**Rowan County Beekeepers Association**

**Meeting Minutes**

**9/13/2021**

**Location: In Person and ZOOM Facilitated by Rowan County Extension Agency**

Marcel Renn called the meeting to order at 7:00 pm and welcomed all the members there. There were 26 participants in person and 1 on Zoom.

**Program: Brittany Gross – NC Apiary Inspector, Non-Chemical Mite Treatments**

Became an NC State Bee Inspector in March 2021. Began keeping bees at Ohio State University. She has a Masters in Entomology. Has worked for OSU bee lab as well as UNL bee lab. Has also worked with bees in the Dominican Republic.

She has responsibility for Area 2 of NC, which includes Rowan County. Inspectors provide permits to sell, conduct inspections, provide a sounding board for beekeeping problems, and provide extension and outreach work as well.

Fall Prep Reminders:

* Do you need to feed?
* Mite treatment (and eyes on other pests – SHB, wax moths)
* Signs of disease?
* Combine weak colonies.

Varroa destructor – ectoparasitic mite introduced into US in 1980’s. Feeds on fat bodies of bees which weakens them. Also vectors a number of diseases. Mite populations peak after hive population peaks, typically in late summer to early fall. Do not rely on your eyes to determine varroa mite levels. Mites are really small and are usually on the underside of the bee. Monitor for varroa mites using an alcohol wash or sugar roll. You should monitor for varroa even if you treat so you know if your treatment worked. If you have a lot of hives, check at least 8 hives when you have more than 10. Monitoring is effective so MONITOR.

Alcohol wash – need jar/bottle, measuring device, alcohol/windshield fluid. Find frame of open brood – want nurse bees. Shake frame into a bin, scoop out ~1/2 cup of bees (~300 bees). Put in alcohol. Shake/swirl and set aside for 2-3 minutes. Strain bees and mites. Count mites.

Powder sugar roll. Need jar/bottle with screen. Scoop out ~1/2 cup of bees (~300 bees). Put in jar with ~ 2T powdered sugar in the jar. Roll or shake them until they are very well coated. Set aside for 2-3 minutes. Shake sugar into something white and pour water to dissolve the sugar and then count the mites.

Alcohol wash is more accurate, not impacted by humidity (powdered sugar tends to clump in high humidity). Powdered sugar is easier, doesn’t kill bees. Really comes down to preference. Recommend beginners start with an alcohol wash since it’s more accurate.

Treat when >6 mites. Treat all hives if one is over threshold because bees visit other hives, come in contact with other bees on flowers, water sources, etc.

Chemical vs. Non-Chemical

Chemical – Apivar, Apiguard, Mite-Away quick strips (formic acid) are the most common chemical treatments. Chemicals are often more effective, quicker to apply, more expensive, PPE required.

Non-chemical – easier to use, cheaper, often more time consuming, so must start early in the season. Non chemical treatments include:

* They include drone brood removal because varroa are more likely to infest drone brood. Can use drone frames to bank varroa. You have to remove frame once a majority of the brood are capped. Freeze frames for 48 hours. Pros – effective, can be used throughout the season, cheap. Cons – drawing out frames, time requirement (if you forget or can’t get to the frame before the drones hatch, you’ve put a mite bomb in your hive), freezer space.
* Brood breaks – Varroa need brood to replicate. Often done in spring when colonies can easily rebound from a lack of brood. Either performed by splitting colony or caging the queen for 2 weeks. Pros – relatively easy, can be effective if used with other chemical treatments. Cons – issues with caging queen, time requirements, reduced population.
* Resistant stock – honey bees that are bred to have varroa resistant traits. Uncapping infested pupae, uncapping and grooming/biting. Pro – effective at reducing mite loads. Con – need to keep reintroducing genetics, occasional spotty brood.
* Heat treatment – Newest option for varroa treatment. Thermal treatment will heat colony to ~ 108 degrees – will kill the mites, but not the bees. Pros – supposedly gets a large mite drop, can use with supers. Cons – High cost, time and electricity needs, spotty brood patterns. Some keepers who use this process, remove the queen for the duration of the treatment.
* Comb culling – remove old comb, good practice regardless of mite control. Not really effective for mites.
* Screened bottom boards – good for passive control, can collect up to 10% of mites. Not effective for controlling mites.
* There is little to no research on the effectiveness of essential oils, powdered sugar, thyme plants.

Honey Bee Health Coalition provides a free pdf on-line that contains everything known about mite controls.

Take notes – track what you do! Begin preparations now for the spring. Monitor throughout the season, it is likely you may need a chemical treatment.

Contact Bridget Gross – bridget.gross@ncagr.gov; 919-418-4906

**Secretary Report:** No additional comments were received. Last month’s minutes were approved.

**Treasurer Report:** Debbie Lucas provided the Treasurer’s report. Beginning balance as of 8/1/21: $2471.40. Ending balance as of 8/31/21: $2496.60.

**Old Business**:

The Rowan County Fair will be Sept.24 – Oct. 2. There will be no exhibits; however, RCBA has been asked to set up a booth along with the Master Gardeners and the Ag Center. The fair display will be static only, no honey sales. Set up will be Sept. 23 afternoon. Mark Heuser will coordinate display set up and take down. Mark will also make sure the display gets moved to Autumn Jubilee.

The Autumn Jubilee festival at Dan-Nicholas Park will be held on October 2-3 and we have been invited to participate again in the Heritage Village. It was agreed that Lee Williams will collect names of folks that can help with the event and those who will be selling honey.

There was a lot of discussion about when folks could sell honey. It was agreed that if you are a member of this organization, you should be able to sell honey and hive products at RCBA public events.

Marcel has been contacted to help staff the State Fair bee/pollinator booth for any morning or afternoon shift. Dates are Oct. 14-24.

Randy Elium has been contacted about participating in the 2022 China Grove Farmers Day. There was discussion and a vote to commit to the 2022 China Grove Farmers Day.

**New Business**:

Marcel stated that there was a good article in the Salisbury Buzz about Nathan Hough.

Debbie Lewis is resigning as Treasurer at the end of 2021. Marcel also stated that President is an available position. Lee will stay on as Secretary. Bryan Fisher will also stay on as Vice President. Voting on new officers will be held at the October meeting.

Bryan Fisher (NCSBA Regional Director) stated that the NCSBA is planning to have an in-person meeting on November 19-20 in Hickory at the Convention Center.

There were no additional Q&A.

Respectfully submitted,

Lee Williams, Secretary

**CALENDAR FOR BEEKEEPING IN CENTRAL NORTH CAROLINA**

Nancy Ruppert, Apiary Inspector, NCDA & CS nancy.ruppert@ncagr.gov Updated December 2019

This calendar was designed for general beekeeping use in most of central North Carolina. Recommendations are based on average climate/weather conditions, and may vary with significant temperature changes. Those who manage hives for commercial operations may have different needs than those listed below. Details regarding bloom types/dates and pest/disease management are not included here due to space limitations; consult reliable and current resources for this information. This calendar is subject to being updated as new information becomes available. Remember: bees often follow a different calendar than humans do!

January: Add pollen supplements, if needed; check amount and location of honey stores, and feed (2:1 syrup, candy board or fondant) if <3/4 super of stored honey left.

Check/repair/replace stored equipment; order wax/woodenware.

Consider single dose of oxalic acid vapor or drizzle early in Jan. to clean up residual varroa in hives.

Order nucs/packages.

Keep learning---beekeeping class, read books/journals, etc.

Combine or insulate smaller (less than 4 frames of bees) hives.

Combine hives where queen has failed, if they’re still alive and haven’t absconded.

Move hives if they’ll need to be relocated this year.

Bees may need help removing dead bodies and/or heavy snow from entrance area.

February: Noticeable pollen flow under way, especially red maple-; brood build-up intensifying.

Minimal if any nectar available---most hives need feeding (1:1 syrup in most cases, unless honey stores very low [i.e., <1/2 super left], or continue candy board/fondant).

Combine hives if needed (see January entries above).

Repair/replace equipment if needed; move hives if needed; keep learning.

During last half of February, consider adding super/hive body of wax foundation to allow bees to draw out more comb for spring. (Feeding or nectar is required for this.)

Replace a few (<4) frames where comb is old or damaged.

Some hives may need testing for Nosema disease, especially if too cold for cleansing flights. Also, late February is not too early to begin/continue varroa mite assessments, especially in southeastern NC.

Call your local cooperative extension office if you want your name on a “swarm-catcher” list.

Make plans to attend the annual NCSBA Spring Meeting in March.

March: NCSBA annual Spring Meeting (usually first weekend in March)---great learning opportunity!

Swarming under way-; implement prevention measures (make splits, remove queen cells, “checker board”, temporarily or permanently remove current mother queen); set up “bait” hives.

Reverse bottom two or three boxes on hive to give queen more room to lay: most hives have moved up above the bottom hive body, leaving it virtually empty. This measure also helps reduce swarming. Caution: be careful not to split up clusters of brood when you do this. Two to three weeks after this reversal, it’s likely that you’ll need to reverse them again. (An alternative to reversal: simply add another hive body or super.)

Assess for pest and/or disease problems (especially varroa mites, American foulbrood, and European foulbrood) and treat if needed. Treatments should be completed by early April to limit risk of contaminating honey.

Check honey stores; feed (1:1 or thinner syrup) if needed.

Look closely at the brood pattern; order new queen if current one failing.

Continue to replace few frames of old/undesirable comb, if needed.

Near end of the month, add at least one honey super; remove entrance reducers; equalize hives.

April: Nectar flow is often heaviest this month: make sure that all medications are out of hive unless required for bees’ survival, be prepared to add new supers every 7-10 days, and remove feeders from all except new or weak hives.

Bees should be very busy; closely examine hives that are not, and trim weeds that may be hindering flight.

Swarming usually heavy---continue prevention/capture measures.

Look closely at brood pattern; replace queen if needed.

Have everything ready to install nucs/packages that you’ve ordered; feed upon installation.

Consider adding queen excluder to prevent brood in honey supers.

May: Nectar flow continues---keep adding supers; get extraction/bottling equipment ready. Consider adding an additional hive entrance (via 5/8” hole or shim) above brood area, for foragers.

Swarming continues---keep up prevention/capture measures.

Replace failing queens.

Start/continue planting warm season annuals for ongoing nectar/pollen supplementation.

Install traps for small hive beetles if needed (i.e., if more than 20 adult beetles seen in hive).

Place two or more bee “watering holes” in apiary, if not already present.

June: Main nectar flow starts to dwindle---fewer supers needed, unless sourwood nearby: if in area of sourwood, consider harvesting available honey before mid-June sourwood flow to ensure more “pure” sourwood crop.

If honey being harvested, put “wet” supers back on hives late in day to limit robbing.

Can start late-season splits during last half of June; feed splits initially, even if there is nectar available

Continue measures to control small hive beetle population.

Check varroa mite levels if not done since February. (www.honeybeehealthcoalition.org)

Keep water for bees constantly available.

Make plans for attending NCSBA Summer Meeting in mid-July.

July: May harvest some (or all) of honey; may continue late-season splits; continue beetle controls; keep water available for bees (see June activities).

Attend NCSBA annual Summer Meeting, if possible (usually mid-July)---great learning opportunity!

Get supers on for cotton honey, if hives near cotton fields.

Replace failing queens; consider replacing any queen that is two years old or older.

Continue varroa mite assessments, and treat if needed/practical.

August: If not in area of significant cotton bloom, harvest remaining desired honey by mid-month to keep bees from eating it.

Nectar dearth in most areas; may need to feed carbohydrates (1:2 sugar:water, or honey water)

Pest control is critical this month: hive beetle populations are peaking, varroa mites are nearing their peak populations, some factors increase risk of damage from wax moth larvae, and yellow jackets/ hornets tend to be plentiful.

Careful assessment of queen performance---this month is usually last chance to replace queens until the following spring.

Can still make late-season splits early in August if using mated queens.

Keep water available for bees constantly.

Be prepared for ”badly behaving bees”: because nectar flow is so scarce, bees may become more defensive and more likely to rob other hives; install robbing screens or entrance reducers (but be aware of need for ventilation), and keep hive inspections as brief as possible.

Completing honey harvest + decrease in queen’s egg-laying = extra empty supers of drawn comb; store them using method that prevents damage from wax moth larvae (freezing, keeping open to light/ventilation, using paradichlorobenzene [PDB] crystals).

September: Continue measures for pest control. Varroa control should be completed by end of month!!

May feed thin (1:1 or more diluted) sugar syrup for 2-3 weeks to stimulate queen laying---builds up winter population---but by last week of September, begin feeding thicker (2:1) syrup for winter stores, although thicker syrup may not be necessary if >3 supers of honey left on hive and/or heavy fall nectar flow.

Consider assessment for Nosema parasites.

Combine colonies later in the month if weak and/or have failing queens.

Should have brood in bottom box; if not, may need to rearrange things.

October: Assess for varroa mites via sugar roll or alcohol wash. Varroa levels need to be below threshold by mid-October, as winter bees are developing and can be permanently damaged by varroa.

Remove all queen excluders, if present.

Combine hives that are weak/have failing queens.

Feed thick syrup, if needed, for winter food stores.

Limit frequency of inspections after mid-October: bees are sealing cracks with propolis, and waste lots of time/energy if they have to keep replacing it.

Add entrance reducers near end of month to keep mice out.

Drones being expelled in most hives.

Plant (October through December) herbaceous perennials, shrubs and trees for future nectar/pollen sources.

November: Combine hives that are weak/have failing queens.

Ensure adequate ventilation near top of hive.

Feed thick syrup, candy boards or fondant if needed, for winter stores.

Provide weights (brick, rock, concrete block, etc.) for tops of hives to limit wind-induced toplessness.

Plant trees for future nectar/pollen sources (tulip poplar, maple, sourwood, etc.).

Consider closing off screened bottom board to improve heat insulation.

Bee caught up before Thanksgiving, so you can enjoy food, family, football, Black Friday, etc.!

December: Combine hives that are weak/have failing queens.

Feed thick syrup, candy board or fondant if needed (i.e., if not more than one super of honey stored up).

Consider insulating smaller hives (those with 4 or fewer frames of bees).

Consider single dose of oxalic acid late in Dec. (while hive is likely broodless) to clean up residual varroa.

Sell honey to Christmas gift shoppers.

Year-end review/assessment of apiary success/challenges.

Leave bees alone, if possible. (Take a break---you probably need it by now!)

As of APRIL 2021

EXTRACTOR EQUIPMENT LIST FOR USE BY RCBA MEMBERS

(YOU MUST BE A CURRENT MEMBER OF RCBA TO USE THE EXTRACTOR.)

Please fill out the Sign-Out sheet with date, your name, and phone number.

1. Randy Elium is managing the extractor and accessories
	1. Phone: 704-213-2661
	2. Address: 2085 Lake Rd, Salisbury, NC 28146
2. The list of extracting equipment includes the following (15 items):
	1. Maxant 9-frame Electric Extractor s/n VO851A0015
	2. Extractor wood floor bracket (keeps it from vibrating)
	3. Hot knife
	4. 2 Capping scratchers
	5. Stainless steel strainers (sieves)—2 parts. Smaller sieve has straight sides and fits inside the larger bowl-shaped sieve. The larger sieve has side arms that adjust to hold sieve over top of a bucket
	6. Collection Bucket (5 gallon bucket with honey gate)
	7. Capping bar (yellow rectangular device to fit over top of bucket and support frame as caps cut off)
	8. bracket for supporting a tipped bucket to drain into another bucket or container
	9. lubricant for the extractor axel—needs to be food-grade
	10. Refractometer
	11. Capping vault (5 parts):
		1. Bottom box with honey gate
		2. Top box with separate metal grid to catch cappings
		3. Wooden support with nail to balance frames on while uncapping
		4. lid

All small accessories are inside the gray capping vault box labelled “RCBA”

Extractor Instructions and diagram are included, in a small plastic bag.

1. Please thoroughly clean all equipment when finished extracting and return all equipment to Randy Elium.