



Rhode Island Beekeepers Association

The Newsletter of the Rhode Island Beekeepers Association
PO Box 31, Ashaway, RI 02804. <http://www.ribeekeeper.org>

Presidents editorial

One of two questions always seem to pop up this time of the year - February by the time you read this. The one question is, "When can I start feeding my bees sugar syrup?" The other question is, "What activities should I be doing in February?" I always struggle to answer the liquid feed question. I can only tell you what I do and you can make adjustments to fit your schedule, geography and micro-climate. Micro-climate? What's that? I'm sure this is not a standard terminology so I'll have to define it in my words. A micro-climate is the prevailing weather conditions in the area of your hives. For example, RI, as small of a state as it is, runs from the oceans to the northern woods. We even have Jeremoth Hill, which is a fairly high elevation for these parts at 812 feet! The lowlands in-between are cut through by Narragansett Bay and the Providence River. These land features create micro-climates where the wind may be constantly blowing, or the air temperature is warmer or colder, or the snow is deeper and more persistent. For the most part, my hives are located in moderate temperature areas although I have one out-yard on a cranberry bog where the wind is constantly blowing. Having set that up, I begin feeding 1:1 ratio sugar syrup around March 1st. Not too much though! I feed no more than 1-quart each week until the weather decidedly changes for the warmer. I also put a pollen patty on March 1st. Between the pollen patty and the sugar syrup, this should be enough to stimulate brood rearing if it hasn't started already. If it has started, the feed combination will help sustain brood rearing until Mother Nature kicks in with pussy willow, skunk cabbage, red (swamp red) maple and other early pollen sources. Why not feed continuously as much as they will take? We have to be careful not to make the bees think spring is here prematurely. We can still have major cold weather in March including blizzard-like snow conditions along with deep freeze cold. If we are over eager in feeding the bees, the queen may lay more brood than the bees can cover and a condition called "chilled brood" will develop

February 2009

where the brood is killed by exposure when the cluster contracts to make warmth for survival. In short, a little is fine, but don't over do it. Moderate weather means several days each week in the 40's, or above.

Here is a recipe for 1:1 sugar syrup. It yields 2-gallons so have a pot or container of that size ready. You only need hot water and water from the hot side tap is hot enough. Put 5-quarts of hot water into the pot. Stir in 10 lbs of white granulated sugar until it is dissolved. That's it! Don't use confectioner's sugar or brown sugar or natural sugar. None of these is good for the bees and can/will make them sick.

A side question also comes up: "Why feed granulated sugar to the bees? You wouldn't feed sugar to your children would you?" Emphatically, I would not feed sugar to my children. That's because they are not insects! Mother Nature feeds sugar to her bees in the form of nectar. They make honey from the nectar which is a super saturated sugar solution. Granted, honey is comprised of glucose and fructose where granulated sugar is mostly sucrose. Don't worry about the sucrose. The bees will invert it into glucose & fructose and all is well. Sure - there may be vitamins and minerals in honey that isn't in the sugar. Go ahead and feed them your own honey if you have it. Just avoid using unknown origin honey as it may contain contaminants and foulbrood spores. Given an unknown source of honey and sugar - I'll go with the nice clean sugar!

Now to address the second question, "What activities should I be doing in February?" I always suggest starting with a plan if you don't already have one in place. Figure out what you want to accomplish this year and write it down. Once you know what you want to do, you can do an inventory

of your equipment and skills. If you are short on a couple of skills, you can attend bee meetings or bee school, and you can read the magazines and web sources. If you are short on equipment you can get it ordered, built and painted (if you paint). Check your hives and make sure you get your package bees ordered or your nucs ordered. Suppliers often sell out in February so don't chance it. If you aren't sure how many you will need, ask your supplier if you can place an order that can be cancelled. This way, you can reserve your packages or nucs until you can make the final decision.

Another side question is, "which is better, a package or nuc?" The textbook answer is that the nuc is better. Why? Think about our RI weather and season. We only have two honey flows and a short summer. The June honey flow is the major one with the September honey flow being "iffy" in many parts of the State. In order to gather enough honey to survive, the bees have just about 10-weeks out of 52. That's why they horde! To take advantage of the major flow in June, you need about 30,000 bees minimum, and a majority of them need to be foragers ready to fly and gather nectar. That's about 10-lbs. There's only 3-lbs in a package, or about 3,000 bees.

A package is made up by a breeder by shaking bees into a screened-cage. The bees may be shook from several colonies to make up the 3-lbs. They do this by the hundreds of packages every day so you can imagine the speed at which the crews must move through the apiaries in order to meet shipping deadlines (mid-afternoon). Where do they get all of the queens? They breed them from their queen rearing operations. There is no relationship between the queen and the bees in the package. Everything is random. And now they need to travel to your hive! All of this is stressful. Even if these stresses are reduced to minimum, most of us put the package on fresh foundation. Think about it... What if you were forced to move into a new house with a 3-day notice and when you got there - no furniture, food, heat, lights or running water! All of this stress, plus the natural aging of the bees, causes a delay in the replacement brood cycles, which in turn cause the numbers of bees to drop until the first hatch-out. If you get the package in mid-April, you won't see new bees until about the middle of April. Still in all, packages are the standard, and if you feed them well, they usually recover and flourish.

The situation with a nuc is much different depending on how your supplier makes the nucs. First of all, let's look at a definition. A nuc consists of all of the stages of bee life including a queen, brood, her

bees, and food. Her bees should be in all of their life stages (nurse bees, guard bees, foragers, etc) and the food should consist of nectar, pollen and capped honey. There should be plenty of bees in the nuc to cover the brood and forage. I always recommend 5-frames nucs although 2, 3 and 4 frame nucs are sold around here as well. The five frames should be fully drawn-out and all of the definitional components should be visible. That is, you should clearly see the brood, stores, plenty of bees and queen. Because the nuc is on a growth path when you transfer it to your hive, there should only be a slight day-or-three setback as the foragers orient themselves to your neck of the woods. Sounds good? Why then did the nuc that I bought perform so poorly?

There are a number of reasons mostly having to do with Mother Nature. Weather, disease, equipment condition and queen condition all contribute to setbacks. Some of these can be managed by you where natural setbacks are part of the fun of agriculture! One thing you can do is make sure you know how your supplier is making up the nucs. I can identify four methods commonly practiced in New England. The best method is to start a nuc in June/July and prepare it to over-winter just like any other colony. These should be the best-performing nucs since they are well on the growth curve by the time you get them. The next best method is nucs made from splits in the spring. The supplier splits a strong colony and manages the nuc until it has grown to five frames meeting our definition above. Perhaps a runner-up for second place is the imported nuc where the supplier is in the Southern states and starts the nuc in January where the climate is warm. This should be fine so long as we are not importing small hive beetles and so forth. Another method is when the supplier buys a package from the Southern suppliers and hives that package here in New England. The idea here is that the package will go through its normal downturn, recover and grow to five-frame strength by the time you get it. The advantage to you here is that the supplier takes on the risk of package or queen failure while s/he is caring for the nuc. Once you own the nuc - no matter by which method the nuc was started - you own the risk! Ask your supplier what method they use to start their nucs and make your decision accordingly.

February meeting notes

This month's meeting was again held at Rocky Hill Grange, February 8 2009. Attendance was good.

How many have lost their hives over winter? More than a few by the sounds of it. Cold weather has affected many more colonies this year. An assessment of the meeting reports suggests over 50% losses. Discussion includes mice and how to use excluders. Louis suggests some hives next to a dead colony will rob them out on a warm day. Other members offer suggestions to determine if the hive is still alive.

Nucs being sold out of Cumberland under name of "Hive Depot." Everett has left a message inviting the owner to a meeting.

Discussion about Michael Palmer of Vermont: he wraps hives and weighs every colony. Leaves 60-80 pounds of honey for a 2 deep hive to see them through the winter months.

Kit says temperatures will keep bees quiet in a very cold winter and won't consume a lot of honey. As the temperatures warm up now they'll consume more and the queen will begin laying.

March losses are not uncommon because the bees are aging and the colony is living on dwindling stores.

New members introduced themselves to the meeting.

Sue Chien was the speaker. She is a biologist offering a diagnostic service to RI beekeepers. Tracheal mites and noseema can reduce worker life-span by 78%. Beekeepers will notice a reduction in honey crop and an increase of supercedure cells if the queen is infected.

The Treasurer then gave the financial report. \$1290 collected. \$868 expenses for liability insurance, books for the schools, post cards for mailings. \$16,425 is in the association's bank account

Ed Lafferty offered to give his \$600 donation, previously earmarked for BeeLearn expenses, to Sue Chen for testing expenses. Everett offered to match that donation.

Kit Meyers and Jeff McGuire were appointed to head up the nominating committee for the elections in April.

Roger has bee packages available and some used equipment to sell as a result of the recent death of one of his clients in Massachusetts.

Members were told that decisions to split and/or to order packages should be made soon.

The members agreed that we would vote on the new association logo at the April dinner.

The speaker for our April dinner meeting at Chelo's in Warwick will discuss nectar sources in our area.

The question of members voting who cannot, or do not wish to attend the dinner was brought up. Kit said the by-laws require the members to appear in person to cast their votes. Concerns about those members prompted discussion about how to accommodate them, and the president said he thought an arrangement could be made for them to cast their votes one half hour before the meeting commences.

The group also discussed changing the by-laws in time for next year's elections now that the association has a viable website and can use email extensively to communicate with membership.

Brought up for discussion about raising the yearly dues to \$15. It's proposed that this item is brought up to vote on at the April dinner so that we have a good representation of members.

March Meeting

Saturday, March 14. 2-5 pm

The speaker is Dr. Jeffrey Harris, APHIS Staff Entomologist USDA Bee Lab in Baton rouge, LA

Rocky Hill Grange, East Greenwich, RI (Just 1/2 mile off exit 8 on Rte 95).

Agenda & Topics: Breeding for Varroa Sensitive Hygiene in Honey Bees; APHIS Update on Hive Beetle Project; The Baton Rouge Component of the Area wide Experiments

Breeding for Varroa Sensitive Hygiene in Honey Bees - This talk will be both a summary of 10 years of research that led to development of SMR (or VSH) honey bees, and an update of the current thrusts in this research program. A brief video will be presented that shows VSH bees in action, and there will be new information about other varroa resistance traits being selected in honey bees at the Baton Rouge lab.

The Baton Rouge Component of the Area wide Experiments - The USDA provided funds for a series of experiments to be conducted over a 4-5 year period beginning at the end of 2007. The purpose of these experiments is to provide new information on colony nutritional needs, the stress of migration and other colony management regimes, and the utility of varroa-resistant stock in commercial beekeeping operations. The Baton Rouge lab is working with the other federal labs in conducting this series of experiments. Dr. Harris will report on the

specifics of their experiments that involve field testing of ARS Russian honey bees and VSH (or SMR) honey bees in a commercial migratory operation in 2008 and 2009.

Jeff Harris has conducted research on honey bee neurophysiology, techniques for selecting and breeding for varroa-resistant honey bees, and elucidating biological aspects of honey bee resistance to varroa mites over the last 20 years (beginning with his graduate studies at Louisiana State University). The studies in neurophysiology required novel techniques of handling and sampling honey bees in order to accurately measure chemicals in their brains. Jeff developed micro-dissection procedures for sampling ovaries and brains of bees and for counting stored sperm in varroa mites. He was the first to consider and demonstrate the possibility of breeding from selected worker bees, which normally are non-reproductive members of the colony. He also developed a procedure for tagging individual varroa mites which allows the possibility of in-depth studies of individuals through time. Jeff worked with Dr.

John Harbo (retired USDA, ARS) to breed varroa-resistant honey bees, which ultimately led to the breakthrough discovery of a heritable trait in bees that suppressed mite reproduction (SMR trait). Jeff contributed significantly to the current understanding that the SMR trait is caused by hygienic removal of mite-infested brood by the resistant bees, which is varroa sensitive hygiene (VSH). The VSH/SMR trait is commercially sold to the beekeeping industry by Tom Glenn and is targeted in selection programs around the world. Jeff also had significant roles in the novel search for varroa-resistant germplasm in populations of bees from far-eastern Russia. ARS Russian honey bees are now a successful contribution to the U.S. beekeeping industry.

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