

# The Middlesex ee

*The Middlesex Bee is the official newsletter of the Middlesex Beekeepers Association, Inc., a 501(c)3 non-profit organization*

December - January 2017

“I am fascinated by the interactions between bees. I am fascinated by the interactions between beekeepers.”

Marla Spivak, PhD. *Bee Researcher, Univ. of Minnesota; 2010 MacArthur Fellow*

## November 25, 2016 MCBA Indoor Meeting and Bee Talk

### Introductions

As is our tradition, MCBA President Tom Fiore began the meeting by asking new attendees to introduce themselves with their name, where they're from, and where they are in terms of beekeeping...

- Jessica from Concord, 9 hives and this is her third winter
- Kristin from South Acton, currently hiveless but wants to learn
- Arthur from Framingham, has 40 hives in 6 yards, mostly Russians, around Lake Cochichuate.
- Mike from Berlin (MA), has 63 hives

### Question & Answer Period

Tom said that we'll have a brief question and answer session and business meeting before our bee talk by Dan Conlon. However, as the former president of the Massachusetts Beekeepers Association (Mass Bee), and current president of the Russian Honey Bee Breeders Association, (RHBA) Dan will be assisting us with the Q&A. Does anyone have any questions, comments, observations, or anecdotes?

***In the spring, I usually feed [sugar syrup in a] 1:1 [ratio] – is it better to feed 2:1 now? Is there any difference?*** Tom said that he would relay what he's always been told: 1:1 is a thinner

**1** | **November Meeting**  
*Minutes*

**5** | **Russian Honey Bees**  
*Dan Conlon, Pres. RHBA*

**12** | **Winter Feed Recipes**  
*Fondant, Candy Board, Sugar Blocks*

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It's that time of year again... please **RENEW YOUR MEMBERSHIP** (page 14)

## Save The Date

### MCBA Indoor Meetings and Bee Talks, Special Events

*First Religious Society Hall, 27 School Street, Carlisle, MA*

01/27, 7-9pm, Dr. Elizabeth Farnsworth (NEWFS), Plant Physiology

02/24, 7-9pm, Kim Skyrn, Bumblebees & Mass. Apiary Program

03/24, 7-9pm, Topic/Speaker: TBD

04/28, 7-9pm, Annual Meeting, Spaghetti Dinner, Topic/Speaker: TBD

05/06, 9am-2pm, MCBA/MVBA Spring Workshop

### MCBA Bee Schools

01/24, 7-Tuesdays, 7-9pm, Newton Community Education

Newton North H.S., 457 Walnut Street, [Newton](#), MA, 02460

<http://www2.newtoncommunityed.org/>

01/28 (*tentative*), 5-Saturdays, 9:30-11:30am, Acton-Boxboro Comm. Ed.

A-B High School 16 Charter Rd., [Acton](#), MA, 01720, RM. 184W

<http://abce.abschools.org/>

02/12, 5-Sundays, 5-7pm, Tyngsborough Recreation Center

120 Westford Rd., [Tyngsborough](#), MA, 01879

<https://unipaygold.unibank.com/Transactioninfo.aspx?transid=8699>

### Worcester County Conference: (*with Dr. Seeley, and Dr. Vanengelsdorp*)

03/04, 9am-3:30pm, <http://worcestercountybeekeepers.com/>

*Quabbin Regional High School, Barre, MA*

### Massachusetts Beekeeping Association Meetings: ([www.massbee.org](http://www.massbee.org))

03/18, 8am-3pm, Spring Meeting

*Topsfield Fairgrounds, Topsfield, MA.*

06/24, 9am, Field Day

*UMass Agronomy Farm, South Deerfield, MA*

sugar water and it mimics nectar. Mimicking the nectar flow, earlier in the year than the real nectar flow will induce your bees into a buildup sooner than they would normally – and this will help them be ready for the main event. *Editor's Note: 1:1 is also recommend for new packages to help them build comb and build up. In addition, sometimes when there's a dearth like we had this past summer you need to feed the bees to get them through to the fall flow.* Tom continued, saying that 2:1 is for the fall, when your bees are light and you want them to store nectar for the winter. Dan said that it depends on whether your bees are in trouble or not, 1:1 can be used for brood rearing, as well as if your hive is light in March. Dan said that syrup is better than dry sugar, and offered a tip: pour 2:1 directly into drawn comb and put that frame near the cluster. **Why is thick syrup better than dry sugar?** It's in a form that is more natural for the bees, and is also more accessible by them because the bees don't need water that's needed to dissolve dry sugar. Dan said that once your bees are able to fly with regular frequency, place the syrup-filled frame as close to cluster as you can. **How do you get the syrup into the drawn comb?** Do you drizzle it on, or do you use a garden sprayer? Dan says he's not that high tech, and simply lays the comb on the table and pours it directly into the cells.

**Bernie said that in Chelmsford, there have been sightings of [black] bears, and possibly a mountain lion as well** – bobcats are about the size of a cat, whereas mountain lions are

much larger and are actually a pretty big animal. A member said that there was recently a picture of a mountain lion picture in the Lowell Sun. Dan said he saw one in one of his bee yards, and only realized what it was when he saw that it didn't walk like a dog – supposedly we don't have eastern cougars any more, but it looks like something is back. A member asked Bernie **where the bear was sighted in Chelmsford?** Bernie said on Parkhurst Road, almost near Drumhill. Someone asked if club **has had any instances of bear attacks?** Some members do. A member said that they used to keep bees in central Massachusetts, and that they used to get bears there. He said that he has 20 hives in Douglas, there were bears there, but luckily they didn't find his hives while they were there. Dan said that in Berlin, we have bears.

**Did anyone else have hives that failed over the summer?** My queens just seemed to quit: they were laying sporadically. While I tried medicating, it was just too late to re-queen. My frames were only 3-4 years old... When did this happen? When we were getting into the fall. One of my hives was bringing in a lot of honey, but maybe they got robbed out by another hive... Dan said that there was a lot of this happening in the state, and that there was more than the normal amount of absconding. Dan believes that part of it was the drought. Nutrition is the key to longevity, the key to keeping bees going, and the drought was a widespread thing all along the eastern seaboard. In fact, Dan said that he saw similar things happening in Mississippi.

Tom said that this issue started coming up in the club about a year ago, that hives with lots of stores were just dying out or absconding, even though they had treated for mites. He cautioned that **members need to do a mite count before AND after treatments – just because you did a treatment doesn't mean that it was effective.** The treatment may not have worked – and the only way to know definitively is to do an evaluation before and after so you have an idea what's going on.

I had 2 hives go through winter, that were strong coming into spring; I treated them with Oxalic Acid (OA), and the treatment was successful – I was hoping that the 2 hives would build up and go gangbusters... but **they did not end up bringing in a lot of honey. How do you know if it's**

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**your location?** I purchased a package that built up, which I split because of finding swarm cells. I also purchased a nuc that built up, but only stored about 20-pounds of honey. Dan said that this is the first time that they didn't take honey off his hives in Fall, since 2003 – it just wasn't a good year. While there may have been small pockets here and there, where bees were able to produce, it was a bad drought and what you're seeing here (things are absolutely dry, arid even), we've had the same season out in western Massachusetts and the plants showed it. We didn't see any honey.

**Was there a similarity in weather, with what we've seen and 2003?** Coming into July, Dan said, was really excellent! Except, then everything started going to dust. With his summer pollination, things were so dry out in the fields, his vehicles were getting stuck in the dirt which was a soft powder, just like mud – only the dirt was dry. It was really strange, and yes it was similar to 2003. 2003 was a learning year for Dan, when he had 750 hives with little or no honey

## Like Us on Facebook

Our Facebook Page has updates about meetings (delays/cancellations in Winter), and articles about bees - so the next time you're online, come visit!

going into the fall. For a month-and-a-half, every day he would carry 5-gallon buckets of syrup out to his hives. **Dan, you said you had no honey, was that up in the supers, or the entire hive?** No, there was no honey, we didn't take any off the hives at all. We don't generally leave supers on, we bring everything down to the hive boxes for a more manageable hive.

**Did it seem like there was a lot of robbing in September?** It was as if a squadron of bees kept trying to come in – I had to shut down our openings. A lot of people saw hives wiped out from outside hives (robbing) because of the lack of pollen and nectar out there. With my Russians, it wasn't bad with robbing, but they were nasty this year, and they were really hard to work – you really had to get in and out quickly – for all you newbees, it wasn't an especially fun year of beekeeping – just keep in mind that they're all not like this year.

**Do people wrap their hives? If so, have you already gone out and wrapped them?** Tom said that you should look at the calendar and check your schedule versus the weather forecasts. People who wrap their hives will generally do so Thanksgiving. Tom wraps his hives because that's the way he's always done it, and it's just one of those things – he said that the weather on Sunday (11/27) is going to be clear, and he has plans the following weekend therefore Sunday is when he's going to do it.

Bernie said that rather than wrapping his hives, he has adopted a new wintering method – **he paints one [narrow]side of his hives a**

## Bee Magazine Discount

MCBA members receive a 25% discount off subscriptions to *American Bee Journal*.

For a copy of the ABJ Association Member Subscription form, visit the *Club Business & Important Links* section of the MCBA members-only website:

[membership.middlesexbeekeepers.org](http://membership.middlesexbeekeepers.org)

**dark color, and come the fall he turns all of the boxes around (so the dark side faces South) allowing for the heat gain during the day without any of the downsides of wrapping** (wrapping may hold in moisture). Dan said that there were studies out in Minnesota, which examined 1,000 hives overwintered in all sorts of different configurations, and that wrapped hives had a survival rate twice that of unwrapped hives. **Instead of wrapping, Dan said he uses solid foam insulation that is 'wrapped' along the sides, back, and top of his hives.**

**Is Anyone feeding fondant right now?** Tom said that he is. He had a hive that was building up nicely, but due to the drought it's been going through its stores and it's turned out that the hive is very light. It's too late to put

syrup on, so he went out and put a 4-pound block of fondant on the hive; unfortunately there's not much else he can do at this point.

***I plan on using sugar blocks, should I add Bee Pro to the sugar blocks?***

Is that a pollen substitute? Yes. Then no, we don't see any benefit to adding a pollen substitute at this point. The problem is that it's cold outside, and the bees don't need pollen right now (just carbohydrates to keep them going) – pollen substitutes leave undigested materials in the midgut of the bees and they need to excrete that – but when it's too cold outside for cleansing flights and they have to poop they're going to do that INSIDE the hive. Save yourself a headache and leave the pollen until the spring. You do want to make sure your hives have pollen in the frames for when they start brooding up in February. If you don't have pollen in your hives, then they won't make it through to March.

Dan said that he'll feed his bees pollen early in the Fall using Chicken feeders, giving it to them dry out in the middle of his bee yard. Bees will take it in then, but they won't touch it over the winter. It is hard getting food onto the bees once it gets cold out, and you do want to keep attention to the pollen stores coming out of winter. He had noticed a couple of years ago that some of his bees were coming out of spring with bad brood patterns, and eventually picked up that he didn't have enough pollen in his hives – hence the open feeding using chicken feeders – since he began that practice he hasn't had any problems in the spring. ■

## WRITERS WANTED

We will be expanding our website to include a blog in 2017, and including more member articles in the newsletter. Interested in chronicling your beekeeping journey, the progress of your garden, or sharing tool tips with fellow members?

Contact Tony Pulsone at: [editor@middlesexbeekeepers.org](mailto:editor@middlesexbeekeepers.org)

## BEE TALK

### Dan Conlon

President of the Russian Honeybee Breeders Association (RHBA)  
Warm Colors Apiary, South Deerfield, MA

### Genetic Selection and the Russian Honeybee

- Russian Honeybee Program Introduction
- Russian Honeybee Program Phase 1: Selection of Breeding Lines Russian
- Honeybee Program Phase 2: Genetic Maintenance and Stock Improvement
- Why Russian Honeybees? Exceptional qualities for modern stressors
- What is new in honeybee health? Nutrition and Pesticides
- Questions?

### Introduction

The Russian Honeybee Breeders Program started in 1994, and has been running since then through the USDA – its purpose is to maintain the genetic diversity of our bees and improve upon their mite tolerance and honey production. Dan said that he runs 1,000 hives and produces honey and raises queens, and has been a full-time beekeeper since 2000. He's made plenty of mistakes, and offered that Al Rose of the Red Apple Farm gave him this piece of advice: "You only need to know 50 things to be an excellent grower of apples; the problem is that you only learn one thing a year." And like apple growing, just when you think you have it right something new comes up (there is always something new). The Russian Honeybee Breeding Program: Phase 1 discovered these bees, and then selected the best of them. Phase 2 was stock improvement, and now we're into Phase 3, where we're more aggressive about getting these genetics out into the general bee population. A little history of the Russian Honeybee Breeding Program: when the Varroa mite (Varroa Destructor) arrived here in the USA, 2/3 of professional beekeepers



## Pollen

Pollen on my legs and feet.  
Pollen on my wings that beat.  
Pollen on my cheeks and chin.  
Pollen on my abdomen.  
I just took a pollen shower.  
I'm a fuzzy, flying flower!

Douglas Florian

went out of business. Dr. Tom Rinderer was in charge of the USDA Baton Rouge Bee Lab at the time, and he began searching for alternatives to miticides, which he believed were not feasible as a long-term solution to the mite problem. He understood that a parasite's goal was not to kill the host, and that the bees should have behaviors and immunities to be able to deal with parasites. Dr. Rinderer was an avid train enthusiast growing up, and he had a photograph of the Trans-Siberian Railroad hanging in his office. He remembered that 120 years ago, the Russians built the Trans-Siberian railroad and took western agriculture (and western honeybees) with them – so the bees must have been exposed to these mites over 100

years ago. He contacted colleagues in Russia, and when he asked what beekeepers there did to deal with the mites he was told that they don't do anything about them – that the bees take care of them. So Dr. Rinderer went to Russia and found that it was true; he then spent years dealing with the Russian and US Governments in order to be able to import Russian Honeybee queens. Once the queens were here, and tested for 2-years without intervention, it was pretty easy to see that they were a possible solution.

### Phase 1: Selection of Breeding Lines

This took ten years to make it a reality, and was only possible with the help of Charlie Harper, Hubert Tubbs and Manley Bigalt, and the USDA Bee Lab in Baton Rouge. The lab people would not have been able to do it without beekeepers keeping these bees – 640 genetic lines were whittled down to 18 lines based upon different genetic characteristics. The 18 best lines were the foundation stock for the Russian Honeybees Breeders Association.

### Phase 2: Genetic Maintenance and Stock Improvement

Phase 2 took 7-years. The Russian Honeybee Breeders Association (RHBA) proves isolated mating and improvement of Varroa mite tolerance is possible. The USDA owned (as a public holding) these bees until they gave them to the RHBA which became privately held.

Charlie Harper, who headed the group stated at the time that we (*Dan wasn't there at this*

*point*) can't maintain 18 lines of bees and keep the genetic purity without a bigger group of people. So they formed an association (RHBA) and no one individual owns the bees; the only way to acquire access to the bees was to be part of the association (*you have to do the work to maintain the lines as part of association*).

For 7 years, we have been mating different genetic lines (Dan maintains 2 of the lines) and raising queens. You need to have an isolated situation to preserve the genetics. After 7-years, we have consistently raised the genetic bar, this actually does work! Dan sends data (including mite counts) and bees in for testing, and until they get the results one knows whether in the end you will pass or fail (you're not sure if it's working until the genetic tests come back). It's no fun if it's not working, because you put a lot of effort in – it's a tough thing if you do not pass certification. However, Dan said that he has passed for the last 3 years, and while he did have his doubts about some of the samples he submitted, he's amazed that he has passed and is certified.

The first thing was to be able to say that you have maintained the genetic lines. The second thing needed was to be able to say that they have improved Varroa mite tolerance. There are mites in the hives, and the bees need to meet the natural equilibrium between host and parasite. The stronger bees are the ones that survive. There is a continual review of all lines, and members of the RHBA send each other queens, to evaluate everyone else's stock.

Reviews are compiled, and look at whether you should release these lines.

Please understand that not all lines are ready for public use – some may be too testy for you, or they may have some certain flaws (they only put up pollen and don't produce excess honey).

**Why would you keep them then?** Because they may be excellent pollinators, or fill some other niche. There are lots of things involved in a breeding program, you're not only raising good queens, you need to maintain the genetic material. Russian honeybees are potentially the most genetically diverse honey bee that we have available today. Varroa really killed off all of our native-american honeybees, so the genetic diversity we once had is gone. Prior to mites, we never really thought about drones – we didn't think we needed them, our queens mated with wild drones. But we've lost the genetic diversity of our bees. How do we get that back? We had 300 years of mixing 7-8 races and unfortunately that is gone now. Phase 2 was selecting for Varroa tolerance, and some of our members haven't treated for 10 years. We're on to Phase 3, where RHBA shares with "All" beekeepers the breeding stock, and genetics. Dan said that his job is to get the RHBA stock out to breeders, so they can mate these bees with Italians, Carniolans, and other bee stock – so that they will inherit some of those desirable behaviors that are improvements against diseases and pests.

## Extractor



MCBA maintains a hand-operated Maxant 3100-series 9-Frame Honey Extractor for rent by current members. Rental includes everything you need to extract your honey, including:

- Electric hot knife for uncapping honey frames
- Uncapping Fork
- Uncapping Tank

### Terms:

- This extractor is available on a first-come, first-served basis to members only.
- The extractor is easy to transport in an SUV or Pickup, and is capable of being moved by one person with ease (however 2 people are helpful)
- \$15/day. Extensions may be available depending upon scheduling. Contact the Extractor Coordinator at [extractor@middlesexbeekeepers.org](mailto:extractor@middlesexbeekeepers.org) for information.
- The Extractor must be cleaned WITH COLD WATER before returning to the club.
- Any and all damage and/or maintenance issues MUST be reported to the Extractor coordinator immediately.

**To reserve, contact Kathy at:** [extractor@middlesexbeekeepers.org](mailto:extractor@middlesexbeekeepers.org)  
**or by phone at:** 617.549.7460

## Why Russian Honeybees? Exceptional qualities for modern stressors

### Russian Honeybee Behavior and Characteristics

- Russian honey bees are not necessarily dark. Understand that they are not a race of bees so much as part of a breeding program. They are a genetically very diverse bee from the Mesopotamia region, but they are different colors.

### Mite Tolerance / Resistance

- Russian honeybees put something in the comb that suppresses mite reproduction, and which also interferes with mites' ability to reproduce. If you take the comb out of a Russian honeybee hive and put it into an Italian hive, you will see a reduction of mite levels in that Italian hive

### Hygienic Behaviors

- This is the ability of the bee to smell disease and remove unhealthy brood. With the breeding program this is the genetic selection of recessive and dominant genes. They hygienic bee is sculpted by multiple factors including genetic, neural, social, and environmental systems.

### Wintering ability

- They are able to overwinter in 5-frame Nuc

### Virus & Disease Resistance

- Russian bees are pretty good against most viruses. Mechanisms of Resistance:
  - Physiological – larva or adult produce some product that slows or inhibits growth of disease agent. It is worth mentioning

that interestingly enough EFB and AFB have ways of controlling each other.

- Behavioral
- Anatomical

### Frugal (honey consumption)

#### Population Cycle

- Sometimes this drives beekeepers crazy because they're used to managing Italian bees, but that doesn't work because they do swarm.
- The colony will get huge in the spring (going from a small ball of bees – a small population that suddenly explodes), and what do they do if you're not on top of things? They swarm.
- You really have to be 6-weeks ahead of them, because if you're not, they can swarm on you in 2-weeks.
  - If there is a good nectar flow on then Russians will lay lay lay, and just keep on going... but once the nectar flow ends then they will shut down immediately.
- Queen Cups
  - These can also drive beekeepers crazy.
  - The Russians aren't necessarily going to swarm. Seeing queen cups doesn't always mean anything, they're just always ready to go at any time.

### Genetics or Environment?

- Start with a Day-Old larva
- Feeding and Nurse Bees. Workers can feed a queen larva thousands of times, whereas they will only feed workers hundreds of times (a lot more effort is placed on the

queens).

- How good are the drones?
  - RHBA amplifies genetics and avoids inbreeding, because they rotate their stocks.
- Let the queens lay eggs – the 28 day rule applies: leave the queens you're going to sell in boxes at least a month, they will live longer and mate better.
- Gentleness, honey production, and acclimation to an environment – these are all the things that we're looking for.
  - Insects do adapt to different environments over a couple generations, they will become better at living in that location.
  - RHBA produces genetically similar bees, but as soon as you go North or South, their characteristics change really quickly, and they behave differently depending upon the environment they are in.
  - Dan said one of the biggest challenges the RHBA faces in the breeding program is dealing with seasonal differences amongst its members. Here in the Northeast, our queen rearing is best done in June, but for Southern beekeepers that's too late because it's too hot down there.

### Selection Process

- We put boards in front of our hives for mite drops, and start with 30-40 hives and narrow them down to the best 4-5 and send samples of those bees out for testing.
- If you're good to go then those 5 are the



breeder queens for next season, and you need to get those 5 through winter.

- It's not always as easy as you want it to be – it happens to us too: you put them to bed and you think you're all set. Well, if they don't make it then they're not the quality genetics we wanted.
- Keep in mind that it is forbidden to treat the hives with the selected queens.
- You conduct mite checks, send in samples for testing, and they keep track. You don't intervene, if the bees themselves are not taking care of mites of course you stand a chance of losing the bees, but even if you do lose a portion of your bees, what you are doing is weeding out those not strong enough to deal with the mites on their own.

### **What is new in honeybee health? (Nutrition and pesticides)**

You should research some of Frank Ricovich's work: he is a Toxicologist looking at pesticides and bee kills. He takes actual samples and sees what is true and what isn't. He's been looking at Carniolans, Russians, Italians, et cetera – and when it comes to resistance to pesticides the Russians did pretty well versus Neonicotinoids. Dan mentioned that recently down in Gulfport Mississippi, at the state meeting and the RHBA breeders meeting at the USDA Bee Lab, breeders talked about what they're doing and seeing – (the results haven't been published yet) but they have determined that different races at bees are better at detoxifying themselves and

handling pesticides than others.

Our livers have enzymes known as P450's that help us break down coffee, and bees have P450's too. Honeybees can break down pesticide loads with the help of P450's and excrete the pesticides. In bees, the organs that produce P450's start to produce it after the bee emerges from the cell, because the organs are triggered from the feeding of fresh pollen and nectar. However, if whatever is triggered in the bees' bodies to produce P450's is not triggered within the first day or two, the organs that produce the P450's will never produce it.

Since 1970, the most common way to feed bees is with corn syrup, since corn syrup is just sugar and bees' process sugar... but there is a problem with corn syrup. Feeding bees corn syrup somehow inhibits the original triggering of P450's production. Bees that should be able to deal with big pesticide load now can't. As beekeepers, we weren't really concerned with the longterm effects of fungicides, because they weren't really terrible and didn't impact us directly. However, it turns out that fungicides are P450 inhibitors. Think of it like a lock and key: P450 (lock) binds up poisons (key), so the poisons can't act on the bee. But now, fungicides are blocking the lock (P450, can't do the job) and the key can't get into the lock (editor's note: the poisons are now free to key up your car since it's not in the lock being bound up).

Reed Johnson, of Hilton University in Illinois, talks about P450 as one of the health keys for bees. Dan says that you should try to increase

P450 in bees, and that pollen substitute that you feed is okay, but know that your bees will not live as long as if they were fed natural pollen.

Dan said that there are 10 acres of Rapini (a fall mustard plant) near one of his apiaries. It's a really nutritious plant, but in the past when there was a drought he just fed his hives pollen substitute and he noticed that his bees did not as well as they had in other winters. The queens did not last as long, and he wondered if his feeding was having an impact. So the next year he took the pollen substitute and made it, but used half real-pollen as well down. He did this down at the bee lab, and from November to March, those bees averaged 4-frames of bees (brood) more than just straight pollen patties. Feeding is important; we should be trapping pollen and storing it in the freezer. *Editor's Note: pollen is plant protein, and proteins degrade over time, freezing prolongs its potency and delays the degradation.*

The other problem that researchers have found, and we talked about earlier, is that pollen substitutes leave unprocessed protein in the bees' midgut. Good nutrition is really critical. There are researchers that are really focused on bee nutrition, they see what the bees are dealing with in regards to pesticides and others – the point is that good nutrition counters these issues. Dan said that we will hear a lot more talk about this in the near future.

One of things we do know is that diversity helps nutrition. Out west the monoculture can be bad, and beekeepers that move their bees out

of the prairies in the Dakotas to Almonds, and from Almonds onto other monocultures for pollination - those bees are only getting a monoculture and corn syrup diet; the bees get no time to rebuild themselves nutritionally. Richard Addy has been talking about this, he sent 168,000 hives to Almonds, and it takes hundreds of truckloads. He's been talking about how hard it's been trying to keep his bees going – as you drive along the highway you'll see 2,000 beehives in a field. There's just not enough food to feed 2,000 beehives in any neighborhood.

Out in Western Massachusetts, Dan said, we have lots of different plants, a smorgasbord of plants helps our bees as well. A variety of things blooming through the year is a good thing. We still lose bees, but it is overall a good environment for bees to survive. Now, if you're just starting out with a package of bees, don't get me wrong, it is better to feed them something rather than having them starve to death. When they are started should coincide with early nectar sources as the bees will supplement their stores with their own foraging.

### Questions

**I have a question about diversity: Will I end up just with Russians?** No, there are lots of bees out there, the fear is that we don't reclaim some of that diversity that we used to have. Sue Colby, Shepard Steve, and others are trying to bring in drone semen, some of that old world stuff to help increase honeybee genetic diversity here in the US. Dan commented that relatively speaking, honeybees are not the ones in trouble, it's the native North American bee populations that are. The Xerxes society is really concerned about the loss of diversity of native bee populations, we're losing a lot of these things pretty rapidly, and they're not being protected. You can't have bees that are closely related that are not able to deal with these stressors.

As beekeepers, we have a lot of control of that with our hives. There's no reason one of your hives should be starving. Insist that people using pesticides, to do so as the label instructs them to do. **Dan doesn't think banning pesticides will make a difference** - people go off label (using twice as much as they should and just dump it into a tank), and then there's the

synergy of tank mixes issue (different chemicals mixing, combining).

**As a whole beekeeping community, there are things we can do and steps we can take to help make things better.** It's not only talking to your neighbors [about pesticide use], but what are you feeding your bees? Dan says that he doesn't use a lot of sugar, he feeds honey instead and that gives his bees a leg up right there. Help the general health of your bees. Nurse bees produce brood food for developing larvae, if you limit the bee's nutrition (by feeding sugar) you'll have malnourished bees feeding the next generation of bees with what? Sugar? Versus feeding them right [with honey].

**There are lots of things we can do in our management to help the bees.** For instance, pollen management. Collect and Freeze your own pollen. It's pretty delicate stuff that can get moldy or buggy very quickly – so you should collect and freeze the same day. Keeping it frozen helps keep it fresh (and more nutritious) for a while. Bernie said that he's always been concerned that the pollen coming into the hive is polluted, so he started using pollen patties, and thinks the bees will take and use pollen patties before using the stored pollen in the hives. Dan asked Bernie if he had tested the pollen – have you sent samples down to the USDA Beltsville Lab? Are you getting a lot of stuff in there? Dan said that pollen can pick up heavy metals, and unfortunately it can be a good collector of things you might not want, but generally it's clean.

**I've heard that most pollens collect viruses – do researchers find all sorts of viruses?** Well, the more important question is whether anything in there will impact or infect your bees. The other question you should consider is when you sell your honey, do you really know what you're selling your customers. If there's a cheap way of testing you pollen or honey, then more people would do it, but when the tests are \$75 each, no one is going out to do that. Dan said that the pollen coming out of our area doesn't see high levels of toxins. In a recent study, 36 samples were taken from random apiaries, and nothing worrying was found. Please understand that these days bee scientists can find trace amounts of substances – down to 1 part per billion, and such tiny amounts are not going to harm your bees. Dan said that he had a friend that keeps bees in

New York City, who sent some of his pollen samples out for testing, and even in the urban environment of NYC the pollen came out pretty clean too.

John C. asked about the discarded Russian genetic lines: **Dan, you said that the USDA lab whittled down to 18 lines – what happened to the other 622?** They're gone. That's a lot of genetic diversity taken off the map. Well, Dan said, there are lots of things off table, and these are pretty related. Back in 2000, 2001, if you got Russian queens – the early ones – well there was a reason why Russians got a bad rap as nasty bees that were always swarming and didn't produce any honey. You did get all of that back in the day. Some of those stocks are still in use, but they're not used for what you think. Some of us may have drawn short straws, but these lines don't get diseases or collect pollen like crazy. If we can tame them down, there are things we want to keep in the discussion for people in our group to pay attention to. Getting back to the point though, it is literally impossible to keep 640 genetic lines going, so we selected for the best.

**Tom F. said that in his view, feisty bees make more honey, and asked Dan if that viewpoint about temperament and honey production has been borne out?** Dan said that he doesn't think that's true. He believes that there may be a difference sometimes because feisty bees may be tougher and better survivors so as a result they get bigger and produce more honey – but he's seen the same production from gentler hives.

As an example, look at Cordovan bees, saying they're the nicest bees ever – they're gentle and always produce honey. Cordovan Italians are very light and lack pigment; you will still need to treat for mites, and it is tougher to get them through winter, but they can be ideal for new beekeepers as they tend not to swarm.

Dan said he's learned a great deal being involved with the Russian Honeybee breeders program. Producing queens for line improvement is a different activity than what a lot of breeders do. Dan has enjoyed learning from Tom Rinderer, who has a wonderful dry sense of humor, and he got 2 lines that were in tough shape. There were only 3 breeder queens from one line left, and 5 from the other line. They thought two lines were going to die off, and you don't want to go down in history as the person that killed any of these genetic lines off. Talking to the USDA Bee Lab people that are doing the genetic work, they say we have 30,000 hives in our sample but we really need to get up to 100,000 hives otherwise there's not enough genetic mutation going on: it only happens 1-in-10,000 times. That's a lot of bees to make this work, and there's randomness to all of this too!

One of the other things you see working with genetic pure line of bees, is that you can identify different characteristics, and immediately recognize what line of bees they are from. They all have their own little behaviors...

**Where should I buy my queens from?** Buy from best breeder you can, not all bees are equal, stick with someone who works. Going

back to 1950's here in the United States, upstate New York was the biggest area for Queen producers. We use to sell queens to the South... there's no reason for the Northeast not to be self-sufficient in regards to queens. The Khoenen family has been raising queens in California for 120 years, they know a lot about bees, and they have good stock. Go with good queen producers and don't worry about the rest of it. Buy queens from people who specialize in queens, and you'll probably be getting a better quality of queens. ■



### Material Needed!

Please email pictures, quotes, facts, poems, news articles, notes from seminars, recipes, etc., to: [toekneepea@gmail.com](mailto:toekneepea@gmail.com)

## Winter Feed Recipes

### MCBA Fondant Recipe

- 2 Cups Water
- ½ Tbl. Vinegar
- 8 Cups Table Sugar
- 1 tsp. Honey-B-Healthy  
(optional)

1. Pour sugar, water, and vinegar into pot.
2. Bring to boil, stirring constantly.
3. Cover and boil 5 minutes.
4. Insert Candy thermometer, and continue to boil uncovered until temperature hits 234°
5. Remove from heat and cool to 200° F.
6. Add Honey-B-Healthy (opt.)
7. Whip with an electric mixer until mixture begins to turn white with air bubbles dispersed throughout.
8. Quickly pour into molds and allow to cool undisturbed.

### Pressed Candy Board

Make a 2" tall candy board frame from scraps of wood, staple ½" wire mesh to the inside for a candy support and drilled a ½" hole in the front for the bees to escape.

### Bee Candy Recipe

- 15 Pounds White (Cane) Sugar
- 3 Cups Water

1. Put sugar into very large canning pot.
2. Add vinegar to the water
3. Pour the water into the pot, a little at a time, stopping to make sure it is all mixed into the sugar.
4. Mixing takes some muscle, but it doesn't require cooking the sugar.
5. Line the wire mesh with paper.
6. Pile on the wet sugar.
7. Level off the sugar with a wooden ruler, and set to dry.
8. It will set up and harden in 1-2 days.

### Lauri's Sugar Blocks \*

This recipe is not cooked in any way - the ingredients are dried or dehydrated to form the hard block.

- 10 Pounds White (Cane) Sugar
- 1 Tbl. Citric Acid
- ⅛ tsp. Electrolytes#
- 3 Capsules Probiotics
- 1 ¼ Cups real Apple Cider Vinegar (*with the Mother*)
- 1 Tbl. Honey-B-Healthy (Optional)

1. Open Capsules into the Apple Cider Vinegar.
2. Stir in Citric Acid and Electrolytes into the Apple Cider Vinegar.
3. Add Apple Cider Vinegar mixture to the Sugar and mix together (your hands work best).
4. Roll out and lightly compress in 1" deep pan (*The disposable aluminum baking trays work really well*).
5. These will set up and harden overnight a food dehydrator set at 130° Fahrenheit, or a few days sitting out in an unheated greenhouse.

\* Tony modified Lauri's original recipe by adjusting the ingredient amounts based on 10# of sugar (for hobbyists that don't need as many blocks as commercial operations); he also added some additional strains of probiotics (based upon tresearch).



# Available online at ValleyVet.com; Agway has something similar.



# Middlesex County Beekeepers Association

## Membership Form

\$15 Annual dues per family, **payable to MCBA**. Mail this form and payment to: Rick Ressijac, 7 Coolidge Road, Ayer, MA 01432 *OR* bring it with you to a meeting.

**Please print CLEARLY.**

Name \_\_\_\_\_

Family Members' Name(s) \_\_\_\_\_

Address \_\_\_\_\_

City / State / Zip \_\_\_\_\_

Telephone \_\_\_\_\_

Email \_\_\_\_\_

How did you hear about us? \_\_\_\_\_

How many hives do you have? \_\_\_\_\_ Renewal  or New Membership

## Club Officers

### President

Tom Fiore  
president@middlesexbeekeepers.org

### Vice-President

Rick Reault  
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### Treasurer

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