyurl.com/HoneyTradeBill2>.

This industry has been asking for this for years. And while it took a long time (decades actually) we knew it was important for our industry.

### How important, you ask?

"As a commercial beekeeper from Montana and president of the American Beekeeping Federation (ABF) a national organization representing beekeepers in all 50 states from hobbyists to commercial operations, on behalf of ABF we strongly support the Honey Integrity Act. ABF is grateful to Congressmen Stuebe and Panetta on their sponsorship of this critical legislation.

We were pleased to work closely with Congressman Stuebe a beekeeper himself, on the need for this legislation to protect U.S. beekeepers and U.S. consumers from economically adulterated honey from entering the country. ABF looks forward to working closely with the legislations sponsors to see this much needed legislation become law." —Patty Sundberg, President of American Beekeeping Federation "The American Honey Producers Association applauds Representative Steube, Senator Tuberville, and Representative Panetta for introducing the Honey Integrity Act.

For years, America's beekeepers have sought adequate protections against adulteration of the honey supply on behalf of consumers and beekeepers alike. This legislation takes critical steps forward in addressing adulteration so that consumers can be confident that their honey is natural, wholesome, and healthy.

The legislation will also help level the playing field for honest American beekeepers who have had to compete against adulterated products for too many years. We look forward to working with Congress and FDA in implementing this common-sense legislation to restore fairness in the marketplace and certainty for the consumer."

—Steven Coy, President, American Honey Producers Association

How can you help? We need everyone to contact your senators and congressman and ask your senators to co-sponsor the Tuberville bill in the Senate and your congressman to cosponsor the Steube-Panetta legislation in the House.

How to find your Representatives:

<https://www.congress.gov/members/find-your-member>

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## Master Craftsman Research

### How Effective Is a Late Season Application of Extended-Release Oxalic Acid Pads in Suppressing *Varroa Destructor* in *Apis Mellifera* L. Colonies?

by: Jim Rash, NC Master Beekeeper

#### Varroa mites are a destructive

parasite for the western honey bee, *Apis Mellifera* L, as emphasized by Rinkevich (2020, p. 1): “The parasitic mite *Varroa destructor* and the associated viruses it transmits are responsible for most instances of honey bee colony losses in the United States.” From April 1, 2022–April 1, 2023, the Bee Informed Partnership estimated that beekeepers in the United States lost 48.2% of their colonies; among backyard beekeepers, the number one reason offered for colony loss is varroa (Steinhauer et al. 2023). Moreover, the data from 2024 published by the Apiary Inspectors of America reveals a 55.1% loss which is 14.8% higher than the average loss since 2010 (Giacobino et. al. 2024).

To combat varroa, beekeepers are encouraged to use Integrated Pest Management (IPM) strategies. When using IPM, the beekeeper’s focus is on monitoring varroa mite infestation and when the economic threshold is crossed, above which significant damage would occur, then intervention would be required. When the economic threshold is exceeded, IPM strategy suggests using organic and less toxic treatments prior to synthetic chemicals (US EPA IPM). A commonly used soft/organic treatment is oxalic acid (OA), a chemical naturally occurring in honey, that is labeled for use while honey for harvest is on the hive. Api-Bioxal is the registered trade name for OA and it can be administered by dribbling, spraying, or sublimation. Since the OA is unable to reach varroa in capped brood cells, OA is best used in late fall or early winter when colonies in northwestern NC have little or no brood.

A new and innovative way of administering oxalic acid is extended-release oxalic acid (OAE) which has the potential for OA to be used by beekeepers as an effective acaricide earlier in the season. In Argentina, Uruguay, and Chile, an OAE treatment is registered under the trade name of Aluen-CAP (Maggi et al. 2016). Vita Bee Health responded to beekeeper interest and the ongoing research on OAE and now offers a slow-release oxalic acid product. The newly registered product is labeled for use while honey supers are on the colony with treatment times from 42 to 56 days.

This OAE application method is now available in North Carolina under the trade name of VarroSan.

Multiple studies have shown that OA is a safe and effective treatment to combat varroa without detrimental effects on the overall colony health and without damage to the developing brood (Toufaily et. al. 2015). Oliver’s assessment of OAE: “I’ve been amazed by how a single application of a pad containing OA dissolved in glycerin, given to a colony badly infested with varroa, can with time completely zero out its mite count, with no apparent adverse effects upon the colony” (Oliver, 2022, p. 515). However, other studies of OAE have shown little or no effect on varroa mite infestation. The University of Georgia conducted a Southern field trial of OAE using different rates of OA, 12g and 18g, with the data showing no significant decrease in mite numbers (Berry, 2018). At the 2024 North Carolina State Beekeepers Association (NCSBA) [Conference session], Shannon (personal communication, July 12, 2024) presented research using the OAE protocol with the addition of adjuvants and has shown promising results with faster and more efficient knockdown of varroa.

#### Objectives

The initial proposal was for a late season field trial of OAE in Ashe County, North Carolina using the commercially available VarroSan. However, due to the regulatory process, Vita delayed shipment until late September. Typically, varroa treatments in the mountains of NC are best conducted in late July and early August as the colony is raising winter bees and before the varroa numbers peak in early fall. When the varroa population peaks, the mites are now reproducing in worker brood and parasitizing the winter bees as the drone population dwindles. With guidance from Dr. David Tarpy, NCSU Professor and Extension Apiculturist, the proposed research was conducted with an off-label use of extended-release oxalic acid pads rather than the registered VarroSan.

The overall objective of this research was to investigate a slow-release, late season, application method for oxalic acid against the *Varroa destructor* in

*Apis mellifera* colonies. This project also incorporated a temporal element by conducting daily sticky board mite counts.

## Method

The field trial began in August of 2024 with mite washes and colony health/strength assessments. Each colony was housed in standard Langstroth hive bodies, a deep and medium, a Miller style hive top feeder, a screened bottom board, and a standard telescoping top. The colonies were evaluated, pre and post treatment, using the following criteria: frames of bees, queen status, food stores, brood pattern rating, and visible stressors. Colony strength was determined by frames or seams of bees; when the super is tilted on end and if no daylight could be seen between the frames, that counts as one frame/seam of bees. *Figure 1* is a typical colony showing the ten full frames/seams of bees in the deep Langstroth super.



**Figure 1. Ten frames of bees in the deep Langstroth super**

Mite washes were conducted for the 31 colonies on August 3 and September 21. In each colony, one-half cup of bees was taken from a brood frame with open brood cells and placed in a one-pint deli container with 50% isopropyl alcohol. This procedure allowed the mite-washes to be completed in the shop rather than the bee yard.

Colonies were ranked according to the August 3, 2024, mite wash numbers and assigned to treatment or control groups, i.e., the colony with the highest mite

number was assigned to the treatment group and the colony with the next highest mite count was assigned to the control group, and so on down the list (Wolfe 2004; B. Shannon, personal communication, July 12, 2024).

The field trial began September 2 with manipulation of both treatment and control groups (*Figure 2*).



**Figure 2. Colony manipulation September 2, 2024**

Monitoring the effectiveness of the OAE treatment required daily sticky board mite counts for two weeks (*Figure 3*). The rationale for a two-week test emerged from Shannon's presentation at the 2024 NCSBA Summer Meeting whose research revealed a clear pattern of mite knock-down within the first 12 days after the application of the OAE (B. Shannon, personal communication, July 12, 2024).



**Figure 3. File folder sticky boards**



As seen in *Figure 4*, the treatment group received one Swedish cellulose sponge cut in half with 50g of the OA and glycerin solution prepared following the protocol established by Oliver (2024). The control groups were opened and smoked as well but with no treatment for varroa.



**Figure 4. Swedish cellulose sponges with 50g of oxalic acid**

Daily mite counts were conducted using manila file folders coated with petroleum jelly and inserted underneath the colony over the pull-out corrugated plastic in the screened bottom board. A baseline for daily mite drop was established by two days of sticky board mite counts on August 31 and September 1. Each afternoon between 2-4 PM from September 2 to 15, the one-day old file folders were removed and new ones inserted in the treatment and control groups and stored in the freezer until mite counts could be completed. Mite counts were performed later by totaling the mites using a counter to tabulate the number of varroa that fell in 24 hours (*Figure 5*).



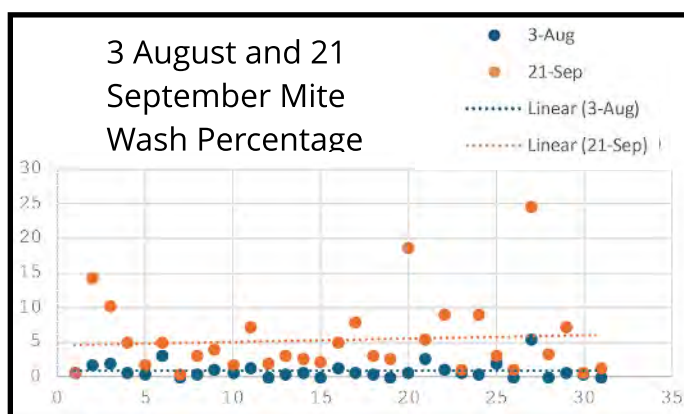
**Figure 5. Daily sticky board mite counts**

At the conclusion of the study, the spent cellulose sponges were removed from each colony and composted. Given that the research was conducted late season, three OA sublimation treatments, roughly a week apart, were performed for treatment and control groups. The weekly OA sublimation was conducted as a clean-up to reduce varroa mite numbers as the colonies were scaling back the brood nest in preparation for winter. Sticky board mite counts were recorded for two days after each OA sublimation.

## Results

The research study included thirty-one colonies held in two bee yards managed by the same beekeeper. The main yard held 24 colonies, 88% of which were established overwintered colonies. The other yard consisted of seven colonies that were either spring splits or swarms, that benefited from a spring brood break. All colonies in the study started with at least 5 full frames/seams in the medium super and 10 full frames/seams in the deep super.

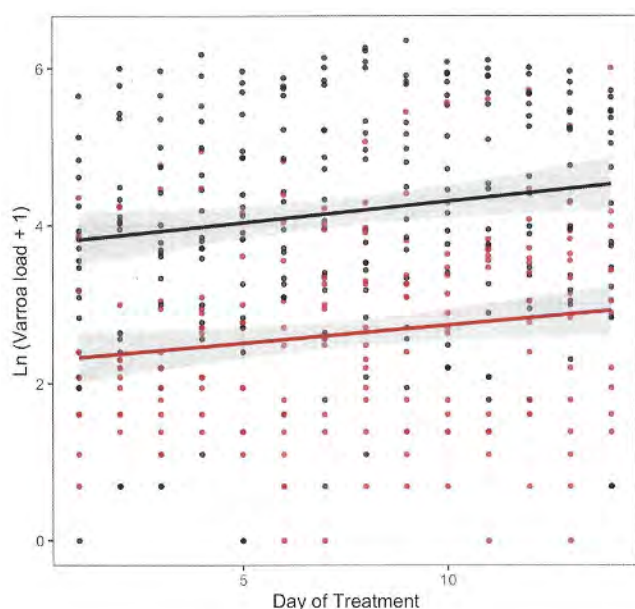
When the colony is in the population decline phase, the Honey Bee Health Coalition publication, *Tools for Varroa Management* (2022), recommends prompt control if the varroa mite count exceeds the 2- 3% threshold. The August 3 mean varroa count was 2.77 mites (range 0-16)/300 bees. At the conclusion of the study on September 21, the mean varroa mite count was 16.09 mites (range 1-74)/300 bees. The scatterplot in *Figure 6* shows 9.7% of the 31 colonies exceeding 3% on August 3; however, seven weeks later, 67.7% of the colonies are above the 3% threshold.



**Figure 6. 3 August and 21 September Mite Wash percentage comparison**

Daily sticky board mite counts were recorded, September 2 through September 15. As the daily mite counts were tabulated, the trend looked promising—the treatment group was consistently dropping a greater

number of mites than the control group. That trend is revealed in *Figure 7*, the scatterplot shows the daily mite drop in the OAE treatment group exceeding that of the control group. Although, the treatment group had higher mite counts than the control, the trend lines in the scatterplot are parallel showing that mite drop increased for both groups over time. *Figure 7* implies that the dynamic occurring in both groups was similar regardless of treatment with OAE or no treatment in the control group.

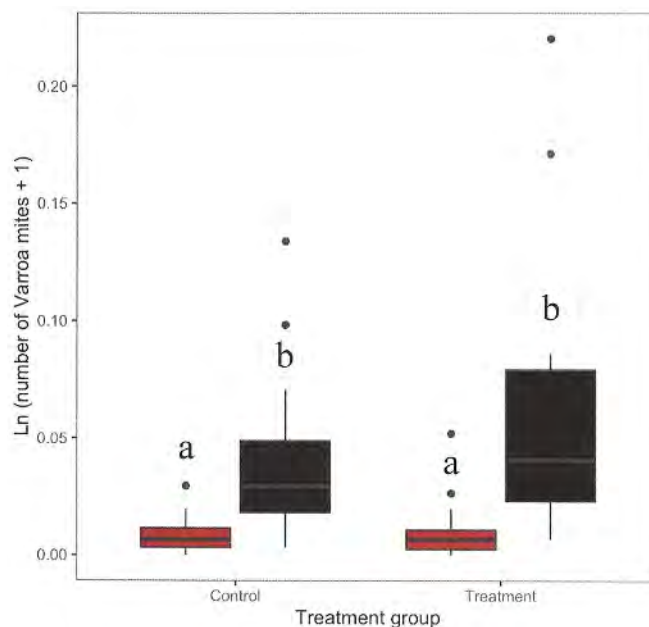


**Figure 7. Varroa loads within late-season colonies over the course of the experimental period. Mite drops in OA-treated colonies (black line) were significantly higher than those in untreated controls (red line). Scatterplot generated by Dr. David Tarpy, NCSU Professor and Extension Apiculturist.**

Moreover, as seen in *Figure 8*, at the end of the two-week study, there was not a significant difference in total varroa mite numbers between the control and treatment groups. In this box chart, the red bars represent the August 3rd mite counts and the black bars are the September 21st mite counts. At the beginning of the study, the median mite count for treatment (range 0-16) and control (range 0-9) groups were 2 mites per 300 bee sample. Additionally, at the end of the study, the median mite count for the control group (range 1-43) was 9 mites per 300 bees and the OAE treatment group was 10 mites (range 2-74). Therefore, with a fourteen-day treatment window, the OAE had no suppression of varroa mite infestation when comparing treatment to control mite numbers.

## Discussion

It is hard to imagine that a colony in early August with



**Figure 8. Change in Varroa mite levels within colonies before (red) and after (black) the course of the 14-day experimental period. Statistical analysis conducted by Dr. David Tarpy, NCSU Professor and Extension Apiculturist.**

a full ten frames of bees in a deep and medium super (*Figure 1*) is in the population decline phase. The honey bee population peaks early in the season (May-June) corresponding to the primary nectar flows. After this early summer peak, the queen responds to environmental changes by slowing egg production. As the bee population declines and drones are being evicted in early fall, varroa reproduction is now shifting to the worker brood and parasitizing the worker bees many of which are destined to be winter bees. A colony without healthy winter bees is compromised even before winter weather arrives.

When comparing August 3 and September 21 mite washes in *Figure 6*, monitoring varroa mite levels throughout the season is imperative. Although, mite numbers were acceptable for 90% of the colonies in early August, seven weeks later only 30% of the colonies were below the 3% threshold. For the backyard beekeeper, monitoring throughout the season is a necessity, not an option. Without monitoring, the beekeeper has no knowledge of the actual honey bee and varroa dynamic that is occurring within each colony. Allowing the mite population to peak in early fall will leave even strong healthy colonies struggling to survive the winter.

Considering the research on the extended-release oxalic acid pads was late season when the bee population is declining and the varroa population is



escalating could be one reason that varroa population increased over the two-week study regardless of treatment or no treatment. One caveat that we need to remember from Oliver (2022) is that OAE has been effective in reducing varroa populations “with time.” Therefore, the OAE treatment would appear to be more suited to early season intervention when the colony has the 42-to-56-day leeway to allow the OAE to impact varroa mite levels. Late season application, when a quick knock-down of varroa is required before the colony begins the process of raising winter bees, does not appear to be the optimum time for OAE.

The trend line in *Figure 7* is encouraging in that the treatment group is dropping more mites than the control group; as time progresses, there is a consistent upward climb of the trend line. This is what one would expect to see if the treatments are indeed working. However, a two-week record does not provide the evidence to allow the researcher to come to that conclusion. This does raise the question, as to how OAE would perform over a longer period. Would mite count for 56 days instead of 14 reveal a different assessment of OAE efficacy?

Beekeepers need to be reminded that the OAE formulation for legal use is VarroXSan by Vita Bee Health and not the off-label oxalic acid/glycerin pads used in this study. The oxalic acid formulation in the commercially available VarroXSan is a safe way for the beekeeper to handle OA. A primary concern with any acaricide is overall safety for the honey bees. With previous research, OA applications are shown to be safe for both the bees and developing brood (Toufailia et al. 2015). Moreover, oxalic acid in the OAE VarroXSan formulation is labeled for use when harvestable honey is on the hive, which is beneficial for beekeepers. A late summer nectar flow that lasts longer than expected could force the beekeeper to delay mite treatment allowing varroa mites to multiply even as the bee population declines. Therefore, an early season OAE treatment using VarroXSan may help keep the mite population in check throughout the season benefiting both the honey bees and the beekeeper.

Beekeepers are encouraged to employ Integrated Pest Management practices. IPM requires diligent monitoring for *Varroa destructor* infestation throughout the season. At what time the 2-3% threshold is exceeded, the beekeeper has the option to implement either mechanical manipulations or chemical treatments (soft/organic or hard/synthetic). The option

to use oxalic acid in an extended-release matrix is another tool for beekeepers in the on-going battle against *Varroa destructor*. However, in this study, OAE in a fourteen-day trial was not an effective method to suppress or knock-down varroa mites in late season. Therefore, until further research is conducted on the efficacy of OAE throughout the season, extended-release oxalic acid pads do not appear to be an efficient control measure in late season when a rapid knock-down of varroa would be required.

## Acknowledgements

With much gratitude, I extend thanks to: Dr David Tarpy, North Carolina State University, for guidance throughout this project and the statistical analysis; Brandon Shannon, The Ohio State University, for helpful insights and suggestions for data collection; Dr. James Wilkes for direction with the initial research proposal; Dr. Wayne Pitts for his review of the final draft of the research article; Ken Jenkins, Austin Lewis, Wayne Pitts, Rickey Roark, and Jeff Vestal for many hours spent in the bee yard.

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# Successful Start to the Microbreeding Initiative

by: Jennifer Keller, NCSU Apiculture Extension & Outreach Coordinator

**The Microbreeding Initiative**, first announced at the end of last year, is off and running! With funding generously provided by the NC Tobacco Trust Fund and the Southern Region SARE program, the NC State University Apiculture Program offered mini grants to support North Carolina beekeepers by providing equipment and training for future queen producers. This program was intended for beekeepers who had completed the Born & Bred queen rearing class or with similar experience in queen rearing. Each county club or group would receive equipment for queen rearing to be used to produce local queens to help the local beekeeping industry. As expected, there were many excellent applications, and unfortunately, they could not all be funded. An ad hoc selection committee was formed to review the applications. In the end, 12 applications were selected for funding.

Representatives from each of the selected groups met for the first time in February for preliminary training. Because knowledge of queen rearing was a prerequisite, this training was just a quick refresher on some techniques but more importantly, the training focused on logistics and how to coordinate a group of beekeepers to come together to make a project like this successful. At this one-day training, the groups received the equipment that they requested, which allowed them time to get everything ready for the spring queen rearing season.

At the time of this writing, it is still early in the process, but there have already been many success stories reported. Hearing about how the groups came together to get all the necessary equipment assembled and painted was great to hear. Many groups had their respective clubs get involved and the results are some elaborately painted hives. One group even had a pre-Superbowl frame assembly party! Some of the groups have grafted one round by now, and Sampson County (because they were able to get an early start) already has their first laying queen! Congratulations!

As expected, there is a steep learning curve with this project. Not only is it a challenging technique in beekeeping, but there is an added challenge of working with a group of beekeepers all having to learn together and coordinate as a group. For that reason, the Microbreeding Initiative is designed as a two-year project. This first year will be for various ups and downs, learning what works and what doesn't. The second season will hopefully be more successful as everyone should be able to get going right away having learned from the previous season. We will continue to follow and provide updates as the Initiative evolves.

No matter how many queens are produced, this has already been a good experience. This project has brought beekeepers together from across the state for a common goal. There is communication between many beekeepers about raising queens, the effort involved, and how important it is for local communities to be sustainable in beekeeping.



We would like to thank again the Tobacco Trust Fund and SARE for providing funding to make this project possible.



1: Hampstead 2: 5CBA 3: Chatham 4: Sampson First Queen  
5: Sampson 6: Wilson 7: Sampson 8: Chatham 9: 5CBA





## Need a Speaker for your Chapter Meeting?

This is a reminder to Chapters looking for speakers for their monthly meetings. The NCSBA maintains a list of members willing to give presentations to groups. The speaker list and information on how to join this list can be found under CHAPTERS on the NCSBA website: <https://www.ncbeekeepers.org/speaker-list>

It is updated as needed but at least every year in December.



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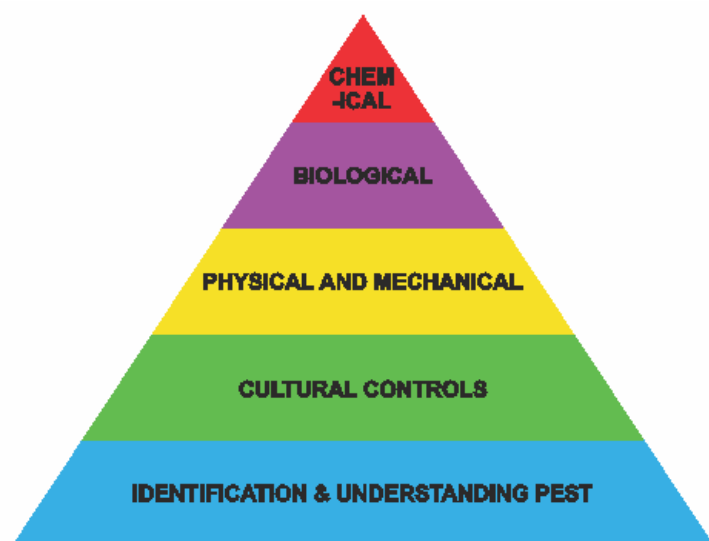
# Using Hygienic Queens Within Integrated Pest Management Strategies

by: Eric Talley, MBP Coordinator

**Commercial beekeepers** have no choice but to rely on the use of chemical treatments for reducing varroa mites in their colonies due to the sheer number of colonies they are managing. Backyard and small-scale beekeepers have the luxury of managing their bees with reduced use of and dependency on chemical treatments. This framework of management (Integrated Pest Management (IPM)) takes a little more time, may produce more benefit, and reduces the need for chemicals that can seep into the wax and have negative consequences for the whole colony, including the queen and drones. The Honey Bee Health Coalition's (HBHC) - *Tools for Varroa Management* guide <https://tinyurl.com/varroamanagementguide> can assist you in several ways to use IPM and help reduce the use of chemical treatments for varroa mites.

Integrated Pest Management (IPM), is a concept of pest management that seeks to control pests using a variety of strategies that are safe, effective and economical and will lead to a sustainable level of control. The IPM pyramid emphasizes the prevention and control of pest rather than intervening after the pest problem arises.

## The IPM Pyramid



**Identify the pest** – completing varroa mite counts using the proper method of counting the number of mites from a ½ cup of bees (about a 300-bee sample) will determine infestation rates. This should be completed at least four times during the beekeeping season. Some beekeepers are completing these mite counts monthly. The sooner you know there is a problem the better, allowing you to take action before the numbers get out-of-hand.

**Cultural controls** might include – Genetics - One tool available to the beekeeper for use in the IPM arena is the use of queens that have been shown to produce worker bees with specific hygienic traits. Different hygienic traits have been identified over the past years; and queen breeders have made significant advances in honey bee genetics to breed for specific traits to help reduce the colony varroa mite count. Another cultural control involves breaking the brood cycle in the colony, thereby allowing no nursery for a period of time for the varroa mite to be reproducing.

**Physical and mechanical controls** might include – The use of screened bottom boards which allow the varroa mite to fall to the ground, or at least on a sticky board away from the bees. Cutting or removal of drone brood from a colony is also a form of mechanical control for varroa mites because varroa are naturally attracted to drone brood over worker brood. Painting hive bodies different colors and increasing distance between hives to reduce drifting can be considered physical controls as well. Some research is being done to determine if the use of robbing screens can reduce the natural drift of bees between colonies, which could reduce the movement of the varroa mite as well.

**Biological controls** might someday be available – some research is being done concerning the use of different fungi and the possible use of *Bacillus thuringiensis* within the colony but research is still ongoing. In the meantime, NOT moving frames from one colony to another is suggested as this can move pest and diseases between colonies. And again, the selection of genetic stock that can tolerate or resist varroa mites or diseases is always a great idea.



**At the top of the IPM pyramid** is the use of chemicals to help control pests, this should be a last resort for the backyard and small-scale beekeeper. Beekeepers who get to this point in the pyramid should start with the natural products (refer the HBHC – Tools for Varroa Management) and then when all else fails move to the synthetic products, provided the colony is still alive.

Combining all of the available IPM strategies when managing honey bees can help the backyard or small-scale beekeeper be successful in controlling the varroa mite and keeping healthy bees. When IPM strategies are used properly there may never be a reason to have to use the “chemical” portion at the top of the triangle to control the varroa mite in colonies.

Reviewing IPM strategies, it's clear to see that hygienic queens are not the only answer to being less dependent on chemical treatments, and are only one tool in the box. Although the hygienic trait is manifest in the queen, **it's the worker bees produced by hygienic queens that demonstrate some control of varroa mite populations.** And, it's the other strategies within the IPM framework that demonstrate additional control of pests including the varroa mite. Some of the hygienic traits that have been identified and are being bred for include;

- Bees that uncap and remove pupae from cells that contain varroa mites. This trait is referred to as either Suppression of Mite Reproduction (SMR) or Varroa Sensitive Hygiene (VSH).
- Bees that remove dead larvae and pupae from cells. Developed in an effort to combat brood diseases such as American foulbrood (AFB) and has shown some resistance to the varroa mite. This trait is referred to as the Minnesota Hygienic.
- Bees that aggressively groom varroa mites that are in the phoretic stage. These bees are aggressive toward varroa mites and bite and remove legs and other body parts, referred to as ankle biters or mite maulers.
- Russian honey bees, from the varroa mite's original range, were imported by the USDA and cross bred with the Italian honey bee. These can be purchased through the Russian Queen Breeders association. These bees show some hygienic behavior both in the uncapping and removal of brood from cells that contain varroa, and maybe some aggression towards grooming varroa that are in the phoretic stage.

I say again for emphasis that the hygienic queen doesn't reduce the varroa population. The worker bees produced weeks and months later after the hygienic queen has been successfully introduced help to reduce the varroa population. One cannot simply requeen a colony, using a hygienic queen, when the colony has high varroa mite counts and expect an immediate reduction in the mite count and a beneficial result. The high mite count should have been detected and addressed using the IPM strategies (mite counts using ½ cup or about 300 bees). And, the high mite count has most likely already introduced viruses within the colony that will weaken the efforts of the worker bees, the queen and resultant larva/pupa.

Nurse bees infected with viruses spread those viruses to the larvae being fed. Larvae from a hygienic queen need to be virus free and the developing worker bees from that queen need to be healthy and survive long enough to be the colonies nurse and house bees before they can help reduce the varroa mite counts within the colony.

Chemically treating a colony that has a high varroa mite count may reduce the varroa population for a period of time but the majority of the varroa in a colony are under the brood caps raising more mites. Even if you were able to remove all of the mites from a colony, I believe that it could take three to five brood cycles to get the viruses gone from the colony.

When introducing a queen to any colony I suggest that you make sure there are open larvae to reduce the probability of that queen being superseded in the near future. See my research published in the Journal of Apicultural Research (TJAR #1867336) titled “Influence of brood pheromone on honey bee colony establishment and queen replacement” as an open access document that is free for all to download: <https://tinyurl.com/broodpheromone>. Also published in the American Bee Journal May 2021.

When starting a colony and introducing hygienic queens I find it best to start with two to three frames of bees from a healthy colony with a low mite count, or a package of bees, or a swarm. By using packages and swarms you are introducing a hygienic queen to a new colony that has no capped brood and a period of time that the varroa mites, that came with the package or swarm, have no fifth instar larvae to hide under, therefore all varroa mites are in the phoretic stage and can be groomed off by the worker bees.

Another important item to remember is that once you start a colony using a hygienic queen you need to let the colony grow from the bees produced by that hygienic queen. Don't add bees from another colony, don't move frames of brood from other colonies. Both of these actions will move varroa mites to a colony you are relying on hygienic behavior to control the varroa mite without using chemicals.

### **Suggested methods to start colonies using hygienic queens.**

**Making a split**, and leaving it in the same apiary as the parent colony is located. Choose two to three frames that contain a small amount of open brood, preferably no capped brood, and plenty of nurse bees. Shake more bees than you think you need into the split as the field force will leave and not return to the split but rather return to the parent colony. Place the split at least 10 feet from the parent colony. Introduce the new hygienic queen in the usual way.



**Method 1: Make a split**

**Packaged bees** should be installed with the queen that came in the package. Once the queen has been released and started laying, and eggs are eclosing to larvae, brood pheromone is in the colony, the old queen can be found and removed and a new hygienic queen can be introduced in the usual way. Don't wait too long to replace the queen as you want more of the hygienic bees being raised than the bees from the package queen.



**Method 2: Packaged Bees**

**Swarms** should be installed into equipment and left alone until there is new larvae producing pheromones. Provided the swarm had a mated queen when you caught it there should be open larvae within seven to ten days. If the swarm had a virgin queen that had to make mating flights it will take a few more days. Once there are brood pheromones in the nest, the old queen can be located and removed, and a hygienic queen introduced in the usual way. Again, don't wait too long to replace the queen that came with the swarm.



**Method 3: Swarms**



**Caution** - Once you introduce a hygienic queen, let the process of the hygienics work. Some chemical treatments can damage that new queen, (refer the HBHC – Disadvantages sections of each chemical) and once she is superseded by the colony you lose the hygienic traits when the virgin queen mates with local drones.

**Some considerations** when selecting the hygienic trait you want to use in your colonies. My thoughts when I consider all of the hygienic traits that queens are bred for today:

The VSH/SMR trait – house bees remove the pupa that the varroa mite has damaged, and possibly passed viruses to, before the bee emerges and starts feeding developing larvae and spreading the viruses. The viruses are what is killing colonies, and controlling the varroa mite is the only way to control the viruses.

The ankle biter/mite mauler trait - having bees that groom mites from other bees and bite legs and other body parts off may be beneficial but I don't see where this hygienic trait helps to control the virus load within

the colony. Grooming a mite off after it has spread viruses doesn't seem logical to me.

Minnesota hygienic - removal of dead larvae and pupae from cells is a good trait, provided that you have diseased brood such as American foulbrood present. However, pupae damaged by varroa mites and infected with viruses are not dead and usually won't be removed.

Russian or Russian-Italian hybrid. I have not dealt with the Russian honey bees, neither pure or hybrid. If you can purchase these, they might provide a combination of the VSH and ankle biter traits.

Bottom line, the backyard and small-scale beekeeper have the tools available within the framework of the IPM pyramid to manage honey bees without the dependency on chemicals to control the varroa mite. Commercial beekeepers just don't have the time, or the labor force, to manage the varroa mite within the IPM framework based on the sheer number of colonies they are managing.

*Photos courtesy Eric Talley*

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# Bee-Engaged:

## An Average Joe Beekeeper's Guide to Basic Hive Inspections

by: Joseph "Joe" J. Komperda, Sr., UM Master Beekeeper

### We all have heard that *beekeeping is local*.

But what you do locally is also dependent on the goals and objectives of the individual beekeeper. Practices used by sideliners, hobbyists and any other description of beekeeper can vary widely from techniques practiced by commercial beekeepers. No matter what level of beekeeping you're at, your experience will dictate the methods, practices and procedures used in your beekeeping routine.

For hive inspections, this Average Joe Beekeeper's Guide addresses newer, less experienced beekeepers who wonder what an inspection is and when it should be performed. My rule is to have a plan or reason for every inspection you perform.

As we settle into the summer, inspections can become a great educator. Getting into the hive on a regular basis (weekly or bi-weekly) provides insight into bee biology where you can identify eggs and their position on the cell floor, larvae and their various sizes (See below) and capped brood versus bee bread and capped honey. This all contributes to and solidifies your bee knowledge and can help you develop confidence as a beekeeper. Seeing pollen being brought in, trophallaxis between workers, a waggle dance, the difference between a worker and drone and even locating the queen are all part of the wonders of the hive. Without inspections you can't appreciate these sights!

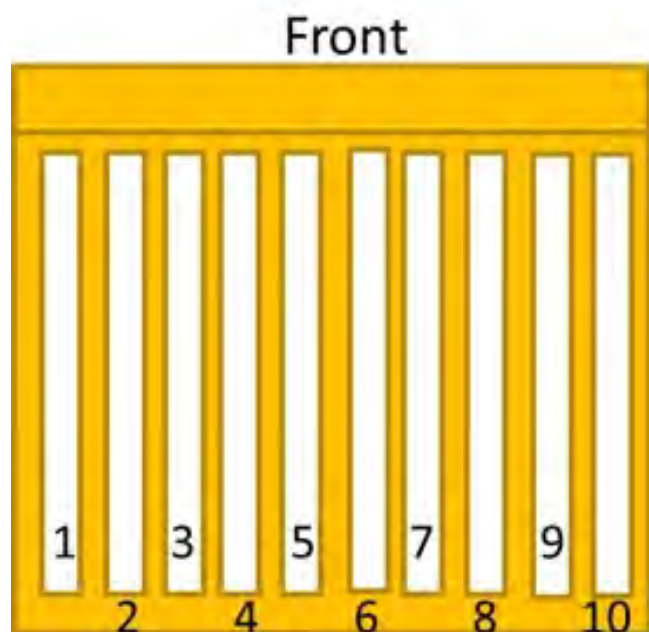


Eggs and young larvae

With newer hives, equipment needs can be determined via inspection. In Langstroth hives, once comb is drawn out on seven or eight frames, it's time to add a second box. When that box is built out, add a super. Surprisingly, this can happen in a week or two. If you only inspect once a month, you'll miss the milestones in the colony build up.

Some newer beekeepers won't inspect for fear of rolling and killing their queen. When inspecting, I start by removing the second frame on the left side of my hive as the queen is less likely to be there. Before going deeper into my inspection process, I want to point out my frame numbering system.

In my research, I haven't been able to identify a standard for numbering the frames in a hive. While standing behind the hive, I designate the left frame as #1 with the right frame as #10 (See below). When talking about a stack of brood boxes, whether deep or medium, top will always be designated T while bottom is B. With a third box, it is in the middle, so it is M. My hives and nucs are uniquely numbered so all numbers start with H for hives while N indicates a nuc. Finding a queen on frame four in the top of Hive 08 would be annotated as H08T04. Drone brood on the top of the 5th frame in the bottom deep would be H08B05. Supers start with S and are numbered bottom to top.





Back to inspections, I try to consistently follow a standard procedure or routine although that's not always possible. As I observe my colony, I record my findings in the same sequence. I normally start with Frame #2 but earlier (or later) in the season I may start on frame 3 or 4 depending on the density of bees. Using a frame rest or spare nuc box, I place the first 1 or 2 inspected frames outside the hive to open the space for frame movement. I then look at the next few frames and observe the number of bees, the extent of brood coverage (See below), honey, nectar and bee "bread". By frame 7, I have usually seen everything I set out to see in my plan for that session.



Some people will tell you that you should use smoke during your inspection. I like to light a smoker "just in case" but prefer to not use it if not needed. Depending on the time of year, the flow, weather, number of bees, colony temperament and other factors, you might want to use smoke. For those who say smoke sets a hive back, you might mist sugar water to calm the bees down via distraction. Likewise, a quart bottle of water mixed with 1 oz. of Liquid Smoke (available in grocery stores) provides a smoky mist on the bees. Both alternatives can help calm the colony, but you may have to revert to the smoker.

While you're inspecting, it's a great time to grab a half of a cup of bees and perform a mite count. Whether you prefer a sugar shake, soap wash or an alcohol wash, a mite count goes a long way toward effectively managing your bees. You should perform a mite count on a monthly basis April through October so include

them in your inspection plans.

Understanding the bee life cycle or "Bee Math", helps in completing your inspection even if you haven't seen everything you wanted to see. With eggs in cells you know the queen is there and was laying in the last three days. Observation and knowledge make you a better beekeeper.



**Queen cup**

You might see queen cups or emergency cells. Newer beekeepers may panic as they believe a swarm is imminent but don't worry, bees are amazingly efficient. They will build these structures "just in case". If it is filled with royal jelly (See below), Supersedure may be underway. Depending on where the cell is located, you may also be witnessing swarm preparation. Plan your next inspections to track the growth, emergence and actions of a new royal!



**Developing queen cell**

If it is swarm season, you need to understand that a queen cell can be completed in eight days from egg laying to capped cell. Once capped but usually by the sixth or seventh days the swarm will fly. If you're inspecting once every other week or less, you could miss the swarm entirely. Looking in the hive after a swarm rarely demonstrates that your numbers have diminished. Regular inspections help you gauge the



number of bees in the hive. One side of a deep frame that's completely covered with one layer of live bees contains around 1500 bees. Many times, you'll find bees stacked on top of each other increasing those numbers. Counting frames of bees quickly gives an indication of the colony's actual size. By looking at the brood areas of your deep frame which holds about 3500 cells on each side you can estimate the increase in the number of bees over the next 2 -3 weeks. Armed with information on the current number of bees and those emerging soon, you have a better feel for the colony's size in the coming weeks. But you need a regular look inside of your hive to determine this data.

For the Average Joe Beekeeper, it is important to get into hives on a weekly basis whether it's early in the season or early in the beekeeping journey. As time progresses, you'll learn more and as your knowledge and hive count increases, your inspection frequency may lessen. No matter where you are in your beekeeping adventure, inspections can help you determine the health and vibrancy of your colony, and it reveals the marvels of your bees. So, get in there and observe your bees!

*Photos/Diagrams by Happy Busy Bees – Joe & Debbie Komperda*



Photo: Tim Huffman



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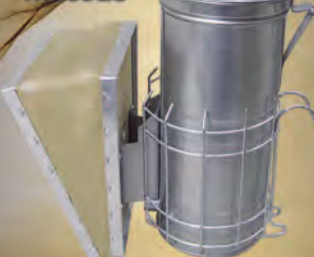
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# WNC Beekeepers Continue Storm Recovery with help from NCSBA

by: Debbie Griffith, Toe Cane Beekeepers President



**When Hurricane Helene's** torrential rains and winds devastated the South in late September 2024, the area served by Toe Cane Beekeepers (Avery, Mitchell and Yancey Counties) was one of the hardest hit. The most painful loss for our club was that of Aly Wisely and Knox Pettruci and their two young sons, Felix and Lucas, who all drowned when their home was swept away by the North Toe River. Aly and Knox managed Honey and the Hive bee supply store in Weaverville, were active Toe Cane club members and were sideline beekeepers in Yancey County, whose 40-plus hives also were lost.



Aly Wisely and Knox Pettruci

The catastrophic flooding, wind and landslides destroyed homes, businesses, farms and a way of life for so many in WNC. Losses have been estimated at more than \$44 billion in destruction of homes, businesses, infrastructure and natural resources. In the initial days after the flood, bees and beekeeping were not first on the list of concerns of most people. Instead, just getting food, water, electricity and shelter was paramount.

As word of the disaster reached unaffected areas across the state, many NCSBA clubs asked how they could help, and initially the answer was, "We just don't know, there's too much damage to even think about bees."

But the leadership of NCSBA and that of NC State's Apiculture Program persisted, and both groups organized efforts to help beekeepers and bees. NCSBA paired our TCBA chapter with other sister clubs in the state. Zoom calls were set up to discuss assistance for bees and beekeepers.

Toe Cane Beekeepers surveyed its membership to assess losses and needs and based on that survey (when power was restored), we estimated losses of more than 150 colonies of bees and thousands of dollars of bee equipment in our three-county area. Losses of bees have continued, as deadouts of bee colonies are reported to be higher than normal this winter due to the destruction of fall forage (goldenrod and aster) that was washed away at the height of bloom. Beekeeper neglect of hives, due to higher priorities like securing food and shelter, also contributed to colony winter losses.

The outpouring of support, assistance and monetary donations was overwhelming in the weeks following the disaster, and it continues even six months later. TCBA organized an online fund-raising effort which secured more than \$1,000 in donations, and additional fund-raising events like our Honey Tasting Contest raised about \$500 more.

Among the chapters of NCSBA who have directly aided Toe Cane Beekeepers are: Cumberland County, Wilson County, Montgomery County, and Ashe County. Surry, Sampson and Hoke County also have offered



help. Cumberland County (Whitaker Grannis, president) took the lead in the aid effort and is offering to produce up to 40 spring nucs and small hives as well as hundreds of frames and foundation to replace those lost to the flood. Matthew Booth of Hives for Heros contributed boxes of waxed foundation frames. Montgomery County donated more than 1,000 pounds of sugar.



**1,000 pounds of sugar from Montgomery County Beekeepers**

As word spread about the disaster, good-hearted people from outside North Carolina also responded. To aid our TCBA members, the Siers Family from Elizabeth, W. Va. (Larry, Marianne and Charles Siers), began building hive boxes in their small wood shop. On Feb. 22, 2025, the Siers Family loaded a box trailer and drove 300 miles to Avery County to deliver more than 75 boxes, lids and other woodenware.



**Charles, Larry, Marianne, and Linda Siers of West Virginia**

Charles Siers said, "My heart just broke for you guys. Dad is a beekeeper and runs a little woodshop, and I knew we could help out, so we talked to the club and found out what was needed right away and started building boxes."



**Woodenware built by the Siers family donated to club**

Club members who reported lost equipment on our survey were invited to pick up their new equipment at a special "Thank You" ceremony at the TCBA Educational Apiary at Mayland Community College.

Even TCBA members who themselves lost equipment and bees in the disaster stepped up to donate used equipment. Zach Gellman, a TCBA member and sideline beekeeper from Burke County, who lost approximately 15 hives, donated a truckload of used equipment as well as swarm boxes he built.

As our small club continues to distribute donated aid, Toe Cane has been honored to have been chosen to participate in NC State's Queen Rearing Microbreeder Initiative with the goal of teaching beekeepers how to improve the overall health of honey bees and potentially stimulate a new niche economy to aid the challenged apiculture industry. With our club's Educational Apiary now in full operation, we will begin rearing queens as soon as our Apiary hives grow and produce a new generation of drones. We invite NCSBA member clubs to visit our Apiary and learn more about our efforts via our website, [toecanebeekeepers.net](http://toecanebeekeepers.net).

TCBA would like to thank all those who have worked to help our beekeepers and our bees. Although the storm wreaked incredible damage to lives and property, the acts of kindness and goodwill shown to us will be remembered and celebrated for years to come.

*Debbie Griffith is a NCSBA Master Beekeeper and president of Toe Cane Beekeepers Association. She lives in Newland.*



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# NCSBA Library Update

## Summer 2025

Exciting news! DVDs are still being made! We have just ordered three new DVDs for the library, and they should be available soon. The DVDs provide you with a visual experience about topics of interest. It's like being taken along on an apiary inspection or being in a conversation with other beekeepers after a bee meeting. If you want to know more about queens, swarms, or equipment, be sure to check out the new library offerings.

Mark Lee, the Director of Library Services at Wayne Community College, said that the use of the NCSBA library's DVDs this past quarter was double the previous quarter.

We are trying to create a program of DVDs that will be an excellent source of information for all NCSBA members. If you have any questions or suggestions, please contact me.

**Bob Kemper, NCSBA Fred Deer Librarian**  
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## NCSBA SUMMER MEETING

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For the latest information visit: [www.ncbeekeepers.org](http://www.ncbeekeepers.org)